



## Article

# Improving Experiences of the Menopause for Women in Zimbabwe and South Africa: Co-Producing an Information Resource

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**Abstract:** Women in sub-Saharan Africa report multiple impacts of menopause on daily life and have requested further information to support themselves. This study co-produced contextually relevant resources—booklets and poster—about menopause with women in Zimbabwe and South Africa. The study was conducted in four stages: interviews with women about the menopause; the development of prototype information resources; workshops with women to discuss country-specific resources; and the refinement of resources. During the interviews, women explained that they had not received or accessed much information about the menopause and thought the physical and psychological issues associated with the menopause had to be “endured”. Prototype information resources comprised booklets and a poster with contextually relevant images and information. Workshop participants suggested several changes, including the addition of more diverse images and further information about treatments. The resources were refined, translated into several African languages, and endorsed by the Ministry of Health in Zimbabwe and the South African Menopause Society in South Africa. Women will be able to access resources through healthcare clinics, community groups and churches. Working with women and other stakeholders enabled a development that was cognisant of experiences and needs. Work is now needed to improve access to treatments and support for menopause to reduce health inequities.

**Keywords:** co-production; qualitative; menopause; Zimbabwe; South Africa

## 1. Introduction

Menopause is a biosocial and cultural phenomenon, comprising a biological and social transition in women's lives. Biomedical definitions characterise the menopause as 12 months after the last day of a woman's final menstrual period (Barnabei 2007) and emphasise how, in the time leading up to menopause, women's hormones start to fluctuate. This is either called the 'perimenopause', or the 'menopause transition' (Harlow et al. 2012a). Social aspects of the menopause include women's experience of transition, and a recognised interaction between wider norms and expectations, including those relating to ageing and social roles. Importantly, women's experiences of the menopause are diverse. Although women may describe mood changes, sleep disturbance and decreased libido (Nelson 2008), women's experiences of the menopause are deeply shaped by—and inform—a range of

biological, socio-economic and cultural circumstances (Winterich and Umberson 1999; Skrzypulec et al. 2010; Nusrat et al. 2008; Lock 1994). The menopause is not a universally negative experience, and some women report the menopause as a time when they may find greater freedom and growth (de Salis et al. 2018; Matsela et al. 2017). The influential work by anthropologists Lock and Kaufert compared women's experience in Japan with North America and suggested that different experiences can be understood as 'local biologies' (Lock 1994; Lock and Kaufert 2001). This move away from universalism in definitions of the menopause has paved the way for a more nuanced approach to women's experiences as well as attention to the context and needs that women may have in relation to their menopause.

Women in sub-Saharan Africa are some of the most globally under-served populations in terms of support for their health needs (World Health Organization 2012), yet recent research with women in sub-Saharan Africa indicates that they report considerable physical and psychological issues associated with the menopause. These include bone and joint pain, hot flushes and forgetfulness among women in Eastern Nigeria (Anolue et al. 2012) and bodily pains, irritability and sleeplessness in Ghana (Odiari and Chambers 2012). Women in the Limpopo Province in South Africa have described multiple impacts on their lives (Ramakuela et al. 2014) and Yoruba men and women in Nigeria have highlighted changes to their sexual and marital relationships (Agunbiade and Gilbert 2020). Women in South Africa described how discussion around the menopause is often viewed as taboo and as such, there is limited information and support available (Ramakuela et al. 2014; Makuwa et al. 2015). Researchers have highlighted the need for further information and advice about the menopause for sub-Saharan African women (Makuwa et al. 2015; Ibraheem et al. 2015; Ikeme et al. 2011). Work to date includes only a small number of contexts in sub-Saharan Africa, but together, the body of work highlights the diversity of experiences alongside a need for information, such that any information must account for context.

Existing information about the menopause is designed to address the circumstances of women in high-income countries and does not address the needs of those living in low- or middle-income countries (LMICs) (NIH 2016; RCOG 2018; NAMS 2020). Not only do experiences of the menopause vary because of local biologies, but provision and availability of support—where appropriate and wanted—varies between countries and health systems. Some of these may be biomedical in nature: for instance, hormone replacement therapies (HRTs), which are widely available in high income settings, may not be accessible, particularly because of the cost. Other elements of support may relate to food, activities and social and family expectations and these may be specific to women's contexts.

In the context of diverse experiences and availability or appropriateness of help, initiatives that seek to support women through the menopause need to attend to context. Such approaches need to be scalable, affordable, evidence based, effective and meet the needs and wishes of the women themselves. In public health, health promotion is one modality for thinking about and designing approaches that seek to support individuals and communities in managing their own health and the issues that shape it (WHO 2009). Within health promotion, 'health literacy' is a key component. Health literacy is understood as the degree to which people are able to access, understand and use information of benefit to them (Nutbeam 1998; WHO 2018), and recent definitions have included focus on systems and organisations as well as individuals. Health literacy can be enhanced by design and provision of accessible and relevant information that is context specific (Sørensen et al. 2012; Nutbeam et al. 2017). Developing information resources about the menopause therefore has the potential to improve health literacy around this change, empowering midlife women to make informed choices about their health behaviours.

The development of resources to support health literacy can use a variety of approaches. More generally, there is an increasing recognition of the need to include multiple perspectives in the design of health interventions, with interventions understood as including information (Rifkin 2014; Rosato et al. 2008). A greater inclusion of multiple perspectives

builds on a long history of work to redress power imbalances and move away from token community engagement towards more genuine participation and redistribution of power (Arnstein 1969). Often described as ‘co-production’, approaches that bring a range of stakeholders together in partnership to design a product or service (Batalden et al. 2016; Alford 2014; Tembo et al. 2021) differ from ‘consultation’. This is because co-production involves people who may benefit from an intervention throughout its development, from conception to final design (Sanders and Stappers 2008). Co-production is thought to confer multiple advantages, notably by enabling interventions to be more appropriately designed such that they are more likely to benefit relevant groups (Turk et al. 2021). Co-production encompasses a range of methodologies and practices (Facer and Enright 2016), and can be used to develop a variety of potential interventions. It can be achieved using a Communities of Practice approach, a collection of people who share a common interest who regularly interact to problem-solve and share knowledge (Li et al. 2009). A recent review of intervention design in LMICs demonstrated a gap between principles of community engagement and practice, highlighting considerable variation in levels of participation and ownership (George et al. 2015).

This study uses a co-production approach to identify women’s needs and to develop resources on the basis of these in Zimbabwe and South Africa. This article seeks to provide an exemplar and exploration of co-production in practice.

## 2. Materials and Methods

### 2.1. Conceptualisation

In Zimbabwe and South Africa, a multi-stage process was used to facilitate co-working between midlife women, healthcare professionals, researchers and representatives from non-governmental organisations (NGOs). This co-production partnership took place throughout conception and development (Sanders and Stappers 2008) and led to the development of information resources in Zimbabwe and South Africa. The idea for the work developed as a result of views of women who took part in a qualitative component of a wider multi-methods study focused on the menopause. The qualitative work sought to understand and characterise Zimbabwean and South African women’s experiences, knowledge and attitudes towards the menopause. Women who took part in interviews raised questions about the menopause and requested further information and advice. On the basis of this, we sought to work with women to develop information resources for supporting women’s health literacy around the menopause, including awareness and knowledge, information about available treatments and support, and highlighting practices that may not have benefit and that might cause harm.

### 2.2. Stages of Co-Production

Co-production of resources took place over six months through four stages:

1. Identification of information needs;
2. Development of prototype resources;
3. Evaluation of prototype resources by midlife women;
4. Refinement of resources

#### 2.2.1. Stage 1: Identification of Information Needs

In-depth interviews were conducted with women in Harare and Soweto as part of a larger mixed-methods Menopause Study that aimed to investigate the effects of the menopause on bone health in Zimbabwe and South Africa.

We approached 41 women to take part in the qualitative study (21 in Harare and 20 in Soweto). One woman declined and forty interviews were conducted with women aged from 40 to 60 years, with twenty interviewed in each study setting (Harare and Soweto). Participants were purposively sampled, taking into account menopausal stage, age, morbidities, HIV status and occupation (Coyne 1997), which provided diversity and sufficient opportunity to achieve depth in interviews and analysis (Vasileiou et al. 2018).

Women included those who were having regular periods, those with irregular periods and those whose periods had stopped (Harlow et al. 2012b). In Harare, participants were recruited from a prospective cross-sectional study measuring prevalence of bone loss during the menopause by HIV status, which was part of the wider Menopause study. In Soweto, participants were recruited from the AWI-Gen 2 study, a cross-sectional study to understand how genetic, environmental and lifestyle factors affect cardiovascular health (Ramsay et al. 2016).

Interviews were conducted by telephone in Soweto due to the COVID-19 pandemic restrictions in place during data collection. Interviews in Harare were conducted face-to-face, either at the participants' homes or at the research offices depending on participant preference. Interviews were conducted in English or African languages. Two topic guides were used, with a list of domains and sub-domains to guide the discussions (Ayres 2008). As well as asking questions about experiences and views of the menopause, interviews also explored impacts on lifestyle, relationships and treatment-seeking behaviour. Women were also asked if there was any information they wanted about the menopause. Those with a confirmed diagnosis of HIV were also asked about their experiences of living with HIV to understand how HIV may affect menopausal experiences.

Interviews were audio recorded, translated and transcribed, then imported into NVivo qualitative analysis software. Data were analysed using an inductive thematic approach to identify themes and subthemes in the responses (Braun and Clarke 2006). Transcripts from both settings were analysed as discrete datasets to enable the distinct information requirements in each setting. The themes were then systematically reviewed to generate a list of the top 15–20 concerns in each setting. The results presented from this component of the study only include findings that informed resource development. More detailed findings relating to the menopause experience will be presented in another article.

### 2.2.2. Stage 2: Development of Prototype Resources

Prototype resources were developed in the form of booklets with information provided in a question-and-answer structure with infographics intended as standalone designs for distribution through other routes. Stakeholders were identified who could provide an in-depth understanding of individual country contexts. The responses were developed iteratively using meetings, through email communications and WhatsApp. Care was taken to ensure that the information reflected the experiences and views of the menopause that women shared during interviews. This included an understanding of their beliefs about the causes of the menopause, physical and psychological issues associated with the menopause and treatment-seeking behaviours. The information was translated by trained translators into Zulu and Setswana for Soweto and into Shona for Harare, ensuring that dialects and phrasing were appropriate for the target groups (Bassnett 2007).

In parallel, study teams in Zimbabwe and South Africa met with local graphics designers to develop resources. Prior to the meetings, the teams developed requirement specifications to inform discussions, including reflections on format and tone. The infographic was developed to allow messages to be conveyed graphically.

### 2.2.3. Stage 3: Evaluation of Prototype Resources by Midlife Women

Two workshops were carried out in each country to evaluate country-specific information resources and develop dissemination strategies. Each workshop included between 6–10 women aged 40–60 years. All women who took part in qualitative interviews were invited to participate, plus an additional four women from the AWI-Gen 2 study in South Africa. In Zimbabwe, 15 of the 20 women approached agreed to take part. In South Africa, 19 of the 27 women approached agreed to participate.

In Harare, workshops were conducted face-to-face in a conference room in a private healthcare clinic for women. In Johannesburg, workshops took place in a community centre in Soweto. These were chosen as comfortable spaces that were less likely to embody the power that academic institutions may represent, which could reinforce any power dynamics

between researchers and participants and undermine the potential for collaboration and co-creation (Tembo et al. 2021). Workshops were conducted in a combination of English and African languages and lasted around 2.5–3 hours each. Trained facilitators presented information resources and enabled discussion to evaluate the resources in relation to their: (i) acceptability: the extent to which women judge the prototype resources as appropriate for their intended purpose; (ii) adequacy: the sufficiency of the prototype information resources; (iii) tone: the attitude towards the reader; and (iv) readability: how easy the text is to read and understand. In each workshop, clinicians specialising in women's health provided participants with information about the menopause and answered their questions.

Workshops were audio recorded, translated and transcribed in full. Data were analysed using a descriptive thematic approach to summarise themes and reflections (Braun and Clarke 2006). Data were then systematically reviewed to generate a list of issues or potential changes to resources. The reviewing of the data was independently carried out by two researchers in each setting who met to discuss findings and arrive at an agreed list of potential changes.

#### 2.2.4. Stage 4: Refinement of Resources

Based on women's views, resources were refined in collaboration with key stakeholder groups and graphic designers. Teams in Zimbabwe and South Africa developed a point-by-point response to each of the comments and concerns raised. These included changes in design, content and readability, including language and phrasing. The researchers (SD, NB and KK) developed a written summary of women's views for stakeholders and met with the wider study team and graphic designers to communicate issues and suggested changes. Changes were made collaboratively in several rounds of iteration through meetings, email communications and WhatsApp. Further translation was carried out to reflect these changes. Resources were additionally translated into Ndebele in Zimbabwe and Afrikaans and Tsonga in South Africa. This meant that all main language groups in both countries were represented to ensure maximum reach.

#### 2.3. Ethical Approval

Ethical approval for the Menopause Study was provided by the Medical Research Council of Zimbabwe (Ref: MRCZ/A/2551) and the Biomedical Research and Training Institute IRB (Ref: AP152/2019) in Zimbabwe and by the Human Research Ethics Committee (HREC) (Medical) of the University of the Witwatersrand (Ref: M200429) in South Africa. Written, informed consent was provided by all participants before interview in Zimbabwe. Verbal consent was provided by all participants in South Africa and audio recorded. Workshop participants provided informal agreement to participation before data collection, including agreement to publish anonymous quotations.

### 3. Results

#### 3.1. Characteristics of the Participants

The 40 women who took part in interviews included 20 from Harare and 20 from Soweto. Of the women in Harare, 10 were aged 40–49 years and 10 were aged 50–60 years. Five women were still having regular periods, six women had irregular periods, eight women were no longer having periods and one woman had undergone a hysterectomy. In Soweto, four women were aged 40–49 years and sixteen 50–60 years. Two women were still having regular periods, six women had irregular periods, eleven women were no longer having periods and one woman had undergone a hysterectomy. A total of 34 women took part in workshops, including 15 from Harare and 19 from Soweto. This included four women from Soweto who were not included in original interviews who were all aged 50–60 years and no longer having periods. All names are pseudonyms to preserve anonymity.

### 3.2. Stage 1: Identification of Information Needs

Below, we characterise women's experiences, knowledge and attitudes towards the menopause that are relevant to resource development. See Box 1 for illustrative quotations from interviews.

#### Box 1. Illustrative quotations from the interviews.

*"We will be asking amongst each other that, "All right, a woman has stopped having her period...no longer having periods means you are no longer bearing, then how does it end? What does that mean for your life?"*  
**Primrose, Zimbabwe**

*"[Menopause] is something I am looking forward to, why, because I am getting old. Yes if time permits and if God allows it, with life, it's okay."* **Praise, Zimbabwe**

*"It is shameful to talk [about the menopause]. It is shameful, "zvakafumuka" [not morally accepted] ...To just talk, talk about it."* **Tsitsi, Zimbabwe**

*"I don't have any knowledge regarding [about what causes the menopause]. I'm thinking that you probably no longer have eggs."* **Kwezi, South Africa**

*"I had to admit that okay, now I'm facing this situation [with hot flushes], then I went to my mom and told my mom that this is what's happening. So, when I got to my mom, I told her that, "mom I'm sick" and my mom said, "no you're not sick it's just the time that comes for all women". So, after I spoke to my mom and she told me that I felt better, because I felt like I was going to die".* **Noxolo, South Africa**

*"People are afraid to have intercourse after the menopause because they say all the sperms won't be washed out after the month...the cycle. So, you have this "chimimba muteku" [menopausal belly] and people will laugh at you. So, I know of so many people who have had problems in their marriages because menopause was early, and they started refusing their man and it cause a lot of problems."* **Tinasho, Zimbabwe**

*"I know people who have their husbands treat them differently and sometimes cheat because they don't bleed anymore, they say that they are "cold", their vaginas aren't warm anymore. Like a river, water that lives flows but water that's still smells and all living things in it dies. Blood has to flow out to keep the vagina clean, once the blood stops, the vagina stops, and you become cold. It's cold meat."* **Meladi, South Africa**

*"[People get sick] because all that blood didn't leave your body, some remained you know. That's why some people have cancer and others have fibroids you know, and which is true because these things work because they take this blood out, they clean out what's remaining."* **Tshidi, South Africa**

*"If they could discover proper medication [that would make it easier]. Hopefully scientists can discover medication for it then we will be happy because some people have said they do suffer from those symptoms."* **Zanele, South Africa**

*"So, they say when you are no longer having your period, you will no longer have the desire for a man. That is when they start using traditional medicine."* **Chipo, Zimbabwe**

*"I would want to know what causes you to no longer have your periods. What is the reason that makes you stop having your period? You are still eating what you used to eat and everything else, and that blood just stops! There is nothing! However, if you tested in the body there is blood."* **Primrose, Zimbabwe**

Women in Zimbabwe and South Africa highlighted a range of concerns and priorities that were shaped by the wider socio-cultural context. Women had different attitudes about going through the menopause. Many women associated the menopause with losses, such as infertility and a decline in sexual intimacy with their partners. Others, particularly those in South Africa, described their experience as a transition of their role in society to respected elders and celebrated reaching older age.

Many women in both countries said that information about the menopause was generally transferred from older to younger generations, for instance from mothers, grandmothers and aunts. Very few had discussed their experiences with healthcare professionals. Many thought that discussions about the menopause did not take place beyond their immediate kin or trusted women because of a desire for secrecy and sense of shame.

Women expressed a variety of views about causes of the menopause and many women said that they "did not know" the reason why it took place. The menopause was variously attributed to "ageing", "God" or just "something that happens". Several women in South Africa offered biomedical explanations, whereas in Zimbabwe this was less common. In Zimbabwe, younger women were worried about the onset of early menopause as they were

concerned this would threaten their ability to bear children. This was seen as “unnatural”, and some attributed early menopause to “witchcraft”.

When asked about their experiences, some women reported that they had not known about the menopause and were “shocked” when they began experiencing bodily changes. Women identified several physical and psychological issues associated with the menopause, most commonly hot flushes, night sweats, less desire to have sex, and vaginal dryness. Weight gain and changes to the shapes of their bodies were also a concern. Many women in Zimbabwe thought having sexual intercourse with a man after their periods stopped meant they developed a “*chimimba muteka*” (“menopausal belly”). This is where semen—mostly referred to as “dirt”—builds in the womb, as there is no way of washing it out. They were also concerned that sex becomes less pleasurable for the man as women become sexually “cold” rather than “warm”. There was concern amongst women in both countries that the menopause could cause health problems, including cancer and infection due to the build-up of menstrual blood. Those with health conditions, including HIV, were unsure how they impacted the physical and psychological issues associated with the menopause, and if challenges they were experiencing were caused by the menopause or their pre-existing conditions. A small number of women with HIV in Zimbabwe were worried that the menopause may make their antiretroviral therapies less effective.

Many women were unsure how to manage the physical and psychological issues they experienced and viewed them as something to “endure”. Some identified coping strategies to treat hot flushes, such as eating ice-cubes and opening windows and exercising to lose excess weight. In South Africa, some women tried to avoid certain foods, such as vinegar. Several women in Zimbabwe had stopped having sex with their husbands and partners to avoid getting “*chimimba muteka*”. A smaller number described traditional medicines that were available to manage these challenges, although only one woman in South Africa reported using them. In addition, a small number of women in Zimbabwe reported that they had heard of traditional medicines to try to stop the menopause.

When women asked us questions about the menopause, they identified priorities and concerns that were related to these experiences and views. Based on findings and questions from women, a list of information needs was identified in each setting:

#### Zimbabwe

1. What is the menopause?
2. What causes the menopause?
3. What happens when you are in menopause?
4. How do you know when you are in menopause?
5. What happens to the blood from your period when you go through the menopause?
6. Can you still become pregnant when you are going through the menopause?
7. What symptoms can you have with the menopause?
8. What can you do to manage the symptoms of the menopause?
9. How do women’s bodies change when they go through the menopause?
10. Is there any such a thing as a “*chimimba muteku*” (menopausal belly)?
11. Can going through the menopause affect your sex life? Can a man feel the difference?
12. What age do women go through the menopause?
13. How should women look after themselves going into midlife?
14. Why is age at menopause different for different women?
15. Why do some women go through the menopause early?
16. Is there anything I can do to stop going through the menopause?
17. Can going through the menopause cause health problems, such as cancer?
18. Can the menopause affect my bones?
19. What can I do to keep my bones healthy?
20. Is going through the menopause different for women living with HIV?

#### South Africa

1. What is the menopause?
2. What causes the menopause?

3. What happens when you are in menopause?
4. What symptoms can you have with the menopause?
5. How do women's bodies change when they go through the menopause?
6. What can you do to manage symptoms?
7. How should women look after themselves going into midlife?
8. What happens to the blood from your period when you go through the menopause?
9. Can you still become pregnant when you are going through the menopause?
10. What age do women go through the menopause?
11. Why is age at menopause different for different women?
12. Can the menopause cause health problems such as cancer?
13. Can the menopause affect my bones?
14. What can I do to keep my bones healthy?
15. Are perimenopause and menopause different for women living with HIV?

### 3.3. Stage 2: Development of Prototype Resources

On the basis of Stage 1, we developed prototype information resources. The content was designed to address the questions and concerns posed by women and considered how to ensure that the presentation was visually appealing. Information resources were developed in the form of booklets. Infographics were included in booklets and developed as standalone designs for dissemination through other routes, including distribution in clinics as posters and online. A group of stakeholders was assembled to input into prototype design, with known contacts included in the group. These included researchers, healthcare professionals and representatives from NGOs.

In Zimbabwe, the researchers partnered with a medical practitioner and menopause specialist in Harare, a regional advocate for the rights of women and children living with HIV, and a representative from the Ministry of Health and Child Care. In South Africa, the researchers partnered with a gynaecological oncologist, menopause practitioner, and a consultant gynaecologist and obstetrician based in South Africa. All stakeholders in South Africa were representatives from the South African Menopause Society (SAMS), a medical association for healthcare professionals that aims to enhance understandings of the menopause in this setting. Stakeholder involvement was complemented by expertise from the research team in HIV medicine, gerontology, anthropology and qualitative methodology, and country-specific research experience.

Three key considerations were identified in resource development: design, content and readability ([Barnett et al. 2016](#)).

#### 3.3.1. Design

The team sought to design resources that supported women's positive understandings and beliefs about the menopause in both settings. We wanted to create resources that felt mature and respectful and selected colour schemes that were 'grown up', upbeat and attractive. Careful consideration was given to the selection of images and illustrations, paying close attention to their cultural and historical significance. In Zimbabwe, photographs of African women were chosen, many of whom were wearing a "dhuku" (headscarf) traditionally associated with married, older women in rural and some urban settings. For the front cover, a photograph of two women from different generations was chosen to reflect how knowledge and information about the menopause is traditionally transferred. In South Africa, the team worked with a local illustrator to develop a graphic of a mature, black woman in Soweto wearing a shweshwe print dress commonly worn by older Setswana/Sotho women after marriage ([Futhwa 2011](#)).

#### 3.3.2. Content

Information and advice were based on what was accessible and achievable for all women, including those in rural settings. This included consideration of the sorts of healthy foods women could afford that formed part of local diets, such as kapenta fish, okra,



nuts and sweet potatoes in Zimbabwe, and Mabele (pure-grain sorghum), sardines and pilchards, and sugar-free peanut butter in South Africa. Consideration was also given to the types of treatments that were accessible, based on information and advice from local healthcare professionals. For instance, in Zimbabwe, oestrogen creams and hormone replacement therapy (HRT) must be purchased out of pocket and are therefore out of reach for most women. On account of this, practical cost-free advice was included, such as wearing loose comfortable clothing, carrying a water spray, avoiding caffeine and alcohol, and deep breathing exercises to help to manage stress.

It was important that information about the menopause was provided in a way that respected local knowledge and beliefs. This was challenging as many women held beliefs that were not consistent with biomedical advice. For example, some women attributed early menopause to “witchcraft”. These were not referenced or refuted in the resource.

### 3.3.3. Readability

The readability of information resources is essential to ensure information is conveyed effectively for all reading levels (Hoffmann and Worrall 2004). Consideration was given to the women who would use the information and their existing knowledge, and attention was paid to how biomedical ideas were introduced and described. To enhance readability, the infographic was developed to enable messages to be conveyed graphically for all women, regardless of literacy.

The translation of resources into African languages required careful thought. Many African languages do not have direct equivalents to some biomedical terms (Madadzhe and Mashamba 2014). As such, the concepts had to be conveyed in a way that was comprehensible. For instance, in Shona “menopause” can be described as “*kuguma kutevera*” (“no longer following” meaning “no longer having periods”). Several common translations in Zimbabwe and South Africa have negative connotations that perpetuate shame and a sense of loss around the menopause. This includes “*kuguma ura*” (“no longer bearing”) in Shona and “*phelelo maikutlo*” (“the end of ones’ feelings”) in Setswana. In South Africa, it was challenging to identify appropriate phrasing. The phrase “*khutlo ya modikogo*” (“an end of the circle”) in Setswana was developed by translators. Most African languages have dialects, meaning that the same words can mean different things to different people (Bassnett 2007). Therefore, the team worked hard to ensure that dialects were appropriate for midlife and older women. Given the sensitivity of discussing sexual and reproductive health amongst these groups, appropriate idioms were used. For instance, in Shona, a man’s semen was translated to “*hurume wababa*” (“manhood”).

Translating the English title for the booklet ‘Menopause’ into African languages was challenging since there was no word for “menopause”. In South Africa, “*Ubufazi*” in Isizulu and “*Sesadi*” in Setswana (a close translation in English is “being a woman”) was chosen as the title. This describes a certain time or stage in a woman’s life when they reach maturity, around 45–75 years. The Setswana/ Sotho idiom “*Mosadi o tshwara thipa kafo bogaleng*” (“a mother or woman grabs a knife by the blade”) is closely associated with this age and relates to a time when women are an integral part of their families and society. In Zimbabwe, the English title “Zimbabwean women and menopause” was used on account of the high proportion of people who can speak fluent English (Mlambo 2009). Both resources included a subtitle with a description of the menopause in African languages.

See below Figures 1 and 2 for prototype designs of the information resources in English.

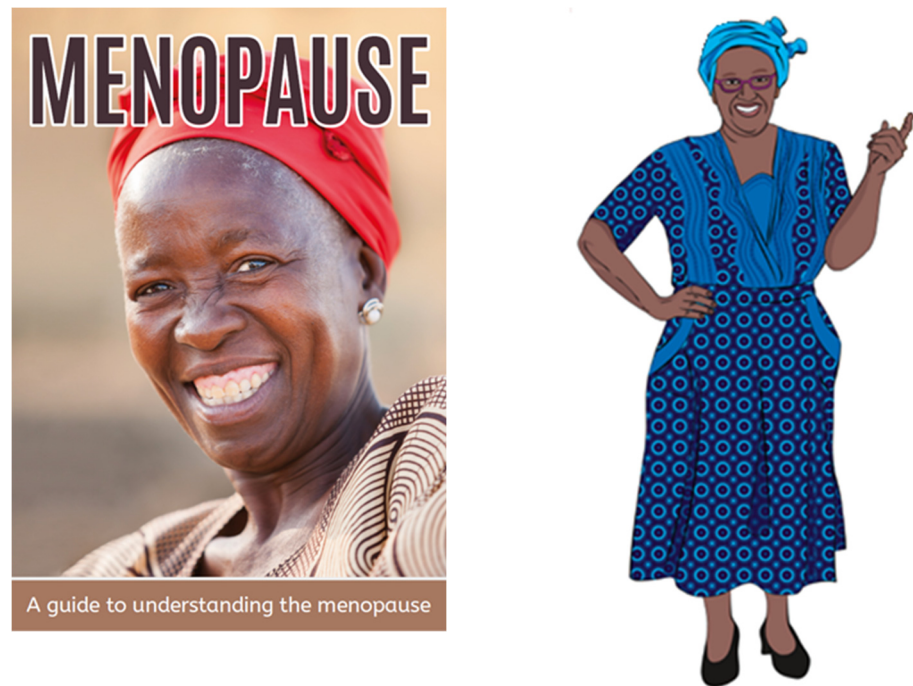


Figure 1. Prototype designs in South Africa presented at workshops before evaluation and refinement.

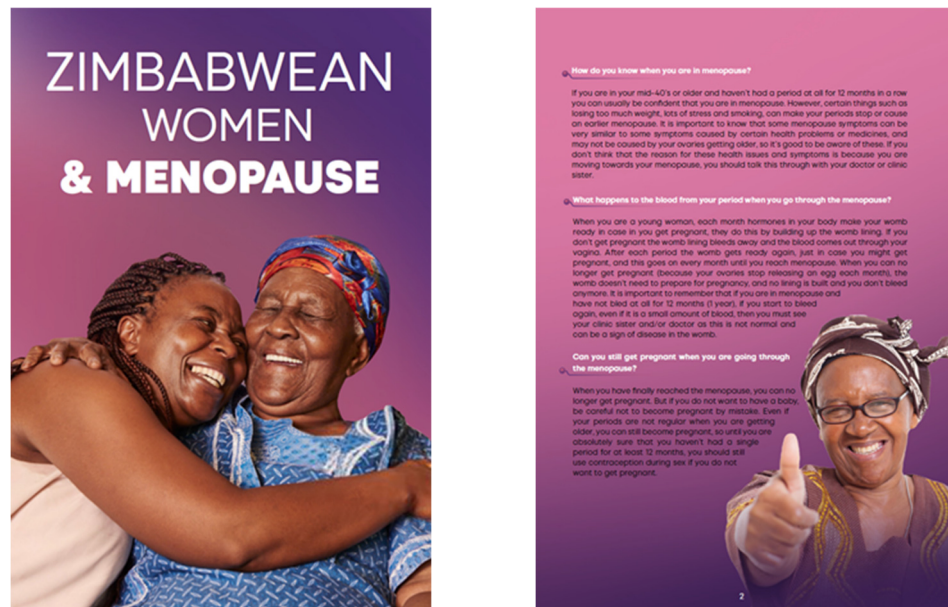


Figure 2. Prototype designs in Zimbabwe presented at workshops before evaluation and refinement.

### 3.4. Stage 3: Workshops with Midlife Women

Resources were evaluated in relation to their acceptability, adequacy, tone and readability. See Box 2 for illustrative quotes from workshops.

**Box 2.** Illustrative quotations from the workshops.**Acceptability**

*"I do not think that there will be any problems [with the resources]. [Women] need to know and I think people will welcome such things. White women already know such things before they even get to this stage. They know what to expect, what to do and what treatment is available to them. We need to learn more, all of us black women."* **Workshop 1, South Africa**

*"With this women's empowerment that is talked about so much we are at that stage where we are looking for information and we want information . . . [The resource] helps us, it is something that we never used to talk about and it has come out into the open."* **Workshop 2, Zimbabwe**

**Adequacy**

*"[You should provide more information about biomedical treatments]. It shouldn't give us half information. I did not even know that there were treatments."* **Workshop 2, South Africa**

*"[You should add information] about traditional treatments. Some people might not have access or afford Western treatments like steroids. This is for South African women. We need to remember our African treatments and trust them too."* **Workshop 2, South Africa**

*"Some questions are not straight forward. The difficult thing for us is to accept it. To accept that we are now menopausal. Also, when I've reached menopause, does it mean I'm now old or can I still enjoy life? You need to explain to us if life will still be enjoyable or not."* **Workshop 1, South Africa**

**Tone**

*"I think [the illustration] is okay, but going through the menopause—I don't think you must think yourself as an old lady or something like that. You are still you and life should just continue and be pretty and not wear these old granny shweshwe dresses."* **Workshop 1, South Africa**

*"I just want to say the women that are here [in the resource] it just now seems that the women who are in menopause only tie head scarfs [laughs] . . . It must just be mixed, so that it looks nice."* **Workshop 2, Zimbabwe**

*"The thing that I noticed is that though these people [the women in the pictures] are in menopause, they are happy. Other people may think that when you are in menopause that it is another world that you have gone to that you cannot live in. However, these ones are showing that even though we are there, our lives are good."*

**Workshop 1, Zimbabwe**

**Readability**

*"When you are old and there is no womb lining there is no longer blood, it makes sense, it's understandable. It was explained so well and it has met the need."* **Workshop 1, Zimbabwe**

*"The Setswana is good. Very easy to read and understand."* **Workshop 1, South Africa**

**3.4.1. Acceptability**

Women in both countries were enthusiastic about the resources and felt they helped to highlight the importance of the menopause, created new ways to receive information, and challenged some of the feelings of secrecy and shame surrounding it. Several women in South Africa felt that the resources validated their experiences which had been minimised or dismissed by others, including healthcare professionals. All women were confident that resources would be widely used. Length and size were seen as appropriate and as one woman in Zimbabwe explained, "could be slipped into our handbags". According to them, the quality and design of the booklets meant they would be encouraged to keep them and refer back to the information in the future.

**3.4.2. Adequacy**

Women felt the resources gave them new knowledge and helpful advice, including the importance of foods and lifestyle, the physical and psychological issues associated with the menopause, and the relationship between the menopause and HIV. Those in Zimbabwe said that they were grateful for information they could use to maintain their own health and did not have to accept that they were just "getting old". All women agreed that the lifestyle advice was realistic and achievable. Women in Zimbabwe were pleased that the resource clarified some of their misunderstandings about the "chimimba muteku" ("menopausal belly"), meaning that they could continue having sex with their husbands and partners. They felt this would have a positive impact on their relationships.

Women in Zimbabwe were confident that the booklet answered all of their questions and addressed their needs. However, in South Africa, women wanted additional advice about some of the psycho-social aspects of the menopause. These included further information about the impact of the menopause on sexual relationships, including how men viewed women of menopausal age and how to discourage men from having affairs once their partner's reached the menopause. Women in both countries were excited to receive information about treatments for managing the physical and psychological changes during the menopause, as they were not aware they were available. On account of this, they requested more information on treatments to control these. Women in one workshop in South Africa also talked about the importance of including traditional treatments.

#### 3.4.3. Tone

All women wanted the resources to highlight the menopause as a shared experience, regardless of socioeconomic status and ethnicity. As such, they requested more diverse images, including more "modern" women from the "working classes" (i.e., in formal employment). In one workshop in South Africa, women felt the front cover should include women in a range of traditional attires to represent South Africa's "rainbow nation". Those in Zimbabwe appreciated the front cover as it reflected the notion of the menopause as a shared experience across generations and because information about the menopause is typically transferred by older, trusted women. To enhance inclusivity, they requested the title to be changed from "Zimbabwean women and menopause" to "women and menopause" as they felt the resources could benefit all African women.

Women in both countries thought that the women portrayed in images and illustrations were "too old" and wanted pictures of younger women. In one workshop in South Africa, they said this reinforced some of the negative attitudes around the menopause, in that once women reach this stage, they are old and should "retire from life". In addition, they explained that older women no longer needed this information as they had already gone through this change. There was a desire to promote positivity around the menopause and they thought the use of colours and pictures of smiling women reinforced this. As one woman in Zimbabwe explained, the purple of the leaflet was feminine, attractive, and represented women's "royalty".

#### 3.4.4. Readability

The information was considered to be easy to understand, accessible and an appropriate length. When asked, they agreed that the biomedical concepts were clearly explained. The layout of the resources were largely considered to be logical. Women in Zimbabwe wanted the infographic to be bigger so that more images could be added to convey messages to those with difficulty reading.

The translation of the resources into African languages were considered appropriate and respectful, and women made only minor suggestions around language and phrasing. Women in South Africa were enthusiastic about using the titles "Ubufazi" and "Sesadi" ("womanhood"), as they thought this would be immediately recognisable and appealing to women in their age group. They felt it reinforced the notion of the menopause as a shared experience amongst "amafazi" or "basadi" ("women"). Likewise, women in Zimbabwe thought the use of English titles was appropriate since the Shona translation of menopause "kuguma kutevera" ("no longer following") sounded incomplete and did not make sense without further contextual information.

### 3.5. Stage 4: Refining Resources and Dissemination Strategies

Based on Stage 3, several changes were made to the information resources in consultation with the stakeholders.

### 3.5.1. Design

Images and illustrations in all the resources were revised to include younger women. In Zimbabwe, this included adding pictures of women from a broader range of socioeconomic classes. The title of the booklet was changed to “Women and menopause” to make resources feel inclusive to all African women. In South Africa, the illustration was revised to make the graphic appear younger. This included changing the shweshwe dress to a shweshwe skirt and matching top, which is more commonly worn by women in their early 40s–50s, and adapting the “*doek*” (head scarf). To try and reflect a broader range of cultural groups within the country, her skin was lightened to make her race more ambiguous.

### 3.5.2. Content

In response to women’s desire to promote positivity around the menopause, a positive, upbeat message was added to resources in both settings: “Remember, the menopause is a new phase of life for you. We hope this information is useful and will help you live a full and active life during this change and beyond.” Since the impact of the menopause on sexual relationships was such a common concern, information on this was modified to make it sound more hopeful, emphasising that treatments can improve vaginal dryness and libido may return. After careful reflection, further information about treatments to manage the menopause were not added since most are inaccessible within the public healthcare systems and there was a concern it could cause unrealistic expectations. Information about the use of traditional medicines was not included as stakeholders did not endorse these treatments. In addition, further advice about managing psycho-social aspects of the menopause, as requested by several women in South Africa, were not added as it was felt to fall outside the scope of the resources. Infographics in Zimbabwe were expanded.

### 3.5.3. Readability

Minimal changes were made to enhance the readability of resources. Following completion, the resources underwent additional translation. In South Africa, the resources were developed in all five main language groups: Nguni languages (Isizulu), Sotho-Tswana (Setswana), other Bantu languages (Tsonga), English and Afrikaans. In Zimbabwe, resources were developed in English, Shona and Ndebele. This will help to ensure that the resources are inclusive and reflect the diversity across both settings.

See below Figures 3 and 4 for final designs of the information resources in English and African languages. Infographics were formatted as standalone designs. Resources and infographics in English are available in the Supplementary Materials.

The resources were endorsed by the Ministry of Health and Child Care in Zimbabwe and the South African Menopause Society (SAMS) in South Africa.

### 3.6. Reflection on Process

The conceptualisation of resources by midlife women and identification of information needs, based on qualitative interviews, helped to orient decision making into women’s hands. In the first instance, the idea to produce information resources was based on women’s views that they would like to know more about the menopause and how to manage it. In workshops, women expressed their appreciation of a space in which they could discuss the menopause. Holding workshops with women appeared to mitigate power dynamics that may have arisen during collaborative group discussions alongside other stakeholders and gave women the opportunity to share personal experiences and contribute to development in a meaningful way. Involving the same women in interviews and the co-design processes for the resources built on existing relationships and helped women to feel invested and engaged. This was exemplified when participants said that they felt “proud” to be involved, reflected by their request to be acknowledged by name in the resources so they could show their family and friends that they had been involved in the project.



Figure 3. Final designs in South Africa.

It appeared to be important to involve a range of stakeholders. Clinicians specialising in women’s health attended each workshop to provide participants with information about the menopause, including information about causes of the menopause, physical and psychological issues associated with the menopause and treatments. Clinicians answered women’s questions and women described this opportunity as beneficial to them.

A key aspect of the work was the balance needed between the provision of information that was appropriate and women’s access to treatment for the menopause. HRTs are not widely available in Zimbabwe and South Africa. Although women in workshops were keen to include further information about HRT and other treatments in resources, stakeholders felt this would create unrealistic expectations among beneficiaries. Therefore, a short summary of medical treatments was included with a recommendation to seek medical guidance for further information, alongside practical cost-free advice. This aimed to raise awareness about treatments, whilst providing information that was realistic and achievable.

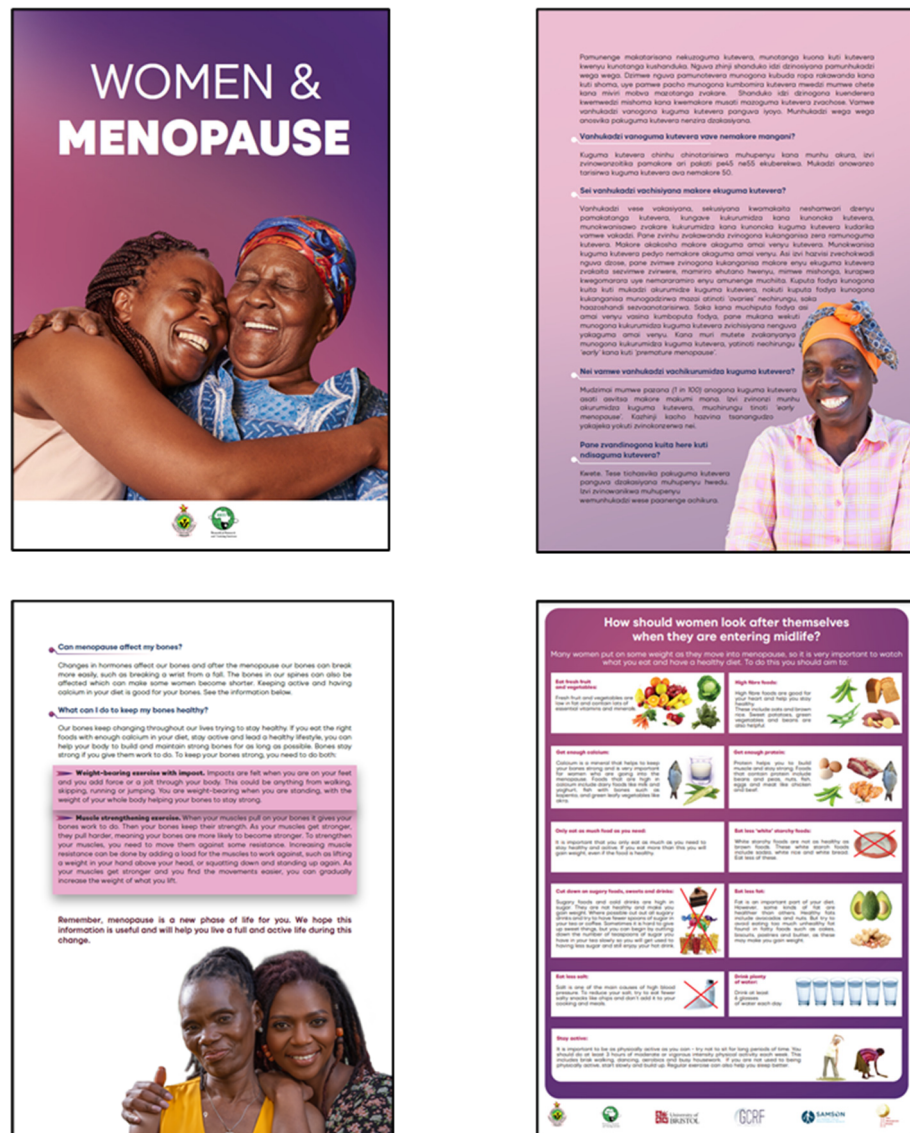


Figure 4. Final designs in Zimbabwe.

Stakeholders and midlife women brought with them different knowledge bases that included biomedical, experiential and traditional beliefs. Managing these differences in order to arrive at a shared understanding, created tensions (Redman et al. 2021). For instance, in balancing the provision of appropriate information and women’s access to treatment and conveying a biomedical understanding and promoting Western treatments, while being respectful of traditional beliefs and practices. This involved making challenging decisions about whose knowledge to ‘prioritise’ that we sought to resolve through collaborative discussions.

Equal input and engagement from all stakeholders were challenging due to competing pressures, particularly during the COVID-19 pandemic. Using a flexible approach involving ad hoc meetings, email communications and WhatsApp, a key mode of communication in Zimbabwe and South Africa, provided a pragmatic approach to managing this and meant stakeholders could fit development work round competing commitments. In addition, the complex and multiple iterations involved in developing the information had to be balanced against the time and resource available for the project. The final versions of the information were thought to be successful, although further work is needed to examine their uptake and views about benefit.

#### 4. Discussion

This study used a co-production approach to develop contextually relevant information resources about the menopause for women in Zimbabwe and South Africa. It is hoped that the resources will support women's health literacy around the menopause and complement an increasing number of global initiatives to promote the health and wellbeing of midlife women (IMS 2021; SAMS 2021; NAMS 2020).

Tembo et al. identified key aspects of co-production: 'sharing power', 'building and maintaining relationships', 'including all perspectives and skills' and 'reciprocity and respecting and valuing different knowledge bases' (Tembo et al. 2021). We sought to apply these principles. Redistribution of power is a key component of co-production and includes considerations around ownership of material resources and decision making (Tembo et al. 2021). Co-production in LMICs involves negotiating long-standing power relations between diverse stakeholders, such as healthcare professionals, healthcare professionals, NGOs and patients (Turk et al. 2021; Redman et al. 2021). Co-production should be inclusive and incorporate all perspectives and skills in the development process (Tembo et al. 2021). As such, in this study, stakeholders included an interdisciplinary team that included menopause specialists, HIV medicine, gerontology, anthropology/qualitative methodology, country-specific research experience, and experience and knowledge of health service delivery, all of whom contributed different expertise. Involving practising healthcare professionals with in-depth knowledge of healthcare systems, helped to tailor advice about treatment and lifestyle according to realistic and accessible options for women in both settings.

Using a co-production approach conferred multiple benefits. Working with women and other stakeholders throughout conception and design helped to develop resources that were cognisant of midlife women's lived experiences and addressed their real needs (Turk et al. 2021). Building relationships with women and stakeholders is now starting to facilitate dissemination of the information resources, which is taking place as a collaborative effort. For instance, stakeholders in both countries have identified several avenues for dissemination through known contacts. In South Africa, resources are being shared through the South African Menopause Society website, a key platform for distributing information on the menopause. Co-production with local stakeholders and midlife women has created resources that are locally owned. As such, there are high levels of engagement in clinics and through other communication routes (Vanyoro et al. 2019). This will help to ensure that resources have a maximum reach and are supported and sustained over time in South Africa and Zimbabwe.

Menopause resources are being widely distributed using multiple strategies. Printed resources are currently being distributed through public healthcare clinics in Harare and Bulawayo, Zimbabwe and Soweto in Johannesburg, South Africa. In Zimbabwe, the Women in Communities Zimbabwe is helping to disseminate printed resources to women in rural areas. The resources have been published on several websites, including the South African Menopause Society (<https://www.menopause.co.za/>, accessed on 1 December 2021), the Salamander Trust (<https://salamandertrust.net/>, accessed on 1 December 2021) and the Health Systems Trust (<https://www.hst.org.za/>, accessed on 1 December 2021). These approaches aim to ensure that materials are accessible to women from a range of backgrounds and socio-economic groups. We are continuing to work with stakeholders and other organisations to explore a range of communication routes to ensure equitable access to the resources.

It is possible that the project could have benefited from involving a wider range of menopause specialists in each setting to enhance inclusivity. However, we found it challenging to identify additional menopause experts, particularly in Zimbabwe where the ratio of specialists to the general population is low. Furthermore, data collection was limited to women living in urban settings in Harare and Johannesburg, which may limit the transferability of findings to other settings (Lincoln and Guba 1986), particularly those in rural areas who are likely to have different attitudes and beliefs towards the menopause.



Future research could explore whether the information resources are used and whether women find them to be of help. Such work could inform further refinements and complementary approaches to support women in mid-life. Discussions during workshops also highlighted additional areas for future research. Specifically, women highlighted how their partners' attitudes towards the menopause impacted on their experiences and that they thought that men needed information about the menopause. Further research could seek to understand men's attitudes, experiences and views and identify what they would like to support them. Healthcare professionals and stakeholders were unsure about the traditional, complementary and alternative medicines used to manage the menopause. Further work may be carried out to understand the types of traditional treatments used, along with their safety and prevalence. Doing so would enable researchers, healthcare providers and policy makers to develop guidance on these practices to promote and safeguard women's health. Further work may also be needed to develop resources that address the socio-cultural diversity in Zimbabwe and South Africa (Korstjens and Moser 2018).

## 5. Conclusions

This study co-produced two visually appealing, accessible and contextually relevant information resources about the menopause for women in Zimbabwe and South Africa to support health literacy in relation to the menopause. It provides an important exemplar of how co-production can be achieved and may to inform intervention development in other contexts. However, the work took place against a wider background of unequal access to care and support for the menopause. Most notably, HRT is recommended globally as a key part of treatment options (Guidozzi et al. 2014; NICE 2019; Shifren and Gass 2014), but it is difficult to access through the public healthcare system in South Africa and is only available privately in Zimbabwe and therefore remains inaccessible to most women. This issue had to be considered carefully in the production of the information resources and highlights a real issue for women at the menopause in sub-Saharan Africa. More work is now needed to improve access to support and treatments for the menopause in sub-Saharan Africa to reduce health inequities and address the needs of women at this knowledgeable and experienced stage of life.

**Supplementary Materials:** The following are available online at <https://www.mdpi.com/article/10.3390/socsci11040143/s1>, Figure S1: South Africa booklet 'Menopause: A guide to understanding the menopause' English web version. Figure S2: South Africa A3 poster 'How should women look after themselves as they enter midlife?' English web version. Figure S3: Zimbabwe booklet 'Women & menopause' English web version. Figure S4: Zimbabwe A3 poster 'How should women look after themselves as they enter midlife?' English web version.

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**Data Availability Statement:** Access to anonymised interview and workshop transcripts will be made available to bona fide researchers for ethically approved research projects 24 months after study completion. Requests for data access should be made to the country co-investigator leads. For access to data collected in Zimbabwe, contact Professor Rashida Ferrand (R.A.F), email:

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