Chapter 11: Incorporating gender analysis into health systems implementation research

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1. Introduction

Implementation research studies the implementation of interventions to promote the successful uptake and scale-up of evidence-based policies, programmes, and practices (collectively called interventions) (Sanders & Haines 2006; Peters, Adam et al. 2013; Bhattacharyya et al. 2009). Implementation research helps us to understand how and why interventions fail or work in real-world settings by exploring what factors positively and negatively affect implementation in specific contexts, in addition to finding solutions to improve overall implementation (Peters, Tran, et al. 2013; Peters, Adam, et al. 2013). When considering context within implementation research it is important to explore how cultural and social factors affect the implementation of an intervention. Such factors include the consideration of gendered power relations and their role in perpetuating vulnerability and marginalization within and outside the health system (Östlin et al. 2006; Ravindran & Kelkar-Khambete 2007).

This chapter explores how gender analysis can be incorporated into health systems implementation research. This is the process of analysing how gendered power relations influence the implementation of an intervention, as well as the extent to which the research process itself progressively transforms gendered power relations, or at least does not exacerbate them. Gender is defined as the "socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women" (WHO 2016). Gender is different from sex, which refers to the biological chromosomal characteristics that distinguish males, females, and intersex people (Sen et al. 2007). The meaning of gender can therefore extend beyond men and women to include a range of gendered identities while also varying over time and across contexts. As well as analysing differences between men, women, and people of other genders, gender analysis also explores differences among these categories. It takes an intersectional approach which examines "*gender in relation to other social stratifiers, such as class, race, education, ethnicity, age, geographic location, (dis)ability and sexuality, etc., how these markers dynamically interact, [and] how power plays out at multiple levels and through diverse pathways to frame how vulnerabilities are experienced*" (Morgan et al. 2016: 2; Larson et al. 2016).

Within implementation research, there is a clear need to understand context and the ways in which gender, power and other social stratifiers shape systems', individuals' or households' abilities to access and use interventions. There are many examples of effective interventions that are not successfully implemented, or not implemented at all. When interventions are implemented, it is not a given that they will be utilized as intended. For example, while sanitation can prevent a host of communicable and non-communicable diseases in low- and middle-income countries (LMICs), in some contexts latrines are not used despite their availability. In their study of latrine use in Zambia, Thys et al. (2015) found that taboos associated with in-laws and sexually mature daughters meant men did not use latrines. In situations like this, implementation research that carefully considers gender dynamics can be

used to help health systems researchers, communities, policy makers, and practitioners understand the factors affecting the adoption, uptake, and/or use of an intervention.

When designing and implementing health systems interventions, there is often the assumption that an intervention will be equally effective for men, women, and people of other genders across all socio-economic and ethnic strata (Östlin et al. 2006). Likewise, implementers often fail to recognize how gendered power relations can affect how someone interacts with, accesses, uses, or generally responds to an intervention. For example, most health systems research, including implementation research, uses gender-neutral expressions and words, such as 'patients', 'health care providers', 'adolescents', 'children', or 'employees', failing to make either the sex (or other social markers) of the participants explicit (Östlin et al. 2006). Failure to disaggregate health systems data by sex masks differences between males and females and failure to consider gender obscures people of other genders, overlooking the roles that gendered power relations play in creating different health systems' needs, experiences and outcomes, including how they affect implementation (Morgan et al. 2016).

This chapter outlines how gender analysis can be incorporated into health system implementation research *content, process,* and *outcomes.* While each is discussed separately, we recognize that "*they interact, overlap and reinforce one another; and an approach that takes forward gender within these areas is mutually reinforcing*" (Morgan et al. 2016:2). While it is important that genders other than men and women are considered within such analyses, we note that the majority of examples used within this chapter deal primarily with relations between men and women, and that the body of literature on implementation research, and health systems more broadly, is inadequate when it comes to other genders.

2. Gender analysis within implementation research content

Incorporating gender analysis into implementation research content requires us to explore how gendered power relations affect the implementation of an intervention. In order to do so, implementation research needs to first be disaggregated by sex and other social stratifiers. Alongside data disaggregation, implementation researchers can use gender frameworks and gender analysis questions to explore the role of gender power relations in relation to implementation.

Disaggregating data by sex and other social stratifiers

Gender analysis cannot be incorporated into implementation research without first disaggregating data by sex. Sex disaggregation entails differentiating between males and females during data collection, and ensuring that this information is recorded and maintained (Morgan et al. 2016; Nowatzki & Grant 2011). Research which fails to disaggregate data by sex can miss important differences between men and women, such as how gendered power relations shape men's and women's experiences and outcomes in relation to the implementation of an intervention. Even when sex disaggregation does occur, most health systems research assumes that there are two genders, men and women, and fails to enquire about gender diversity. As a result, it does not consider how people of other genders experience various health interventions.

For example, implementation research which does not report sex as a variable and instead uses gender-neutral terms such as 'community member' or 'patient', may fail to see how women's lack of financial resources or decision-making power within the home can affect their use of an intervention. Likewise, an intervention whose success requires lower-tiered health workers, such as community health workers, to change their working practices (e.g. work late), is likely to have additional ramifications if it does not consider the gendered distribution of the health workforce and the fact that women are usually employed in lower-tiered occupations (George 2008). Such a requirement not only puts strain on female health workers who have

additional caring responsibilities, impacting upon their relationships within their homes, it also places these women at risk if they are required to journey home after dark.

Where possible data should also be disaggregated by other social stratifiers, such as age, race, class, ethnicity, geographic location and (dis)ability (Larson et al. 2016). The impact of an intervention on adolescent girls, for example, may be different to the impact experienced by older women; similarly, there may be different factors affecting how men and women interact with an intervention in rural areas compared to urban areas, such as the need for transportation and other resources to reach a distant health facility.

Much implementation research in low and middle-income countries utilizes routine Health Management Information System (HMIS) data to get a picture of the overall health landscape. Such data may already disaggregate information by male and female (although this is not always the case), and it is unlikely that any other stratification will be available. Where possible, data should be disaggregated by strata relevant to the context; existing evidence reviews and informative primary qualitative data collection could inform decisions about which strata are appropriate for a particular context. If resources are limited, however, researchers should consider conducting smaller qualitative studies or questionnaires to explore differences by gender and other social stratifiers. Incorporating a gender and/or intersectional lens into implementation research will therefore often require primary data collection, which has additional resource implications.

Example: Implementation research on tuberculosis in Ethiopia: insights from gender analysis

The implementation problem set in context: Tuberculosis (TB) is one of the major causes of morbidity and mortality in Ethiopia. TB Control Programmes rely on passive case finding to detect cases, and TB notification remains low in Ethiopia despite major expansion of health services. Rural populations with high levels of poverty and gender inequity are most likely to have unmet health needs and undiagnosed TB cases. These vulnerable communities include people living in rural and remote settings with limited access to TB diagnostic facilities due to lack of awareness, socio-cultural and gender-related barriers, TB related stigma, and inability to afford for the time and expenses related to seeking diagnosis and treatment.

The implementation research approach: The aim was to ensure the effective implementation of a TB control intervention within these vulnerable communities. Ethiopia has established a Health Extension Program (HEP) which includes the training and deployment of female health extension workers (HEWs) based in local communities to improve access to primary health services. A community-based intervention package was implemented in Sidama zone, Ethiopia in partnership between the Sidama Health zone and researchers at REACH Ethiopia, Liverpool School of Tropical Medicine and the Global Fund with funding from TB REACH. The package included advocacy, training, engaging stakeholders and communities and active case finding by women HEWs at village level. HEWs conducted house-to-house visits, identified individuals with a cough for two or more weeks, with or without other symptoms, collected sputum, prepared smears and supervised treatment. Supervisors transported smears for microscopy, started treatment, screened contacts and initiated Isoniazid preventive therapy (IPT) for children. Ongoing process evaluation involved multiple methods: outcomes were compared with the pre-implementation period and a control zone; complimentary qualitative research (interviews and Focus Group Discussions) were conducted to understand community and provider perceptions and experiences.

Taking a gender perspective: All outcome data was gender disaggregated. Between October 2010 and December 2011 (at the beginning of the process),

HEWs identified 49,857 individuals (29,314 [60%] women) with cough for two or more weeks, with or without other symptoms. Of these, 2,262 (1,199 [53%] women) were smear-positive (PTB+). The male to female ratio among PTB+ cases changed from 1.3:1 before the intervention to almost 1:1. The proportion of women among PTB+ cases was lower in the public health facilities than in the community (44% and 53%; P=0.001). Some participants indicated they would have been unable to get a diagnosis without the intervention due to direct and opportunity costs, and would have instead ''waited at home for death''. Respondents often referred to multiple barriers to diagnosis faced pre-intervention. For example, distance was particularly challenging for women, the poor, elderly and the very sick:

"I am not able to go to far places to be treated because I don't have money for transportation and food. Here in my community, without going to the health centre, I am getting treatment…It is what makes me very happy" (Pt, Woman, 49yrs)

Community-based treatment reduced difficulties associated with adherence, although lack of food remained an important issue for some patients. The interventions have reduced barriers to services with poor women who had previously faced difficulties travelling to health centres. The proportions of children and elderly among symptomatic and PTB+ cases also increased during the implementation period, and these are also vulnerable groups better reached by an intervention package that is embedded in the community. Qualitative assessments with female HEWs showed that providers described commitment or ''devotion'' to improving the health of their communities who lacked education on health matters, yet accepted guidance through the community engagement activities, and highlighted the package improved access and awareness, particularly for the very poor and women. HEWs felt job satisfaction collecting and preparing smears, the preventive and curative aspects of their work and felt guided and supported by supervisors. Being a HEW involved in ''TB work'' warranted ''respect'' from the community.

The implementation research highlights the importance of sex-disaggregated data to assess changes of the package at the community level, as well as ongoing gender aware qualitative assessments with key providers (in this case all female HEWs) to assess the impact on their experience and workload.

Adapted from Yassin et al. (2013); Datiko et al. 2015; Tulloch et al. 2015; with thanks to Mohammed Yassin, Daniel Gemechu Datiko, Luis Cuevas and Olivia Tulloch.

Disaggregating data by sex and other social stratifiers alone, however, does not constitute gender analysis (Morgan et al. 2016). Incorporating gender analysis into implementation research goes beyond disaggregating data by sex and other social stratifiers to consider how gender power relations impact upon how different categories (rural men, old women, urban teenagers) use, interact with, and respond to an intervention and its implementation; and in turn to consider how an intervention and its implementation may impact upon gender power relations. By identifying which (and how) gendered power relations impact upon an implementation, implementers can amend their implementation strategies accordingly. In order to do so, researchers can use gender frameworks and gender analysis questions to interrogate disaggregated data.

Using gender frameworks within implementation research

Gender frameworks can be used as a guide to help researchers structure their thinking, research questions, data collections tools, and analysis (Morgan et al. 2016). They can help researchers think about what aspects of gendered power relations may affect an intervention and its implementation, and incorporate specific gender analysis questions related to these aspects into their data collection tools and analysis. There are a number of gender frameworks

that can be used within implementation research; Table 1 outlines a few frameworks specifically related to health and/or health systems.

Table 1: Gender Frameworks that Address Health Systems

Specific Frameworks:

- Gender Analysis Toolkit for Health Systems (JHPIEGO 2016)
- Guide for analysis and monitoring of gender equity in health policies (PAHO 2009)
- Addressing Gender and Women's Empowerment in mHealth for MNCH: An analytical Framework (Deshmukh & Mechael 2013)
- Guidelines for the Analysis of Gender and Health (LSTM 1996)

A framework Summary:

- Ten Gender Analysis Frameworks for Health Systems Research (RinGs 2015)

The gender frameworks above can help researchers think about and develop questions related to key domains that constitute gendered power relations. The framework in Table 2 below, originally presented in Morgan et al. (2016), organizes these domains into four categories: *who has what* (access to resources); *who does what* (the division of labour and everyday practices); *how values are defined* (social norms, ideologies, beliefs, and perceptions) and *who decides* (rules and decision-making). The framework also demonstrates how these domains are not static, and are instead negotiated by people and their environments, changing over time and across contexts.

Table 2: Gender Analysis Framework: Gender as power relation and driver of inequality

What constitutes gendered power relations?	
Who has what?	Access to resources (education, information, skills, income, employment, services, benefits, time, space, social capital etc.)
Who does what?	Division of labour within and beyond the household and everyday practices
How are values defined?	Social norms, ideologies, beliefs and perceptions
Who decides?	Rules and decision-making (both formal and informal)
How power is negotiated and changed?	
Individual/ People	Critical consciousness, acknowledgement/ lack of acknowledgement, agency/apathy, interests, historical and lived experiences, resistance or violence
Structural/ Environment	Legal and policy status, institutionalisation within planning and programs, funding, accountability mechanisms

Incorporating gender analysis questions into implementation research

The purpose of implementation research is to improve and support the implementation of an intervention, and ensure its successful outcome. Incorporating gender analysis questions into implementation research helps researchers explore how gendered power relations contribute to the success or failure of implementation (i.e. how gendered power relations affect whether or not an intervention is used, adopted, suitable, etc.). By incorporating gender analysis questions into the data collection and analysis process, researchers can begin to understand which gendered power relations affect how different groups use, interact with, and respond to an intervention, in addition to better understanding the positionality and motivations of those involved in the research process and intervention. These gendered power relations impact

upon whether or not implementation is successful; and importantly, on whether the intervention itself has the potential to exacerbate, maintain or transform gendered power relationships at different levels – within households, communities and institutions.

While an intervention might work well, for example, it can serve to exacerbate challenging gender norms. An intervention which relies on women's unpaid labour, for example, can exacerbate gender relations which undervalue women's work compared to men's. Alternatively, an HIV intervention which mandates HIV testing may increase the number of people who know their HIV status and be considered a positive public health intervention by health system actors. However, for populations who are marginalized by discriminatory laws or social stigma – such as homosexuals, people living with HIV, and sex workers – such interventions will be experienced as abusive and marginalizing and may, in turn, reduce the numbers of people willing to use health services to help them manage their HIV status in a positive and healthy way. Such mandatory testing can also lead to gender-based violence and/or social rejection, particularly for women who find out their HIV positive status before their partners are tested, and are then blamed for bringing HIV into the relationship (Jewkes et al. 2003).

Peters, Tran, et al (2013) present a framework to help implementation researchers evaluate the success or failure of implementation against different outcomes of implementation. Such characteristics are described as 'implementation outcome variables', and serve as indicators of how well implementation is actually working (i.e. whether or not it is achieving its desired results). The implementation outcome variables include: acceptability, adoption, appropriateness, feasibility, fidelity, implementation cost, coverage and sustainability. A definition of each variable is provided in Table 3 below. The relative importance of each outcome variable will be dependent on the intervention that is being delivered and, as such, researchers may choose not to explore all outcome variables within their data.

In relation to these outcome variables, gender analysis questions could explore how gendered power relations affect whether or not an intervention is acceptable, adopted, appropriate, feasible, implemented as intended (fidelity), and sustainable. In Mozambique, for example, while policies recommended that women be recruited as paid community health workers (CHWs) due to their experience with newborn and child health, men were prioritized for these positions as they were viewed as the key breadwinners within the family and more in need of employment (Chilundo et al. 2015). These decisions limited the kinds of health care possible by CHWs as men were not seen as appropriate midwives and they themselves avoided intimate health care associated with pregnancy and childbirth. In this case, the gendered selection of paid CHWs by communities undermined the implementation of the policy, and, as a result, the policy did not achieve its intended outcomes of recruiting more women as paid CHWs and improving newborn and child health. If such factors were identified prior to implementation, implementers could have incorporated strategies within the community to support women's employment as CHWs – or to help men overcome the barriers of dealing with issues of pregnancy and childbirth – to help ensure the intervention was implemented effectively.

Using the gender framework presented in Table 2, Table 3 below provides illustrative gender analysis questions against each of the outcome variables listed above. These serve as a guide to show how the content and range of relevant gender questions will depend on the type of implementation research. Factors that influence gender and power are difficult to contain within neat discrete categories, and hence there are some overlaps between the factors in the gender power relations domain. As it may not always be possible to address all the questions laid out below, researchers should start by identifying important gender analysis questions which are relevant to their implementation research.

Table 3: Illustrative Gender Analysis Implementation Research Questions depending on content and focus of the implementation research

Implementation Outcome Variable: Acceptability – The perception among stakeholders that an intervention is agreeable	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	To what extent do women's (frequent) lack of skills and resources (education, money, technology, employment) or autonomy affect whether or not others perceive their involvement in the intervention as acceptable?
Division of labour and everyday practices	Does men's and women's work inside and outside the home affect whether or not others perceive their involvement in the intervention as acceptable?
Social norms	How do social and cultural gender norms affect whether or not the intervention is accepted by the community, e.g. do cultural beliefs about women as child bearers and mothers influence their involvement in a family planning intervention? How do the conditions at health facilities affect access? To what extent do health facilities provide services with appropriate conditions (such as functioning toilets, bathing areas for inpatient facilities, shelter from sun/rain in the waiting area) and confidential services? Can women request a female health care provider if they wish to?
Rules and decision-making	Who decides whether or not it is acceptable for someone to participate in an intervention? How do they decide this? Are women or other marginalized populations (transgender people, ethnic minorities, migrants, inhabitants of informal settlements, people employed in illegal occupations, etc.) excluded?
Implementation Outcome Variable: Adoption – The intention, initial decision, or action to employ a new intervention (i.e. uptake)	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	To what extent are marginalized populations able to access relevant information and care related to an intervention?
Division of labour and everyday practices	How do women's social roles, such as childcare, infant feeding and other reproductive tasks, affect their access to and utilization of an intervention?
Social norms	How does stigma and or access to resources inhibit certain men and women from accessing or using an intervention? Do interventions which are targeted at women, such as maternal and child health and family planning services, exclude men?
Rules and decision-making	Who decides whether and how much household resources should be used to pay for health care services? How might this affect an intervention? Do women require the permission of a male partner or relative to use the intervention?
Implementation Outcome Variable: Appropriateness – The perceived fit or relevance of the intervention in a particular setting or for a particular target audience or issue	

Gender Power Relations Domain	Illustrative Gender Analysis Questions
Access to resources	To what extent do women's (frequent) lack of skills and resources (education, money, technology, employment) affect whether or not others perceive their involvement in the intervention as relevant?
Division of labour and everyday practices	To what extent are the intervention activities, such as health outreach visits or clinics, organised considering men's and women's agricultural, economic, or caretaking activities in their communities? Does involvement in the intervention compromise any implementers' safety? Or bring additional tasks to certain groups that may be unpaid or unremunerated? (i.e. do they rely on the labour of women volunteers who have to travel after dark)?
Social norms	How do women and men within households and communities prioritise individuals' involvement in an intervention, e.g. is the intervention more likely to be seen as relevant for men due to their role as providers or as relevant for women because of its unpaid, low-prestige status? Does the implementation problem and design draw on health providers' (and others') tacit knowledge? Does it incorporate both male and female perspectives?
Rules and decision-making	Who decides whether or not someone can participate in an intervention – and at what level, i.e. within households, communities, institutions? And how is this decided?
Implementation Outcome Variable: Feasibility – The extent to which an intervention can be carried out in a particular setting or organization	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	To what extent do women and men (or other marginalised categories of people) have the same access to educational and training opportunities? To what extent do family support and roles help or limit opportunities for training by gender, marital status, age, or other social stratifiers? How might this affect stakeholder engagement within an intervention? To what extent do women (or other marginalised categories) have sufficient literacy, autonomy, and access to technology to effectively use an intervention? To what extent is protective health equipment and gear made available and does it fit bodies that are not the male standard?
Division of labour and everyday practices	To what extent are women more or less likely to work in frontline service delivery in poorly-compensated (including volunteer) or less-supported positions than men? How does this affect who implements an intervention and how? How do men's and women's roles and responsibilities affect the use of products used within the intervention (e.g. bed nets, vaccinations)? What are the challenges different groups of women and men might face in adhering to long-term treatment (e.g.

	for tuberculosis, HIV or diabetes)? Are they appropriately supported, or stigmatised, within health systems and community based structures?
Social norms	How do women and men within households and communities prioritise individuals' access to medical technologies or commodities used within an intervention, e.g. are boys or girls more likely be prioritised for oral rehydration therapy (ORT)? How do social norms and notions of masculinity and femininity influence men's and women's decisions to use the protective equipment required in an intervention?
Rules and decision-making	To what extent does regulation stand in the way of making services used within the intervention more widely accessible for women or marginalised groups, e.g. medical abortion, family planning? What is the effectiveness of regulatory mechanisms to ensure that medical products for women or other marginalised groups are not misused, e.g. oxytocin to augment labour?
Implementation Outcome Variable: Fidelity – The degree to which an intervention was implemented as it was designed in an original protocol, plan, or policy.	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	To what extent have those in leadership positions received training in gender sensitivity or gender mainstreaming? To what extent does this training emphasis the need to proactively think about gender and power relations and how they may shape an intervention and exacerbate or minimize harm?
Division of labour and everyday practices	How might participation in an intervention affect health workers' relationships within the home? Will participation in an intervention compromise their safety? To what extent are there differences by gender and other social markers in participation, decision-making, and planning of interventions?
Social norms	Are female and male health providers recognised differently within an intervention? Do they have different needs? To what extent are female providers expected to provide more emotional support, or do more caring work than male providers? Are male providers expected to work in more dangerous contexts or travel longer distances?
Rules and decision-making	Has gender been mainstreamed into an intervention design, and if so how, and with what impact?
Implementation Outcome Variable: Implementation Cost – The incremental cost of the delivery strategy. The total cost of implementation also includes the costs of the intervention itself.	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	Do male and female implementers receive the same level of pay? Do male and female volunteers receive similar incentives?

	Do performance-based incentives mean the same thing for female and male health workers across and within cadres? How might this affect an intervention? Are services or goods which would increase men's or women's involvement included in the intervention included in the budget?
Division of labour and everyday practices	Are opportunity costs appropriately documented from different perspectives in cost calculations, e.g. the opportunity costs of seeking care/accessing an intervention (and not being able to participate in paid/unpaid work)? From an implementers' perspective how might costs of participating affect women and men differently?
Social norms	What are the social norms around negotiating for the prices of goods and services? Does having a male or female negotiator affect the cost?
Rules and decision-making	Who decides what to spend money on? How might this affect what is included within the budget?
Implementation Outcome Variable: Coverage – The degree to which the population that is eligible to benefit from an intervention actually receives it.	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	To what extent do user fees or the removal of user fees have an impact on women and other marginalised groups? Have disaggregated information on out-of-pocket expenditures on health for different groups been obtained? Does an intervention incur more out-of-pocket expenditures for men or women? And what is the impact of this on individuals and households? Who has access to the skills, devices and technology that transmits and processes health information? How do they use this information?
Division of labour and everyday practices	How might men or women's responsibilities both inside and outside the home affect their ability to participate in the intervention?
Social norms	Are health workers in public facilities more likely to respond to certain groups of clients based on perceived ability to pay, gender etc.? How might this affect an intervention?
Rules and decision-making	Are those with decision-making power included within the intervention? How might their lack of inclusion affect ability to access the target population?
Implementation Outcome Variable: Sustainability – The extent to which an intervention is maintained or institutionalized in a given setting.	
Gender Power Relations Domain	**Illustrative Gender Analysis Questions**
Access to resources	Who is more likely to have higher literacy levels and access to social capital enabling them to participate more effectively in health committees and other forms of health/ intervention planning?
Division of labour and everyday practices	To what extent are there differences by gender and other social markers in participation, decision-making and planning of interventions?

Social norms	Does an intervention encourage the participation of men in women's and children's health? If yes, how, and on what terms? Does it rely on women's unpaid labour?
Rules and decision-making	To what extent do policies exist to ensure that women are represented on decision-making bodies related to an intervention?

* Working definitions of Implementation Outcome Variables from Peters, Tran, et al (2013)

Incorporating gender analysis into data collection processes

Incorporating gender analysis into implementation research also includes understanding how gendered power relations can affect the data collection process (i.e. how and where data collection occurs and who is involved). This is an important consideration for implementation research as gendered power relations can negatively affect the type and quality of data that is collected. Gendered power relations can, for example, influence the accuracy and validity of data collection, which ultimately affects the results and recommendations reported and impacts upon the overall success of the intervention. When conducting implementation research it is important to think about how gender as a power relation influences: who participates within the research (as respondents, data collectors, and data analyzers), who is present during data collection, and when data is collected and where (Theobald et al. 2006; Morgan et al. 2016).

Who is involved within the research process?

Within implementation research, it is important to consider who your respondents are and who might be excluded. Where possible, data should be collected from all relevant stakeholders and any categories of people excluded from participation due to gender power relations should be identified. Implementation research involving interventions focusing on maternal and child health, for example, may exclude men due to social norms that dictate that such issues are the responsibility of women. By excluding men, researchers may fail to recognize men's decision-making role within the household and their influence over the health of their wives, daughters, or daughters-in-law (Morgan et al. 2016; Thapa & Niehof 2013). Similarly, women may be excluded from research due to lower levels of literacy or education, because they may require additional permission to travel to research locations, or because they have less leisure and privacy (Morgan et al. 2016).

When collecting data, implementation researchers also need to consider how the gender of the data collectors influences the accuracy and quality of the data collected. In some contexts, it may be inappropriate for male or female data collectors to record information from someone of the opposite sex. It is equally important to think about how other characteristics of data collectors, such as age, ethnicity, occupation, or class, may affect the quality and accuracy of the data collection (Morgan et al. 2016). Data collectors' gender can also affect access (e.g. whether or not someone is allowed entry into a home or access to children). Depending on the intervention being implemented, in some contexts female data collectors, for example, are more likely to be provided access, particularly if a woman's husband or father-in-law is not home. Conversely, female data collectors may have difficulty getting access males when the implementation research involves male sexual health and behaviour.

In addition, researchers' own underlying gender biases and assumptions can affect the quality and accuracy of the data collected, data analysis, and the results reported. Adequate training and supervision is therefore needed to help researchers recognize their own potential gender biases. This should be accompanied with processes that support reflection on data collection and analysis, such as joint reviews or debriefing meetings (Morgan et al. 2016).

Who is present during data collection?

It is important for implementation researchers to consider who is present during the data collection process. For example, the quality and accuracy of data may be affected if both men and women are present during interviews, focus group discussions, or surveys, as each may be reluctant to share information if someone from the opposite sex is present (Hunt 2004; Morgan et al. 2016). Alternatively, in healthcare settings, a patient may be reluctant to provide sensitive information if a healthcare worker of the same or opposite sex is present, or healthcare workers may be unwilling to speak up if a female/male superior is present (Morgan et al. 2016).

Who is present when data is collected and where?

The role of gendered power relations in relation to when data is collected, and where, also needs to be considered. The timing and location of data collection, for example, can negatively affect people's involvement in the research project. Due to women's and men's different responsibilities in relation to work and family life, they may be available at different times of the day. Women, for example, often have a double-burden in relation to work and home life, which may affect their ability to participate. Similarly, men may be working away from home and unable to participate during the day or on weekdays. It is therefore important to choose a convenient time and place to carry out data collection in order to ensure that relevant individuals are not excluded (Hunt 2004; Morgan et al. 2016).

Reducing gender bias within the research process is an important component of incorporating gender analysis within implementation research. Without consideration of gender within the research process, the overall quality and accuracy of the data could be affected, along with the outcomes of the intervention itself. Incorporating gender into the research process therefore has the potential to produce higher equality and more effective implementation research.

Example: Addressing gender and power to in the development of HIV interventions to better meet the needs of needs of sex workers in India

The implementation problem set in context: HIV is a priority area for action in India. Gender, power and social exclusion shape both who is vulnerable to HIV infection and ability to access and adhere to quality care and treatment. Certain group, such as sex workers, are particularly vulnerable to HIV and are considered a key population group that should be prioritised in the HIV response. Sex workers in many Indian contexts are stigmatized, face extreme discrimination, are not organized in groups and experience violence at the hands of police and family members.

The implementation research approach: Implementation research has been ongoing to develop the most appropriate strategies to provide HIV and AIDS services for female sex workers. The government of India developed the National AIDS Control Program (NACP), which involves the implementation of targeted interventions to reduce HIV for groups considered at "high risk", including sex workers. A qualitative process evaluation was undertaken in two states: Andhra Pradesh and Karnataka, to assess the ways in which targeted interventions are appropriately adapted to sex workers' needs and the changing contextual and programmatic factors.

Establishing outreach activities for sex workers, many of whom were female and illiterate was challenging; implementers needed to be aware of how gendered power shapes their experiences. Following ongoing dialogue with sex workers, the outreach strategy was subject to several refinements to try to ensure that the approaches responded appropriately to the ways in which gender, power, stigma, and poverty interplayed to shape their experiences. The strategy evolved to include the hiring of peer educators of

different ages, the creation of the drop-in centres, the introduction of pictorial materials, and the creation of composite interventions. Similarly, the condom promotion and distribution strategy and clinical service delivery models evolved: several models were implemented, adapted, and ultimately differentiated according to the changing needs, perspectives and experiences of the clients.

The most important component of the targeted interventions was the gradual inclusion and integration of the community of female sex workers in the provision of services to be more responsive to their needs. The targeted interventions started with needs assessments that led to a better understanding of the community of female sex workers, which revealed how addressing threats of violence and harassment were more important than HIV prevention. The regular involvement of the peer educators facilitated community-led interventions, eliciting interest in forming community-based organizations and generating greater community participation. This contributed to a social movement recognizing the rights of sex workers and their social entitlements, and hence the final interventions were broader than originally planned in order to address the broader gender inequitable relationships shaping sex workers' experiences.

Data for change from a gender perspective: The targeted interventions benefited from a broad variety of data sources that were triangulated to provide information and inform implementation. The program used three major sources of data: periodic surveys and assessments; annual sentinel surveillance; and routine program data, all of which were sex-disaggregated to assess changes through time. A key lesson, however, was for managers to recognize that "the search for perfect data never ends" and that they must make "decisions based on the best available data rather than wait for the next sample or a more refined analysis", as well as be responsive to the needs of target groups (Rau 2011). A study by Kumar et al. (2011) found that a statistically significant steep decline occurred in HIV prevalence among young pregnant women in the districts with a high intensity of targeted interventions, suggesting that the interventions played an important role in bringing about the decline.

With thanks to Sameh El-Saharty and adapted from El-Saharty & Nagaraj (2015); Rau (2011); Kumar et al. (2011).

Incorporating gender analysis into implementation research outcomes

Incorporating gender analysis into implementation research outcomes considers who is empowered and disempowered by the research process and results, including the extent to which the research process itself progressively transforms gendered power relations, or at least does not exacerbate them (Morgan et al. 2016). This includes the recognition that research activities and recommendations can either aggravate or disrupt power relations, which can lead to gender and health inequities among men and women, or progressively challenge or change power relations. Health systems research which aims to progressively transform gender relations is specifically developed to consider and address inequality generated by unequal norms, roles and relations as a result of gender and other social stratifiers. Such research incorporates aims, objectives, and/or questions that explicitly address gender and gender relations. While implementation research has a more focused aim – to explore how and why an intervention fails or works in real-world settings and improve its implementation – it still has the capacity to influence gender relations in both positive and negative ways through how it considers and incorporates gender relations into the research process and dissemination. It is important to recognize, however, that in some instances attempting to transform or influence gender relations through implementation research may be difficult due to resistance by researchers, implementers, and/or policymakers. Individuals who benefit from current power structures, for example, may try to actively avoid this type of

analysis or belittle it. In these instances, implementation researchers need to carefully reflect upon how their research considers and responds to unequal gender power relations.

Implementation researchers can use the gender integration continuum to consider how their research and dissemination responds to and addresses gendered power relations (Caro 2009). The continuum categorizes approaches by how they address gender norms and relations – approaches can be either gender blind (i.e. fail to consider gender) or gender aware (i.e. consider and/or incorporate gender) (Caro 2009; Kraft et al. 2014). Gender aware approaches can be either gender exploitative, by taking advantage of "*rigid gender norms and existing imbalances in power to achieve […] program objectives*"; gender accommodating, by acknowledging "*the role of gender norms and inequities and seek[ing] to develop actions that adjust to and often compensate for them*"; or gender transformative, by actively striving "*to examine, question, and change rigid gender norms and imbalance of power as a means of reaching health as well as gender equity objectives*" (Caro 2009:10). Gender transformative approaches are most likely to address and change the underlying dynamics and structures which perpetuate inequities. Such approaches "*encourage critical awareness among men and women of gender roles and norms; promote the position of women; challenge the distribution of resources and allocation of duties between men and women; and/or address the power relationships between women and others in the community, such as service providers and traditional leaders*" (Caro 2009:10).

Take the example of an intervention which seeks to increase women's access to maternal health services. Through implementation research, researchers may find that "*gender roles and household decision-making authority [influences] the extent to which individuals access needed health services, notably where decisions relating to health seeking are deferred to the male heads of households*" (Peters, Tran, et al. 2013:19). In such cases, women might delay seeking care, even in the case of an emergency, if the male head of household is not home. Where "*such barriers do exist implementation researchers and programme managers can play an important part in changing the approach used to inform communities about the care available; for example, employing messaging about alternative decision-makers for health seeking when male heads of households are not home.*" This approach recognizes the role that gender power relations play in influencing women's access to health services, and seeks to address these by improving the implementation process. However, it does nothing to actively challenge or change the underlying problem, which is that women are unequal to men and therefore have to defer to them when it comes to (health) decision making. A transformative approach would seek to challenge the unequal gender power relations that maintain these inequities and increase women's health-seeking decision-making autonomy.

In implementation research the question or problem defines the method, and an increasing array of methodologies are being used (Peters, Tran, et al. 2013). One way in which implementation researchers can focus on transformation is through the use of participatory action research (PAR) (Loewenson et al. 2014), which is gaining traction in implementation research. PAR seeks to engage participants as active respondents who are considered to be "best placed to understand their context" and "act and reflect on self-identified problems or issues", and bring their own embedded or tacit knowledge to the analysis, development, and evaluation of the intervention (Morgan et al. 2016:8; Loewenson et al. 2014; Corbett et al. 2007). It advocates for participants' involvement throughout the research process, allowing for the potential to use the process itself to change unequal gender relations by having participants reflect upon, challenge, and alter unequal gender norms, roles, and relations. Feminist PAR, in particular, explores how unequal gender relations, and 'the centrality of male power,' leads to inequities among different groups, specifically seeking to address and challenge these within the research process (Corbett et al. 2007). Implementation researchers that use PAR can engage participants in activities that allow them to reflect upon how unequal

gender relations affect implementation, and how these relations can be challenged and changed in the process of improving implementation.

Example: Participatory Learning and Action to address gendered dynamics in sexual and reproductive health and rights: Implementation research in South Sudan

The implementation problem set in context: At 2,054/100,000 South Sudan has the highest maternal mortality in the world. At marriage, women's families are paid a bride price, which in Northern Bahr el Ghazal (NBeG) is paid in cows. Girls are seen as an investment and looked after well until they are married off – often in early adolescence. South Sudan is in transition – with years of conflict and the construction of a new nation, in some areas, existing gender norms which expect women to bear many children are intensified in order 'to replace the ones that were lost'. Gender and societal norms are also in transition. Elders complain that the young no longer listen to and respect their elders, not all couples keep to the traditional three years birth spacing, and marry younger than before. Some parents worry that their girl may get pregnant while unmarried; as a result, they marry her off early, especially if she is not in school. Girls and boys have very limited access to sex education or contraceptives. These factors can lead to early pregnancy.

The implementation research approach: The South Sudan Health Action and Research Project (SHARP) (KIT undated) aims to improve maternal health and is funded by the Dutch Government and implemented by the Royal Tropical Institute (KIT), Healthnet TPO, International Medical Corps (IMC) and Cordaid, in close collaboration with the Ministry of Health. Implementation research is a core part of the approach to addressing maternal health, and in the area of community engagement (an approach building on Participatory Learning and Action), community dialogues to discuss and explore opportunities for changing gender norms were carried out.

Using community dialogue to enable reflection: KIT compiled (from various sources but drawing substantially on the GTZ developed generational dialogue (von Roenne 2012) and designed a curriculum for the training of community facilitators to support dialogue and reflection on norms and values shaping maternal mortality and health service access and use. The curriculum was further adapted with input of REACH Trust, Malawi, and SHARP partners. The training of community facilitators focussed on dialogue between older and younger women and men, comparing social and gender norms and practices between present and past, sharing knowledge on maternal health and discussing what needs to be changed for maternal health to improve.

Community dialogues and commitments to change: Through the facilitated discussions between genders and generations, statements for change were negotiated and agreed. Two examples include:

"We don't want daughters to marry or be pregnant before 18 years old and we in our family will do all we can – we want to pledge this to our family and community".

"Married women should be allowed to use contraception and have 3 year birth spacing" (which is an incredible shift given the initial resistance by men).

This is an inspiring example of how gender aware approaches inspired by Participatory Learning and Action can bring gender transformative change at the community level. In 2016, 36 communities participated in these activities and the approach will be further rolled out and hopefully continue to challenge and change views and practices that undermine women's maternal health.

With thanks to Kingsley Chikaphupha (REACH Trust, Malawi), Lot Nyirenda (LSTM, based in Malawi), Korrie de Koning, Egbert Sondorp & Maryse Kok (both KIT, Amsterdam). Source: (Theobald 2014)

While not all implementation research may be able to progressively transform gender relations, it is important that it does not unintentionally exacerbate them. During data collection, for example, researchers need to think about how someone's participation within the intervention or research might affect their relationships with others, such as their partners, co-workers, or community members. For example, by not considering how participation in a study can affect gender relations, an unintended consequence of some mHealth interventions was increased domestic violence, abuse, or partner control as such interventions improved women's access to information and resources, without considering men's control over these elements (Deshmukh & Mechael 2013; Jennings & Gagliardi 2013). Implementation research cannot be used only to identify such unintended consequences, it can also be used to amend the intervention and its implementation in such a way as to ensure that these consequences do not occur and/or transform the inequitable gender relations which led to these consequences. Within the above example of mHealth, implementation researchers and programme managers could, for example, have included men in implementation activities, challenging them in relation to women's unequal access to information and resources, and lack of decision-making power in regards to their use.

3. Conclusion

Incorporating gender analysis into implementation research is about analysing how gendered power relations influence the implementation of an intervention, in addition to understanding how the implementation of an intervention affects gendered power relations. Within this chapter we have outlined how gender analysis can be incorporated into health systems implementation research *content* (i.e. what gendered power relations affect effective implementation and how they affect it)*, process* (i.e. how gendered power relations affects data collection and analysis), *and outcomes* (i.e. who is empowered and disempowered by the research process and results, including the extent to which the research process itself progressively transforms gendered power relations, or at least does not exacerbate them).

By incorporating gender analysis into implementation research, researchers can ensure that gendered power relations do not prevent the successful uptake and implementation of interventions, and that implementation itself does not perpetuate existing gender inequalities. While not all intervention research needs to incorporate a gender transformative approach into its design, at the very least it should aim to ensure that unequal gender relations are not exacerbated. Recognizing gender-based constraints and power relations, as well as implicit biases within our own understanding of the world, in addition to involving both men and women within the research process from the outset, can prevent unintended consequences that are hidden by gender blind research. The inclusion of gender analysis into implementation research is therefore important if implementation is to lead to strong, equitable, and sustainable health systems and health systems interventions.

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