Factors affecting men’s movement through the HIV cascade in the public health services in Cape Town: Perspectives and experiences of health care providers

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Abstract

The Human Immunodeficiency (HIV) epidemic in South Africa is disproportionately distributed by gender. Although women lead in the number of infections they are at an advantage when it comes to seeking and receiving care. Men’s poor health seeking behaviour finds them seeking care late, testing at lower rates, defaulting from treatment and eventually having worse health outcomes. More men than women fail to enter and stay in the HIV cascade of care. The HIV cascade is a metaphor used to describe the steps that include HIV testing, initiation of antiretroviral therapy (ART), adherence, viral suppression and good health outcomes. As health care providers (HCPs) are the ones who interact directly with men in the health system their view of the factors that hinder men’s movement through the HIV cascade are valuable to better understanding how men interact with the care system. In this research, semi-structured interviews were held with eleven HCPs working with HIV positive patients (6 women, 5 men) across 2 health facilities and 1 non-governmental organisation (NGO) within the Klipfontein sub-district. Health care workers were found to share some of the more commonly held notions regarding the barriers men face in HIV care. However, their experiences offer some challenging ideas and the health systems appears to be realising the need to tailor HIV services to the needs of men.
Acknowledgements

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Men as closed off and reserved

Alternative perspectives of male patients

How HCPs believe they are perceived by men

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**Acronyms and Abbreviations**

ART- Antiretroviral Therapy  
ARV- Antiretroviral  
CCW- Community Care Worker  
HCP- Health Care Providers  
HIV- Human Immunodeficiency Virus  
MWC- Men’s wellness clinic  
NGO- Non-governmental organisation  
PHC- Primary Health Care  
PMTCT- Prevention of mother to child transmission  
UK- United Kingdom  
VCT- Voluntary Testing and Counselling
PART A: PROTOCOL

Background

There has been a decrease in the number of global annual acquired immune deficiency syndrome (AIDS) deaths by 38% from 2.4 million in 2005 to 1.5 million in 2013 evident in morbidity and mortality rates worldwide [1]. This is partly attributed to the large scale-up of antiretroviral therapy (ART) across the world. Given that a cure has not yet been discovered, current and new HIV infections remain a challenge especially in the global south. The region of Southern and Eastern Africa accounts for about 50% of the world’s HIV infections [2]. South Africa in particular is reported to have the highest number of HIV positive adults in the world with 12.2% of the population recorded as positive in 2012 [3]. Among those infected with HIV in South Africa, young women have a higher burden of disease than their male counterparts [4]. However, this is not the case in terms of treatment. More women in South Africa access and remain in HIV treatment compared to men [5].

Men in South Africa have been identified as a vulnerable group in terms of HIV-cascade-related services. Men have a disproportionately higher dropout rate from HIV-cascade-related services than women [2]. In addition, they seek care later and have higher mortality rates than women at all stages of the cascade [6]. One reason for the poor performance of men in the HIV cascade is the lack of cohesion within the health services [7]. This fragmentation serves to further create challenges for men who already experience difficulty navigating the HIV cascade. Improved alignment of the different levels of HIV services such as counselling, testing and treatment would allow men to move through the cascade in a more seamless way [7].
**Men and the HIV Cascade**

The metaphor of the HIV cascade is an important one in explaining the multiple stages through which HIV positive individuals must progress in order to become adherent on ART. The cascade is also known as the continuum of care and it refers to the process that includes HIV testing, linkage to treatment services, initiating ART and continued adherence throughout the lifetime of a patient as shown in *Figure 1* [2]. The metaphor of the cascade links a patient’s eventual health outcomes with events that happen across a time span within different parts of the health system [8]. Achieving optimal HIV treatment outcomes however can be hindered by patients falling out the ‘cascade of care’[9]. The HIV cascade can be seen as porous with patients lost at each stage. It can be described as a pipe with multiple leaks [10].

![Figure 1: Visual representation of HIV cascade.](image)

*The figure illustrates that an individual usually enters the cascade via the route of HIV testing. Depending on whether they collect their results a patient can move on to be linked to care. Treatment involves initiating ART. At this stage there can be drop outs due to several reasons. Those who remain in care have to adhere to the treatment to achieve the improved treatment outcomes. Other ways to drop out of the cascade not shown in the diagram include death. There is also a possibility to start and stop mid-way through and then after a time begin again at the testing stage.*

**Men’s performance in the HIV Cascade**

As mentioned earlier, there is growing recognition that men are more vulnerable than women in terms of access to and retention in HIV cascade-related services. Thus, men’s movement
through the HIV cascade is an important case to study [11]. There is evidence from Southern Africa that shows that there are differences in the performance of men and women at different stages of the cascade [6].

Men are reported to test for HIV at lower rates than women and usually when they are symptomatic [11]. Late testing has a negative impact on the mortality and morbidity of men. Men initiate ART with lower CD4 cell counts than women [12]. Once on ART men who initiated at a more advanced stage of disease are more likely to be lost to follow up although late stage of illness itself is a common reason for men to drop out of treatment [12]. So, overall men test late and initiate on ART with advanced disease and are therefore likely to perform poorly at each stage of the cascade, which impacts on their eventual outcomes.

Given that male sex has emerged as a predictive risk factor for poor performance in the HIV cascade of treatment and care, it is important to explore other factors that impact on their performance. Most information on men’s experience with HIV-cascade-related services is often from the perspective of men themselves. There are limited studies that document the perspectives of health care providers (HCPs) on factors that impact men’s performance in the HIV cascade. Thus, this study aims to engage with HCPs on their perspectives of the factors that affect men’s lack of or delayed access to HIV-cascade-related services. The next section explores some of the known factors that influence men’s health seeking behaviour.

*Factors influencing Men’s health seeking behaviour*

There are several factors that have been put forward to explain the differences between men and women’s health seeking behaviours that result in gender differentiated HIV treatment
outcomes. One of these factors relates to the impact gender norms and social practices have on how men view and address ill health and it is elaborated on below.

Gender norms and accepted behaviours have a direct impact on men’s health seeking behaviours [13]. Care seeking behaviours and HIV disclosure in relation to masculinity may act as a barrier to men seeking health care services [6]. How masculinity is viewed and practiced varies depending on the social context. There are many types of masculinities that can occur within a specific setting. The theory of hegemonic masculinity suggests that there is a more dominant type of masculinity that operates together with others [14]. This theory relates to a more idealised understanding of being a man that is often aspired to but may never fully be realised. This type of manhood can often be associated with behaviours of not being interested in one’s own wellbeing and taking risks [13]. A man who has HIV and stays on ART, may become weak due to the side-effects of treatment and this conflicts with the societal expectation of a strong, healthy patriarch [14]. Men may be less likely to remain in the HIV cascade due to the adverse effects associated with treatment and its impact on their sense of masculinity.

Another factor that may affect men’s health seeking behaviour in particular reference to HIV treatment may be the idea of the clinic as a female space. Women may be more familiar with the clinical space as they visit it frequently seeking maternal and child care [6]. The gendering of this space may make it difficult for men to feel comfortable seeking care in such a space. In addition a successful prevention of mother-to-child transmission program (PMTCT) seems to have had the impact of encouraging women to seek and adhere to HIV treatment thus increasing their clinical interactions [6]. Therefore men may potentially delay seeking care as long as possible to avoid dealing with a disease and its treatment space which have both been viewed in a gendered way [11].
Although HIV treatment lead to improved patient outcomes there are drawbacks such as physical side effects and the burden of the drug regimen [15]. Some patients who present to initiate ART have co-morbidities and therefore are already on other drug regimens. Tuberculosis is an example of a disease commonly associated with HIV and it is also a cause of mortality for HIV positive individuals [6]. A well powered randomized control trial showed that some of the impacts of incomplete adherence to HIV treatment include increase in opportunistic illnesses, death and serious non-AIDs events [16].

The factors mentioned above are largely gathered from the perspectives of men or from studies that looked at the impact of gender on care seeking behaviour. There are a limited number of studies that report on the factors that affect patients’ (in particular, men’s) performance in health services, from the perspective of HCPs. A few factors, such as clinic spaces, socio-economic status and migration are some of the barriers to patients’ performance in health services that have been identified by HCPs.

A study on the perspectives of HCPs on structural barriers to ART adherence at a peri-urban hospital in South Africa, although not differentiating by gender, named the clinical structure as one of the potential barriers [17]. The clinical structure here was used to describe the way the clinic as a space is arranged with everyone sitting together in an open space. The HCPs in this study reported the lack of privacy and overcrowded nature of the clinic waiting rooms as creating a negative experience for patients and impacting on staff attitudes as well [17]. Other than structural barriers HCPs also identified socio-economic barriers that prevent patients from adhering to HIV treatment.
Poverty was identified as a barrier to patients adhering to their treatment regimens [17]. Poorer patients were unable to fulfil the diet requirements of their treatment regimens as their access to nutrition was limited. A study of perceptions of men in Kwa Zulu Natal on the barriers to health seeking behaviour among African men found that men would rather channel finances towards the health of the family sacrificing their own health needs [11].

Related to economic instability is that many men in South Africa have jobs that involve long distance migration which complicates adhering to treatment [6]. Patients miss clinic visits while they are away and fall behind on their treatment schedule. HCPs supported this by stating that patients would often visit distant relatives and thus miss clinic visits [17].

A study on barriers to ART adherence in rural Mozambique looked at the perspectives of both patients and providers. HCPs in this example reported side effects to treatment as one of the most significant factors leading to loss to follow up[18]. Men within the study echoed this finding by adding that nurses did not inform patients of what side effects to expect. Patient-provider relationships were highlighted as a barrier and men were observed to be particularly sensitive to ill treatment from HCPs [18]. One of the major conclusions of the study was the potential benefit to patient adherence of improving provider patient relationships. This highlights the important role that HCPs play at this and other stages of the HIV cascade.

Health Care Providers Perspectives

The perspectives of HCPs are important for identifying factors that affect men’s movement through HIV-cascade-related services because HCPs interact directly with men when providing HIV services. Positive interactions between men and HCPs have been noted to support better health outcomes [11]. This study recognises that HCPs’ perspectives are influenced by experiences with patients and other work-related factors (such as job satisfaction and
resources), as well as commonly-held assumptions about men’s poor performance in the HIV cascade [19].

The perspectives of HCPs are of value because of their direct involvement in implementing interventions to improve men’s performance along the HIV cascade. HCPs are privileged to observe the experiences men face when entering health services and they are able to provide further insight to address men’s attrition from the HIV cascade. They play an important part in moving towards gender sensitive HIV services that take into account the nuances of each gender [20].

Relevance

African HIV policies and programs have often not identified the gap in accessing HIV care related to men nor has it been addressed [21]. The HCPs who interface with men in the health system are well suited to provide more information on the perceived and experienced barriers and promoters impacting men’s access to HIV care are [11]. There is also much research on gender and social norms that operate within care seeking, but little is known about what actually occurs within the clinical space. Scope therefore exists for effectively assessing the services men seek along the HIV cascade, to note their position throughout it, and to identify access barriers men face in accessing HIV care.

Research Questions

The questions that will be interrogated in this study include:

I. What are HCPs’ understandings of the HIV cascade and what do they perceive a patient’s role to be in moving along that cascade?
II. What do HCPs think are barriers and facilitators, for men in particular, in order to move along the HIV cascade?

III. What aspects of the current HIV treatment and care provision model do HCPs perceive to work well?

IV. What strategies do HCPs use in order to build good rapport (open and transparent communication) particularly with men?

V. What strategies do HCPs use to ensure that men return to the health facility?

VI. What are HCPs perceived similarities and/or differences between men and women’s performance along the HIV cascade, and the reasons for these similarities and/or differences?

Theoretical Framework

To assist in answering the questions posed above as well as to provide context to aid in data collection the researcher will employ the use of a theoretical guiding framework that will aid in conceptualizing how the perspectives of HCPs emerge. This framework is only a guide and will be further developed as the study continues. This framework seeks to acknowledge the different contexts that HCPs navigate on a daily basis as they act out their roles as service providers. According to the seminal work by Michael Lipsky, HCPs, referred to as street level bureaucrats, create a balance of their social and work lives [19]. They navigate the pressures of these environments to provide the best service they can under the circumstances specific to their environment. Street-level bureaucrats also form generic ways of dealing with the public because their job seldom allows them to deal individually with clients [19]. Figure 2 below provides a visual representation of what this could look like for the HCPs in this context.
Figure 2: The conceptual framework that will be used to compare with study findings

The figure shows the different spheres that influence and shape the perspectives HCPs hold. It includes their social relationships, the work environment, community norms and the political and historical context that has shaped their current context.

Methodology

Study Context

This study is part of a broader project, called the i-ALARM project, which aims to “raise” the alarm about men’s poor performance along the HIV cascade, and to determine factors that affect their performance. The project is interested in methods for using health information to coordinate the services of health system and community-based providers, particularly for ensuring men’s linkage and retention in HIV-cascade-related services. The study is situated in Gugulethu which is within the Klipfontein health sub-district. The marginalized community of Gugulethu is home to about 350 000 Xhosa speaking residents. The i-ALARM project is
being conducted in partnership with Sonke Gender Justice, a non-governmental organisation (NGO) that focuses on restoring gender relations. Sonke Gender Justice has a Men’s Wellness Centre (MWC) that operates on the same premise as the NY3 clinic in Gugulethu. Both the NY3 clinic and MWC are potential study sites for the researcher. The partnership between a health system (the NY3 clinic) and community-based provider (MWC) presents an interesting context in which to explore factors that affect men’s movement through the HIV cascade, as one provider (NY3 clinic) reflects descriptions of a ‘feminine’ clinical space, and the other (MWC) is primarily to provide services for men. Overall, this proposed study is aligned to the i-ALARM in that it seeks to identify the factors affecting men’s performance along the HIV cascade.

**Study Design**

This study is a qualitative, descriptive study which will apply purposive sampling. Key informants for inclusion into the study are those individuals who work in different positions that provide health care services within the health system. For example, nurses provide health care services at health facilities which means they interact directly with men during their day to day work.

**Characteristics of the study population**

Key informants and health care facilities that meet the following criteria will be included in the study:
Table 1: Inclusion criteria for HCPs and health facilities

<table>
<thead>
<tr>
<th>Key Informant</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care providers (such as nurses, doctors and facility managers).</td>
<td>Work within the public health services (such as city and provincial clinics and hospitals) and who interact regularly and directly with adult men (18 years and older). This study defines a HCP as an individual who is qualified to provide curate and primary health care services as either a doctor, nurse, social-worker or clinical care worker [22].</td>
</tr>
<tr>
<td>Health staff and managers (such as health promotors and sub-district health managers)</td>
<td>Can provide context on the interactions between health care providers and adult men. A good knowledge of the system therefore some work experience at least two years working in such a facility would be preferred.</td>
</tr>
<tr>
<td>Health councillors/Community Health Care Workers (CHWs)</td>
<td>Provide HIV counselling services.</td>
</tr>
<tr>
<td>Health care facility</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Community-based health services AND Pro vincial Government operated AND City government operated</td>
<td>Provide any of the HIV services that constitute the cascade of care and treatment</td>
</tr>
</tbody>
</table>
The researcher aims to consider gender when recruiting participants to achieve a balance of male and female participants. Selected participants should work in city, provincial and NGO health facilities to achieve a good representation of the different organisations a HCP could be employed by. The facilities will be selected from mapping data of available health care services collected for the i-ALARM project which will be included in the appendices.

The study aims to include at least one male and one female HCP, one health councillor and one facility manager from each of three types of facilities named above, namely city, provincial and NGO facilities. For the purposes of providing context on the health services at least two health staff and/or managers who do not directly provide health services, but who are involved in health management will be included. Enrolment of participants into this study will continue if we have not reached data saturation with the selected sample size.

**Recruitment and Enrolment**

Recruitment of study participants will be done through an introductory meeting where the researcher will explain the study objectives, and thereafter seek informed consent for study participation. The researcher will seek ethical approval from the Human Research Ethics Committee of the Faculty of Health Sciences, University of Cape Town, prior to any research activities commence. The i-ALARM project has already sought permission from both the city and provincial health authorities. Additional permission will be sought from the City of Cape Town and Western Cape Provincial Government Department of Health if the researcher recruits’ participants from facilities not included in the original permissions.
Research procedures and data collection methods

Data Collection

Data will be collected in the form of in-depth interviews using a semi-structured questionnaire (Appendix 1 and 2) that will be orally administered. An in-depth interview is a process where an interviewer spends time speaking extensively about a certain area with a participant [23]. A semi-structured questionnaire is a data collection tool which gives a guide of which questions to ask but is not rigid in that it allows room for the participant to address other issues through use of probing sub questions [23]. These methods will allow HCPs to address the research questions while also bringing out any other issues which have not been referred to but that they deem relevant. There is a possibility that interviews may be recorded if participants agree but the researcher is wary of how recording can inhibit the free flow of an interview. The semi-structured interviews will occur at a time that is most convenient for participants. The location will be selected according to the preference of participants. The variation of health facilities will help to ensure validity of the data, this will include looking at facilities run by the city, the province and NGOs. Pseudonyms will be used in the official write up of this study and only the researcher will know the real names of the participants. If participants agree to have the interview recorded their names will not be requested during the recording process. The researcher plans to conduct all the interviews in English unless participants prefer a different language; in this case, arrangements for a translator will be made.

Data Analysis
Audio recordings (if any are taken) will be transcribed and then exported to Nvivo 11 for analysis. The transcripts will then be read through to begin searching for codes. The codes will be written down and this process will be repeated. Related codes will be deleted to avoid repetition. The codes that emerge will then be listed down. Nvivo will be used to search out where these words occur in the transcripts and highlight these portions of text. From these patterns the codes will be sorted into themes. These themes will be reviewed against the data to make sure they reflect accurately. Thereafter they will be verified against the themes found in literature.

**Data Management**

The researcher will aim to protect the privacy and confidentiality of the participants. The intent is to only collect personal information that is relevant for research purposes. De-identified transcripts from interviews will be kept in online folders only accessed by specific members of the research team and backed up in a hard drive and on Dropbox. Access will be restricted to key members of the study team consisting of the researcher, the supervisors and the data manager. The hard copies will be kept in a locked cabinet at the NY3 clinic in Gugulethu. The data will be kept for the duration the i-ALARM project; after which it will be disposed. The researcher will keep a record of the data collected and maintain an audit trail to ensure reliability of the data. Member checking will be conducted with research participants to validate the study findings. The researcher will keep a personal diary aside from field notes to write down observations and note down thoughts and ideas related to the study. This diary will be kept on the researcher’s person and not shared with any other party. However, to prevent loss of confidentiality if the diary is ever lost the researcher will make sure the participants names do not appear in it.
Informed Consent

Although the i-ALARM project has written permission to conduct qualitative formative research from city and provincial health authorities, the researcher will seek verbal permission for the line managers of HCPs and health staff and/or managers identified as potential research participants. The researcher will set up meeting times with potential research participants to explain this study, telephonically or via email. Thereafter, the potential participants will be asked to participate in the study and the researcher will begin the consent process using the informed consent form as a basis (Appendix 3). The researcher will make it clear that participation is voluntary and that participants are able to withdraw from the study at any point. Consultation with individual potential participants will be held in a quiet area that is most convenient for them. The researcher will allow participants enough time to read through the consent form and make a decision about participating in the study.

Risks

The potential risks in this study are that research participants (HCPs and health staff and/or managers) may feel exposed and fear criticism when sharing negative experiences about patients and when discussing systems barriers to HIV-cascade-related services. The researcher will reassure participants that she will strictly uphold confidentiality and that their viewpoints are valued. The researcher will also reassure participants that their participation (or withdrawal) will not have negative consequences on their employment. In addition, the researcher will avoid discussing any personal information with the participants. Another risk to participants may be the disruption caused to their duties by the study interviews. The researcher will ensure that interviews are conducted at a time that limits disruptions to the participants’ duties.
**Benefits**

There are no direct benefits to participants in this study. The findings of this study however could benefit those developing interventions for linking and retaining men in HIV-cascade-related services, as the perspectives of HCPs may be useful.

**Dissemination of Results and Publication Policy**

The researcher aims to write-up the study findings into a manuscript for submission to a peer-reviewed journal. The researcher will also share the study findings with the i-ALARM project team, as well with the research participants. This will be done in the form of presentations and written reports.
Reference List


PART B: STRUCTURED LITERATURE REVIEW

Objectives

The objective of this literature review is to provide context for the study on factors affecting men’s movement through the HIV cascade, from the perspective of health care providers (HCPs). Through the review, the researcher will be able to define the scope of the problem and provide a rationale for the study.

The review will take on the following structure: (1) it will begin by introducing the problem of the ‘leaking’ cascade; (2) it will explore known barriers and facilitators related to men’s movement through, and performance in, the HIV cascade from the perspective of HCPs and men, and finally (3) identify gaps in research.

Literature Search Strategy

PubMed, EBSCO and Google Scholar were identified to search for published research articles relevant to the study topic. Key words used during the searches include, health care workers AND men AND HIV, health care provider’s perspectives, men AND HIV, HIV cascade of care. The reference lists of these studies were also reviewed to find relevant articles. Articles with a South African or Southern African perspective were of particular interest.

The HIV Cascade

The Human Immunodeficiency Virus (HIV) cascade is described as the various stages of health care services for at risk and HIV-positive individuals [1]. The cascade includes HIV testing, linkage to care (ART eligibility assessment), retention in care, adherence to ART with the ultimate outcome of viral suppression and reduction in further transmission of HIV [2] [1].
Patients can be envisioned as moving along each stage of the cascade of treatment and care with the ideal scenario being that individuals at risk or infected with HIV enter the cascade early and remain within the cascade. When this ideal scenario is not present, the cascade is referred to as ‘leaking’ as attrition occurs at every stage [2]. The metaphor of the ‘leaking’ cascade is useful for understanding the barriers related to getting tested, staying in care, and starting on or adhering to ART.

As mentioned above, the ideal scenario would be for all individuals at risk of or infected with HIV to achieve viral suppression. However, when patients do not enter the cascade, or are lost from the cascade they do not achieve viral suppression. Figure 1 provides a recent assessment of the rates of patient attrition between different stages of the HIV cascade in developed and developing countries. This example is a good way of demonstrating that the number of patients who enter the cascade decrease significantly by the last stage.

![Figure 3: A visual representation of the HIV cascade as it occurs in various nations](image)

*Patients enter through HIV testing and if they collect their results they are linked to care. Thereafter they begin ART treatment and if they adhere they achieve viral suppression and ultimately good health outcomes. As the Mozambiquan cascade shows patients are lost at every stage of the cascade.* [3]
Review of The Literature

**Gendered HIV Epidemic**

The amount of attrition that occurs in the HIV cascade is more pronounced in developing countries than in developed countries as highlighted in Figure 1. The extent of patient attrition can also be differentiated by gender with more men lost throughout the cascade than women. Globally, there is a gender difference in relation to performance across the HIV cascade, with women performing better compared to men [4]. This means men either fail to access or drop-out early from HIV testing, treatment and care services at considerably higher rates than women. For example, in terms of testing, it is reported that 10% of young men in sub-Saharan Africa knew their HIV status compared to 15% of young women [5]. When men do access health care services, they do so later (when already symptomatic) with lower CD4 count levels at treatment initiation and a greater likelihood of death while on treatment [6] ,[7].

Understanding factors that contribute to the differences between men and women’s performance across the cascade is important, so that health interventions are targeted towards getting men linked to care earlier, and that they are retained and become adherent and stable on (antiretroviral treatment) ARVs. HCPs can provide valuable insights on how they interact with men in health facilities highlighting the challenges and opportunities for improving men’s health. Improving men’s health will in turn translate into a range of better health outcomes for their partners, families and communities. Improved health for men also reduces the burden on family members who would have to care for them in illness and also stand to lose their main source of economic support [8].

As is evident, men have more difficulties moving through the HIV cascade than women and this is true across all stage of the cascade in both developed and developing countries[6]. It is therefore important to understand the barriers related to their poor performance across the HIV cascade.

**Barriers men face in accessing health care services**

Barriers related to the clinical space, men’s health seeking behaviour and dominant ideologies of masculinity are discussed below so as to provide an understanding of why it is men face difficulties seeking health care for themselves.

**Men’s perspectives of the public health services**

There are various studies that explore men’s views of the clinical space and provide reasons for why men do not visit the clinic. Some of the reasons relate to (a) hospital attendance as being ‘risky’ (in that community members may speculate about their HIV status); (b) Long waiting times discouraging men from returning to clinics and (c) the clinic itself as a feminized space.

A study conducted in a rural district of South Africa amongst HIV-positive men revealed that men saw hospital attendance as ‘risky’, not in terms of for their health outcomes, but because of the possibilities of exposing of their HIV positive status to community members [9]. This notion that visiting a health care facility is ‘risky’ is not unique to South Africa, as people in the Shiselweni region of Swaziland also shared the same view [10]. It has been suggested that women may have an advantage as their visits to health care facilities related to child and maternal services provide them a regular interaction with clinics [11] [12]. These initial
interactions with health facilities may be part of the reason why women have a relatively faster uptake of ART programmes than men [13].

The clinical space has been described as a place that men do not find inviting. HIV positive men in a study in Kampala, Uganda described the clinic as a space for women [14]. The presence of several women within clinical spaces and the ease with which they navigate these spaces may cause men to feel alienated from the clinic. In addition to feelings of discomfort men have also described the space as hostile to them [15]. Female HCPs have been reported as exhibiting negative attitudes towards men. Evidence has been provided to show that the relationship men have with HCPs has an impact on their lack of clinic attendance. Men in various studies described fears that HCPs would not maintain discretion regarding their HIV status [10, 15, 16]. Men also associated women with gossiping and therefore believed HCPs would disclose their HIV results through such activities, therefore discouraging men from attending at health care facilities. The number of men who present at clinics when they are faced with the same illnesses as women are much lower and this is not attributed to uneasiness within the clinical space alone.

**Men’s Health Seeking Behaviour**

Another factor identified as a barrier to men accessing HIV care on time relates to their health seeking behaviour. Health seeking behaviour refers to the measures individuals take to promote their health [17]. It includes the steps that individuals undertake to overcome what they understand to be ill-health. It is a spectrum from the onset of ill-health; to contact with a HCP; to the type of HCP sought; reason for choice of HCP and compliance to the instructions of the HCP. Generally speaking, women are reported to have better health seeking behaviour than men. Observations from sub-Saharan African show that men have a lower uptake of health services and are less likely to seek health care services when they are unwell [18]. Within the
HIV cascade men have low representation in HIV testing, treatment and care [19]. In contrast, it is women who are more likely to present to health care facilities when faced with illness. Gender has been posited as a determining factor of health seeking behaviour [20]. Although it is not all men who are poor health seekers, a large proportion are viewed as such. A recent study conducted in Malaysia on HCPs perspectives shows that men only seek health care when they become extremely ill and unable to perform their daily duties [21]. A study in a village in Uganda found that the social construction of men as strong and tough was responsible for men’s delay in seeking treatment for symptoms of ill health [22].

This is evident in a local study conducted in a peri-urban township of KwaZulu Natal where men stated they did not deem it necessary to go for HIV testing if they felt no physical symptoms of illness [23]. Men reported that as long as they could fulfil their duties as a man, usually entailing provision and physical activities then they had no reason to seek health care. In a study in the Johannesburg and Mthatha regions of South Africa looking at definitions of masculinity in HIV positive men, it was found that seeking care when one was not well was considered as non-masculine behaviour [24]. Maleness was described as a socially constructed and widely accepted way of behaving as a ‘typical’ man, but it had negative health impacts for the men who subscribed to it [25]. Maintaining the values of ‘maleness’ involves taking risks with one’s health and such behaviour is more common in men from poor nations [25].

**Hegemonic Masculinity and health seeking behaviour**

HCPs in a study in a peri-urban township of South African identified attitudes and behaviours of male patients associated with dominant masculinity as barriers keeping men from better health outcomes [26]. This dominant or hegemonic masculinity prescribes the behaviours, attitudes and beliefs that make up the ideal man [13]. This ‘ideal’ man would be made up of
characteristics socially agreed upon to define how a man should act and behave. These characteristics involve showing qualities of fearlesslessness, and physically strength [27]. Health seeking behaviour would not fit in with ‘maleness’ that encouraged traits of strength and shunned weakness as it would be a plea for help and therefore a sign of weakness. By showing little concern for their own health men therefore confirm a socially held view that men are more resilient than women and that the men who care about their health show feminine behaviour and are therefore weaker [28].

A study exploring how male community care workers (CCWs) operating in Cape Town manage the masculinities of their male patients found that being HIV positive disturbed men from fully adhering to the principles of dominant masculinity [6]. The illness would expose men to feelings of insufficiency and failure to fulfill their role as a dominant male. In addition being HIV positive threatens important life goals such as marriage and having children [23]. Men’s efforts to live up to ideals of masculinity may contribute to poor health seeking, and poor attendance of health facilities to maintain the strong and self sufficient male identity[29].

Barriers that restrict men from accessing health care services are mentioned above. Men’s discomfort in clinical spaces, poor health seeking behaviour as well as ideals of hegemonic masculinity hinder men from actively seeking health services. These barriers are often presented from the perspectives of the men themselves. The literature does not often present how HCPs conceive of the barriers that hinder men from accessing health services. There would be value in investigating the views of HCPs on men’s health seeking behaviour and how they have experienced performances of hegemonic masculinity. In addition, HCPs could further expand on the barriers according to the impact they have on men and how they are manifested within the clinical setting.
Why the Perspectives of Health Care Providers?

The perspectives of health care providers on men’s lack of access to health care are not a widely researched area. There are several studies that seek to explore men’s poor health seeking behaviour and the reasons they default from HIV treatment [30-32]. Few of these studies present the perspectives of HCPs on men’s attitudes and behaviours and focus mainly on the men themselves. For a full understanding of men’s poor performance across the HIV cascade, the perspectives of both men and HCPs are required. Men’s perspectives provide an insight into the factors that influence men to seek or avoid HIV care while HCPs perspectives provide an insight into health system challenges that patients may not be aware of but that impact on how they experience the clinical setting. In addition, men may not always be able to provide an impartial account on discourses of masculinity and how they impact on their health. Psychological theory asserts that only a minor correlation exists between how people view themselves and how they actually behave [33]. Men’s self-reported health behaviours may not provide a completely accurate representation therefore further making the case for the usefulness of HCPs perspectives on men. HCPs are strategically positioned at the forefront of the health system and they frequently engage with men as they move through the HIV cascade. This provides HCP with an in-depth knowledge and understanding of how men experience and engage with health services. HCPs are a possible vehicle through which men’s performance in the HIV cascade can be improved [34]. Initial interactions men have with HCPs may influence their further utilisation of health care services, in turn impacting their health outcomes. It is important to know how HCPs feel about their male patients and as a consequence how they behave towards them.

There are several factors that could possibly influence the way HCPs relate to their male patients. These include organizational and individual level factors. Organisations factors are
those that operate at the health system level such as working conditions, workload and supportive supervision. Individual factors are those are at work on a personal level influencing directly on the patient and provider, such as patient attitudes, provider beliefs and interpersonal interactions [35]. Engaging with HCPs would provide insight on which factors are important in impacting how they act towards men. This as a result would provide an opportunity to prevent the evolution of any behaviours and attitudes of HCPs that may have the unintended consequence of negatively influencing on men’s health system experience. There is therefore a need to review the limited literature that is available on HCPs perspectives in relation to male patients and healthy system challenges, in general.

**HCPs experience of male patients**

If HCPs conceptions of men’s health seeking behaviour align with widely accepted theories of a dominant masculinity this could negatively affect how they interact with patients. As hegemonic masculinity encourages attributes of strength and toughness commonly associated with men, it leaves little room for behaviours such as getting tested and quickly accepting an HIV diagnosis [6]. In a study which interviewed a sample of HCPs in the United Kingdom (UK) to find out their experiences with their male patients it was found that HCPs impetously associated men with certain characteristics that had consequences for men’s health [36]. Men were deemed to be passive regarding their health and women as the opposite. In a similar study conducted amongst CCWs, who offer non-clinical primary health care (PHC) services such as counselling, they complained about the independent behaviour and stubborness of their male patients who they found to be difficult to work with [6]. Patients were rude to CCWs and did not want to discuss the details of their illness.
Another South African study reviewing HCPs perceptions of men’s involvement in HIV programmes showed that HCPs in Johannesburg experienced bullying and impatience from male patients who came in for voluntary counselling and testing (VCT) [37]. As noted elsewhere these performances of hegemonic masculinity by men in care limit the creation of a productive and building provider-patient relationship [6].

**Needs for Further Research**

*Men and the public health services*

The need for health services to be gender sensitive is clear and there is research that indicates that tailoring health facilities to men’s needs increases their utilisation of these facilities. However the space itself cannot be altered without also sensitising and educating HCPs to handle men’s issues. This further highlights the importance of exploring HCPs perspectives and gleaning valuable lessons for reforming men’s experiences in health services. Men’s difficulties accessing health services can be explained by socio cultural norms and the discomfort men may feel in the clinical space viewing it as a place for women [10]. The distrust men have for HCPs further isolates them from the clinical space. These factors interact with the result that men continue to suffer poor health outcomes not only in the HIV cascade but across other illnesses.

HCPs have in the limited amount of available studies provided their experiences of their male patients within the health facility. The behaviour of male patients that HCPs experience is largely influenced by notions of hegemonic masculinity. Further research is needed to begin to find out not only the behaviours of male patients within the health services but how HCPs navigate these behaviours to provide care to their patients and how they endeavour to keep
those men who do enter the HIV cascade from dropping out. Regardless of the difficulties HCPs have noted in managing their interactions with men, they constantly navigate these interactions and it would follow that they have developed techniques to manage these relationships. It is important to learn more about how HCPs manage their relationships with their male patients as this information holds answers on how to strengthen the HIV cascade as well as beginning to uncover what does and does not work for men.

**Study Rationale**

Men in South Africa are accessing health care less than women, raising concerns that their needs are not being met within the public health care services [23]. The 2014 United Nations (UN) Gap Report reports that it is crucial to increase men's uptake of HIV services to improve their health outcomes and those of their families [5]. HCPs can assist in achieving this goal as they are positioned on the supply side of the health system. They have a unique view of men’s movement through the HIV cascade that could possibly provide solutions to improve how men interact with the health system. Combining the perspectives and experiences of HCPs with those of men allow the building of a narrative that can provide a full picture of what is going on within the health services, if combined. This information can be used to initiate interventions to improve men’s HIV cascade performance.
Reference List


15. Faull M: The clinic as a gendered space: an exploratory study examining men’s access to and uptake of voluntary counselling and testing services (VCT) in the context of a male-friendly health facility. In.: University of Cape Town; 2007.


31. Branney P, Witty K, Bagnall AM, South J, White A: ‘Straight to the GP; that would be where I would go’: an analysis of male frequent attenders’ constructions of their decisions to use or not use health-care services. *Psychol Health* 2012, 27.


PART C: JOURNAL MANUSCRIPT

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Conflicts of Interest: None

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1 For the purpose of this thesis, the student is the sole and first author of the work.
2 Instructions for authors are in Appendix 5. Variations from journal requirements; authors’ contribution and information are excluded.
3 Acknowledgments and the list of abbreviations have been listed in a separate section at the beginning of the dissertation document, and not ahead of the reference section in the manuscript.
Abstract

Background: Although South Africa has the largest ART (antiretroviral therapy) programme in the world, South African males are failing to access the ART programme, or dropping out early from the human immunodeficiency virus (HIV) testing, treatment and care cascade (the HIV cascade) at considerably higher rates than their female counterparts. This disparity has often been attributed to men’s poor health-seeking behaviour. Several studies explore men’s perspectives on their own health-seeking behaviours, but there is limited literature on the perspectives of health care providers (HCPs) regarding factors that affect men’s movement through the HIV cascade.

Methods: Eleven HCPs working in the Klipfontein sub-district of the Western Cape Province were interviewed in order to determine their perspectives on factors affecting men’s movement through the HIV cascade in public healthcare services.

Results: There are two key findings. One being that HCP’s perspectives on factors affecting men’s performance in the HIV cascade align with existing gender discourses about masculinity and health. Factors related to hegemonic masculinities, stigma and discomfort in the clinical space were repeatedly mentioned by HCPs as factors having an impact on men’s access to health services. The other being that HCPs provided new insights into the strategies that they employed to improve engagement with their male patients, emphasising the need to tailor HIV services to suit the needs of men.

Conclusions: The experiences of HCPs should be explored further and used to influence the way healthcare services are engineered to create a welcoming space for male patients. In
addition, health-related policies should reflect the impact gender has on how patients perform in the HIV cascade.

Keywords: HIV, men, HIV cascade, health care providers, South Africa
Background

South Africa is reported to have the largest number of individuals living with (HIV) in the world, with an estimated figure of 6.5 million HIV-infected people and 380,000 new HIV infections reported in 2015[1]. This poses a significant public health threat to the South African population. However, there is a gender disparity in the way that the virus affects the population. More women face the burden of contracting HIV due to social and biological forces, but it is men who disproportionately have difficulties accessing routine HIV care [2].

Women have been shown to have a higher awareness of their HIV status than men [3]. In addition, men have been shown to have higher mortality on ART than women [4]. Women have been shown to perform better than their male counterparts at all stages of the HIV cascade, including HIV testing, ART initiation and adherence, viral suppression and improved health outcomes. A mortality projection from the period 2004-2015 showed that the cumulative HIV death rate within the 15-49-year age group in South Africa was much higher among males than females. The mortality projection showed 2,288,286 cumulative deaths for males versus 1,169,494 cumulative deaths for females [5]. The reasons for this have been often related to men’s poor health-seeking behaviour and their propensity to take risks with their health.

Men are less likely than their female counterparts to seek medical assistance when they are sick. This is related to the socialization men receive which associates being a real man with behaviour that is opposite to health-seeking behaviour. This socialization is often referred to as hegemonic masculinity, which provides guidance on how a man should behave. This dominant form of masculinity dictates that a man should be tough, show no weakness, and therefore leads to behaviour that does not promote good health in men [6]. Hegemonic masculinity acts as a barrier to men accessing HIV services. Characteristics that lead to better
health outcomes such as listening to health care providers (HCPs) instructions and taking medication as prescribed, conflict with the ideals of dominant masculinity [7].

Another barrier to accessing healthcare that men have raised is the view that the clinic is a feminine space. Due to pregnancy and child rearing, women often visit health facilities and become familiar with them. Men have therefore reported feeling uncomfortable and unwelcome in these healthcare facilities [7]. In addition, for some men, visiting the clinical setting is tantamount to admitting to ill-health, which conflicts with the ideal of a real man not getting sick [8]. This means that men are not regularly coming into sufficient contact with healthcare services to manage their HIV-infection. In South Africa, a study showed that only 30-40% of men who are HIV-positive attended clinics to receive treatment [9]. Several qualitative studies have been conducted to uncover the factors that hinder men from attending health care facilities to receive treatment. Factors that have emerged from these studies include a perception that clinics are unfriendly spaces for men, stigma and the side effects of the HIV treatment [10].

These studies often focus on the factors reported by the men themselves and few provide the views of HCPs on men’s movement through the HIV cascade. To effectively assess what is going on regarding men and the HIV cascade of care, the perspectives of HCPs should be considered. HCPs interact directly with men in health care facilities and can shed further light on what occurs in the clinical space. Men may not be able to provide unbiased representation of themselves and the motivations behind their health-seeking behaviour, however, HCPs can shed further light on this based on their regular encounters with men. The interactions men have with HCPs and how men are treated can influence their health outcomes, and this provides further motivation on the value of learning more from HCPs. This study seeks to
probe further into the factors hindering men’s performance in the HIV cascade through the lens of the HCPs who work within the healthcare system.

Methods

Study Aim and Design

This qualitative, descriptive study aims to explore factors affecting men’s movement through the HIV cascade in public health services in Cape Town, South Africa. The study employed a cross-sectional study design.

Study setting

This study was part of a larger study – Using Information to Align Services and Link and Retain Men in the HIV Cascade –, or i-ALARM, whose aim was to develop ways of using health information, to more effectively coordinate the work of health system and community service providers, and therefore to better link and retain men in HIV cascade-related services. This study was conducted in the township of Gugulethu within the Klipfontein sub-district in Cape Town where i-ALARM has a physical presence. Gugulethu has a majority black, Xhosa-speaking population. The black population within townships has been recorded to have a higher HIV prevalence than any other race group in South Africa [3]. Gugulethu is densely populated with a population density of 15 161.70 people per km with many people residing in informal settlements [11]. Gugulethu is one of the oldest and fastest-growing townships in Cape Town [12].
Sampling

HCPs who had worked for at least three years in public health services in the Gugulethu area were eligible for inclusion into the study. HCPs had to be certified practitioners providing HIV-cascade-related services at city, provincial or NGO health care facilities. Participants were selected through recommendation by the facility manager of the facility. Eleven HCPs (5 males and 6 females) were interviewed at which stage saturation had been reached. The researcher determined that saturation had been reached when further coding was not possible, as new themes were no longer emerging [13]. Written consent was obtained from HCPs before the interviews were conducted. The researcher conducted the interviews alone. The sampling criteria was that HCPs worked within HIV health services with a minimum of 3 years’ experience in the health system.

Data Collection

Data were collected using semi-structured interviews. This data collection technique entailed the researcher using an interview guide (with key questions), while allowing a conversation to develop naturally with the interviewee [14]. This technique was deemed suitable because it allowed HCPs to not only provide their perspectives, but to also expand on them by, for example, telling stories that may lead the researcher to new, relevant questions.

Interviews were conducted in a quiet and private space, usually in the office of the health care provider (HCP). The interviews took between 30-45 minutes and in this time a HCP was asked about his or her experiences with male patients, and his or her perspectives on factors affecting men’s movement through the HIV cascade. Interviews were recorded after
acquiring the permission of the participant. Minimal note-taking was conducted during interviews.

**Data Analysis**

Data analysis was performed manually and with the assistance of Nvivo 11. The method of analysis used was thematic analysis. Thematic analysis is a method of analysing and describing the patterns and themes found in the data [15]. Data analysis entailed transcribing all audio recordings, then the researcher read through all transcripts and noted all the codes down into the field notebook. Thereafter similar codes were grouped together and duplicates were deleted. At this stage the categories included codes such as difficulty disclosing, and the impact of alcohol and social life. This process was repeated to synthesise these codes into themes. Themes were identified by noting the words most often repeated in the transcripts and searching for patterns by marking up sections of text with the aid of Nvivo 11.

**Reflexivity**

As a female, the researcher may have had an innate subjectivity with regards to gender relations. Such ideals may have influenced on the way the research questions were formulated and administered. In addition, the researcher may have felt more comfortable when interviewing the female participants than interviewing the male participants. The researcher was aware of the role that these values and beliefs may have played in this analysis.

**Results**
Characteristics of participants

Eleven HCPs working at health care facilities in Gugulethu were interviewed between the period of August and September 2016. HCPs included in the study worked within the health system between 5 to 24 years, and included: two facility managers, three nurses, one doctor, two counsellors, one program coordinator and two health managers.

There is limited literature on HCPs perspectives on men and the HIV cascade. The findings presented here seek to outline HCPs perspectives on men and the HIV cascade and to identify how HCPs perspectives are similar or different to what is already known.

General health seeking behaviour of men

HCPs reported their perspectives on the factors that negatively impacted on the way their male patients moved through the HIV cascade. These factors related to the health-seeking behaviours, and attitudes of those men who sometimes utilised the HIV health services. Such factors were similar to those factors often raised in the literature as affecting men’s access to HIV services, and include:

Denial of HIV status

HCPs noted that men had difficulty in accepting an HIV-positive test result. They explained that this denial was evident in men’s initial reactions which included anger and threats of suicide. Men’s denial of their HIV (positive) status was identified by HCPs as a primary reason for their delay in being linked to care for ART eligibility assessment, and ART initiation. HIV testing, the first stage in the HIV cascade, was deemed the point at which
many men dropped out. HCPs also linked men’s denial of their HIV status to them not disclosing their HIV status to their family and friends.

**Stigma**

Another perspective HCPs provided as a reason for why men were likely to drop out of the HIV cascade related to stigma. HCPs noted that although a lot of work had been done to address stigma, it was still a significant factor causing men to not only drop out of services, but also to default once initiated on ART. The stigma HCPs referred to, related to men fearing that members of their communities would see them in health care facilities and assume that they were HIV positive. HCPs noted that men did not want to be seen sick in clinics, and queuing outside dedicated HIV and tuberculosis (TB) clinic rooms caused a dilemma for them. This was because members of their communities (such as friends and neighbours) unaware of their HIV status would see them seeking HIV and/or TB services. One HCP spoke of a teacher in that community who was uncomfortable collecting his ARVs out of fear that he might be seen by the parents of the children that he taught.

**Men as closed off and reserved**

Some HCPs speculated that men failed to access HIV-cascade-related services because they were reluctant to openly discuss health problems of a sexual nature with female HCPs. When HCPs spoke about the ‘openness’ of patients to address sexual and HIV-related issues, male patients were often considered less open than their female counterparts. This state of being open was related to the ease of accepting one’s HIV status, communicating one’s feelings, and good health-seeking behaviour. However, one HCP provided a contrasting view to men not being open by identifying her favourite patient, a
homosexual man. This homosexual man was deemed to be her favourite patient because he was open and he spoke freely about his HIV status and the health challenges that he faced. HCPs stated factors such as stigma, denial of HIV status and reluctance to open up about sexual and HIV-related issues, as possible reasons for why men dropped out of HIV services.

Alternative perspectives of male patients

In some contexts, HCPs reported no dramatic differences between men and women, and described men’s health seeking behaviour as showing improvement over time. One HCP reported that after accepting an HIV positive result they ceased to see any differences between the genders. Another refused to generalize and was adamant that regardless of gender, if someone did not want to take their medication they would not. It was mainly the male HCPs that reported positive experiences with their male patients. They described their patients as doing well within the adherence clubs, and showing above average interest in their health. This is in contrast with the female HCPs who described positive experiences with specific male patients who had impressed them, but referred to male patients in general as showing little improvement in their performance in the HIV cascade over the years.

Those HCPs that had been in the health system longer than 8 years noticed positive differences in HIV-infected men’s behaviour over the years. These changes were said to be evident in actions such as male patients bringing their partners to test for HIV, particularly after receiving a positive HIV test result, and male patients visiting clinics even though they had consulted traditional healers. These changes were attributed to the increase in HIV education and awareness campaigns that have taken place over the years.
How HCPs believe they are perceived by men

HCPs described how they imagined their male patients thought of them, and the factors that they believed contributed to men’s perspectives of HCPs. They were aware that men had negative stereotypes regarding HCPs, and that some men preferred to be seen by fellow male HCPs rather than female HCPs. The HCPs perceived that issues present in health facilities such as long waiting times made men hesitant to visit health facilities. However, HCPs employed strategies such as humour and language as ways of allowing patients to become comfortable and to enable a trusting relationship to be built between patients and HCPs.

HCPs were aware that they had a reputation amongst patients of seeming ‘unkind’ (in how they treated patients) and ‘rough’ (in how they examined patients). Although HCPs did not directly admit to treating patients in these ways, they all agreed that this stereotype of HCPs was common, and that patients’ lack of cooperation such as defaulting resulted in some HCPs becoming frustrated. Some HCPs, particularly nurses, stated that the negative stereotype of ‘unkind’ and ‘rough’ HCPs resulted from patients’ first interactions with front-desk staff. It was alleged that front desk staff would regularly mistreat patients, and by the time they saw the HCP, patients would have already formed a negative opinion. Even though HCPs did not contest patients’ views of HCPs behaviours, they did however say that some patients did not have a full understanding of the health system and some of their frustrations with HCPs could only be addressed at the health system level. However, HCPs said they encouraged patients to use their agency to demand better treatment when visiting health care facilities. The agency being referred to were the various channels of lodging complaints regarding mistreatment of patients in healthcare facilities.
As mentioned before, male patients were uncomfortable discussing sexual issues and HIV-related issues with female HCPs. Even though one facility in the sub-district had a men’s clinic attached to it, with a male nurse providing sexual and HIV-related health services, the male nurse was not always available to work at the men’s clinic, and male patients would then have to be treated in the usual clinical context. Once again, ‘tradition’ was noted as a reason for why men did not feel comfortable being examined by female HCPs, particularly men from the Eastern Cape who would often ask to be examined by male HCP. Men from the Eastern Cape were those who were described as rural men who were new to the city, and adhered to ‘traditional’ attitudes and behaviours.

In addition to the negative stereotypes of HCPs behaviours, HCPs also said that male patients, specifically, experienced difficulties with the long waiting times in the health care facilities. Women were deemed to be more patient with the long waiting times because they frequented health care facilities more than men, and they became accustomed to delays. In addition, due to work commitments men could not wait for long periods of time. HCPs empathized with this, but stated that high workloads and shortage of staff in health care facilities (primarily caused by budget cuts) resulted in long waiting times for patients.

**Strategies of HCPs to engage and retain men**

In order to overcome some of the challenges named above, particularly related to HCPs engaging men, HCPs used ice-breakers as a way of encouraging male patients to open up to them. One female HCP said that she developed a good relationship with a male patient by employing various interaction strategies to make him comfortable with being examined by her.
HCPs discovered that the use of ice breakers, as well as the use of jokes to lighten the mood, assisted in getting male patients to engage in conversations that they would otherwise deem ‘uncomfortable’ or ‘embarrassing’.

Another strategy employed by HCPs, targeted at male patients, was to take on a serious demeanour to affirm their professional competency. For example, a female HCP would curtly inform a male patient of the value of her time and tell him to leave if he did not want to be seen by her.

This serious demeanour was not intended to be ‘authoritarian,’ but instead to allow the male patients to view a female HCP as a professional. Female patients were reported as requiring no prompts to allow freely flowing speech, especially when speaking to a female HCP.

Speaking in the language male patients understood and related to was also used as way of getting patients to open up, as one male HCP stated. Here language was used to refer to either slang, or the dialects that patients would use to communicate based on what they were comfortable with.

If a patient spoke local slang known as *tsotsi-taal* then the HCP would also speak to them in that diction to allow the patient to feel at ease, and as an attempt to remove the power difference between patient and the HCP in the clinical setting.

**Discussion**

This study sought to provide HCPs perspectives on the factors they deemed affected their male patients’ performance through the HIV cascade. HCPs described some of the barriers...
that hindered men from accessing HIV services as: men being in denial about their HIV status, men fearing HIV stigma and men not fully engaging with HCPs because of a closed-off or reserved nature. The barriers named by HCPs are common to those found in literature. Factors such as denial of HIV status, and fear of being seen within the clinical space by friends and neighbours are found in existing studies [10, 16-18]. However, in some contexts, HCPs did not point to any stark differences between men and women and they viewed men’s behaviour as improving over time. HCPs stated that men had negative stereotypes of HCPs caused by unpleasant experiences, such as encountering ‘rude’ reception staff and long waiting times in health facilities. To improve relationships with men and retain them in the HIV cascade, HCPs employed various strategies, including ice breakers, portraying a tough demeanour and talking local slang.

The study found that HCPs had good aspirations of providing friendly and efficient health care services to their male patients, although this was not always what occurred. HCPs admitted that they had heard patients recount stories of unpleasant experiences within health care facilities. The patient-provider relationship is often characterised as one of mistreatment by providers who are described as overworked and underpaid [19]. In this study HCPs do not deny the existence of this narrative, but they show remorse for any poor treatment of patients, and show aspirations for an improved provider-patient relationship. Poor patient-provider relationships have been attributed to patients avoiding certain care facilities [17]. In addition, good patient-provider relationships can not only improve clinic attendance, but also influence better health seeking behaviour in patients.

Good relationships between patients and HCPs are not only beneficial to the patient, but also to the provider. The benefits providers stand to gain include improved patient health, adherence to treatment and fewer complaints filed against them. There are HCPs who
endeavour to engage in caring attitudes in order to provide patient-centred care, and balance the science and emotional components of dealing with patients. [20]. Patient-centred care promotes holistic patient care, improved patient-provider relationships and promotes good health in patients [21]. For providers dealing with HIV positive patients, particularly from a poor socio-economic background, this would involve considering the patients position and life experiences and how their life experiences and position impact on their illness. In this way they would no longer view the patient as separate from the illness [20].

The study also found that HCPs had to employ several techniques to enable them to relate to male patients, and to allow male patients to feel more comfortable discussing their health conditions. HCPs engaged in the use of ice-breakers in the form of jokes, as well as speaking in relatable language, and putting on a ‘tough’ professional attitude to improve how they related to their patients. This finding is similar to that of other studies where HCPs enacted several strategies to improve interpersonal interactions with their patients. Male community care workers (CCWs) in a South African study used methods such as a friendly attitude, being clear about the purpose of their visits and indirect conversation to avoid threatening the masculinity of their male patients [2]. As in this study, the aim of such strategies was to allow men to open up to CCWs, and therefore actively engage with health care.

HCPs in this study also enacted strategies that employed language as a way to engage with men. Language was used in some instances to improve relatability between HCPs and men, and in other instances to enforce respect from men. In another South African study, CCWs enacted various performances to gain compliance from their patients. The performance selected depended on the patient, and could range from coercive to supportive [22]. HCPs engaged their knowledge of what is socially acceptable in order to decide which performance would work with a particular patient. The common social context that these HCPs shared
with their patients is what allowed them the insight to know how to select appropriate performances [22]. Accurate responses by HCPs to patients cultural values can lead to important, positive clinical outcomes [23].

This study confirms the integral role that HCPs play in facilitating or hindering men’s movement through the HIV cascade. There is a need for further dialogue with HCPs where they can continue to provide their perspectives, and experiences of men in health care services. Evidence shows that the men’s perceptions and experiences of the clinical space contribute to their poor health-seeking behaviour [24]. There is a need for further engagement with men and HCPs in order to make the clinical space more welcoming to men, and therefore allowing men to enter the HIV cascade faster, and to remain in the HIV cascade to ensure optimal health outcomes. The findings of studies that investigate the perspectives of HCPs should be applied in clinical management policies, and in impacting on the way health care services are designed. Further research will be required to assess how effective the implementation of such findings will be in improving how men move through the HIV cascade.

A strength of this study was that it provided new insight into how HCPs experienced male patients in HIV care services. Participants ranged from counsellors to doctors, thus giving a variety of perspectives on men in the HIV cascade. Another strength of this study was that the HCPs included in this study worked in city, provincial, and NGO-run health care facilities, which resulted in diverse perspectives across service structures. A limitation of this study is that there was a relatively small sample of HCPs, and that the study design was cross-sectional, therefore only providing data collected at a particular point in time. The study was self-reported and this opened up the potential for bias because it cannot be verified independently. A potential limitation of purposively sampling HCPs is that only HCPs who
are already above average in patient engagement would agree to participate in these interviews. However, this could also prove to be beneficial as these HCPs could provide useful insights.

Declarations

Ethics

Ethics approval for the study was granted by the University of Cape Town Human Research Ethics Committee (HREC), (HREC REF:655/2016), see Appendix 4. Permission to engage with HCPs was granted by the Western Cape Provincial Department of Health and the City of Cape Town Health Department. Participants signed two copies of the research consent form before the interview began.

Competing Interests

The author declares no competing interests.

Funding

This study was funded by the i-ALARM project which received funding from the National Institutes of Health.

Availability of data and materials

Data will be made available when the manuscript is accepted for publication.

Consent for publications

Not applicable.
Reference List


22. Vale E: 'I know this person. Why must I go to him?' Techniques of Authority Among Community Health Workers in Cape Town. 2012.


QUESTIONNAIRE: THE FACTORS AFFECTING MEN’S MOVEMENT THROUGH THE HIV CASCADE IN THE PUBLIC HEALTH SERVICES IN CAPE TOWN: PERSPECTIVES AND EXPERIENCES OF HEALTH SERVICE PROVIDERS

I would like to ask you some questions about your background within the health system:

Section 1: Background

1. How long have you worked within the health system?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. Have you worked in city or provincial facilities?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. What type of duties do you do on a daily basis?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
I would like to find out more about the type of patients you see?

Section 2: Experiences with patients

4. What are your male patients like? (age, personality, family men, single)

5. Tell me about a male patient you consider to be your best patient. Why do you think of them this way?

6. Tell me about a female patient you consider to be your best patient. Why do you think of them this way?

7. What experience have you had with a person you think would be your worst patient?
8. Do you think there has been an evolution in the type of male patients you have seen over the years you have been working? With regards to how their attitudes and behaviours regarding HIV care and treatment.

This next section will look more into your own experiences as a health care provider

Section 3: The provider’s experience

9. What are some of the common stories patients tell about their experiences with health care providers? What are the common assumption people make about the treatment of patients by health care providers?

10. Do you think these stories are accurate?
11. How do you navigate the following situations in your day to day interaction with patients at this facility?
   
   I. As a person who also lives in the community/area?
   
   II. As a man/woman?

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

Now I would like to find out your views about the HIV Cascade

Section 4: The HIV Cascade

12. What do you understand the HIV Cascade to refer to?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

13. Who are the key actors working in this cascade?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

14. Is there another word you use to understand the process of HIV testing, treatment and care?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
15. Which services on the HIV cascade of care does your facility provide?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

16. Which services do you personally work within?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

17. Where do you send the patients for services you do not provide here?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

I would like to know more about how different patients perform in this cascade?

Section 5: Patients movement through the cascade

18. How do men and women perform with regards to HIV treatment? Are there any differences between the sexes?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________


19. How would you explain these difference, if any?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

20. What are the common reasons women drop out of the cascade?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

21. What about men?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

22. At what stages do you think you lose the most men?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

23. What is it about these stages that brings about so many drop outs?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
24. Do you think factors like age impact on someone’s performance in the HIV cascade?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

I would like to ask your opinion regarding possible changes to the HIV cascade?

Section 6: Improving the cascade

25. What is working well in the current way things are done with regards to HIV treatment?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

26. What part of the way things currently happen would be the hardest to change?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

27. Are there any gaps? Where are they?
28. What improvements would you recommend?
Appendix 2: Questionnaire for Service Providers

QUESTIONNAIRE: THE FACTORS AFFECTING MEN’S MOVEMENT THROUGH THE HIV CASCADE IN THE PUBLIC HEALTH SERVICES IN CAPE TOWN: PERSPECTIVES AND EXPERIENCES OF HEALTH SERVICE PROVIDERS

I would like to ask you some questions about your background within the health system:

Section 1: Background

1. How long have you worked within the health system? __________________________
2. What type of duties do you do on a daily basis?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Section 2: The HIV Cascade

3. Looking at the diagram provided do you agree with the way it shows the HIV cascade?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

4. Who are the key actors working in this cascade?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
I would like to your opinion regarding some changes to the HIV cascade?

Section 3: Improving the HIV cascade

5. How would you describe the conditions that health care workers work under?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

6. What is working well in the current way things are done with regards to HIV treatment?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

7. What part of the way things currently happen would be the hardest to change?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
8. What part of the way things currently happen would be the easiest to change?
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

9. Given the barriers that are faced what could help?
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

10. Are there any gaps? Where are they?
    __________________________________________
    __________________________________________
    __________________________________________
    __________________________________________
    __________________________________________
    __________________________________________
Appendix 3: Informed Consent Form

Consent to Participate in Research

Informed Consent Form for .................................................................

Using Information to Align Services and Link and Retain Men in the HIV Cascade
University of Cape Town

This informed consent form is for health care providers within the Klipfontein District who are being invited to participate in the research study titled ‘Factors Affecting Men’s Movement Through The HIV Cascade in The Public Services in Cape Town: Perspectives and experiences of Health Service Providers.

1. Who Is Doing This Study and Why?

My name is Rutendo Madzima and I am a Master’s in Public Health student at the University of Cape Town (UCT). I am doing research on the men’s movement through the HIV cascade. The HIV cascade is a term used to group the process of HIV testing, treatment and care. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions, please feel free to ask me.

2. What is the purpose of the research?

As you know HIV is a serious problem in our communities. It seems men have the hardest time staying within the HIV cascade. I believe you can help me by helping me understand how things work within your health facility and what your particular experience has shown you about this issue. I want to know the views of Health care providers about what factors influence men’s movement within this HIV cascade. I would like to know which things are contributing to men’s poor performance in the cascade.

3. What Will You Do in This Study?

If you volunteer to participate in this study, I would ask you to answer some questions and talk about your experiences of interacting with men in various stages of the HIV cascade. If you feel uncomfortable about talking about any of the questions, feel free not to participate or not to answer a particular question.

I will request some of your time to conduct an interview with you. This proposed interview will be in-depth and could last between 1 and 1.5 hours. Please tell me if you have any time limits or if you need to leave at any time. Nothing will happen if you do not wish to participate or if you decide to withdraw from the study before its conclusion.
I may ask you for permission to record some of these interviews. You will have the choice to have the interview recorded or not. If you chose not to have it recorded, I will simply take notes about the conversation.

4. **Are There Any Risks in This Research?**
You may feel uncomfortable speaking about some aspects of HIV infection (such as personal experiences of HIV in one’s family, social stigma, etc). You may also feel uncomfortable speaking about patients and issues related to your working environment. If at any time you do not want to answer a particular question, please tell the researcher and you will not be asked to answer. You are free to not answer any question or speak about any subject that you do not want to. If you feel upset during or after the interview, please tell the researcher. Other potential risks include disruption of your regular work duties by the interview. All efforts will be made to conduct the interview at a time that is preferable to you.

5. **Are There Any Benefits of Participating for Me?**
There are no direct benefits to you for participating in this study. There may be some longer-term, indirect benefits to you if the project findings are used to develop interventions for better linking and retaining men in HIV-cascade-related services. You may also benefit from what could be a therapeutic experience of sharing their experiences with a third party.

6. **Will I Be Paid to Participate?**
Participants will not receive financial reimbursement for participating in this research.

7. **Will My Name Be Shared with Anyone?**
The researchers will not share your name with anyone and when they write about the research, they will not use your name. De-identified transcripts from interviews will be kept in online folders only accessed by specific members of the research team and backed up in a hard drive and on Dropbox. Access will be restricted to key members of the study team consisting of the researcher, the supervisors and the data manager. Extracts from your interviews may be published in research reports but any direct information that could identify who you are will be removed.

Participant Selection
You are being invited to take part in this research because we feel that your experience as a ……………………… will help us to increase our knowledge on men and the HIV cascade.

Voluntary Participation
Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate there will be no negative consequences to you or your work.

If you have any further questions regarding your participation in this study, feel free to contact

Study Principal Investigator:
A/Prof. Christopher Colvin
School of Public Health and Family Medicine
University of Cape Town, Anzio Rd., Observatory 7925  South Africa
T: (021) 650 1487; F: (021) 21 406 6459; e-mail: cj.colvin@uct.ac.za

Or
If you would like to contact me directly you can do so on e-mail address: mdzrut003@myuct.ac.za

What are my rights as a research participant?
You may withdraw your consent to participate in this study at any time and stop participating without any penalty. When you participate in this study, you are not giving up any legal claims, rights or remedies that you may have. If you have questions about your rights as a research participant, contact the Human Research Ethics Committee (HREC) at the Faculty of Health Sciences at the University of Cape Town at 021 406 6338.

The information above was described to me by ______________________________. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

________________________________________
NAME OF PARTICIPANT

________________________________________
SIGNATURE OF PARTICIPANT DATE_________

I declare that I explained the information given in this document to ______________________________ [name of the participant]. [He/she] was encouraged and given ample time to ask me any questions.

________________________________________
SIGNATURE OF INVESTIGATOR DATE___________________
Appendix 4: Letter of Ethics Approval

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E53-46 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone (021) 406 6625
Email sharretta.thorns@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

12 September 2016

HREC REF: 655/2016

A/Prof C Colvin
Public Health & Family Medicine
Falmouth Building
3.46

Dear A/Prof Colvin

PROJECT TITLE: FACTORS AFFECTING MEN'S MOVEMENT THROUGH THE HIV CASCADE IN THE PUBLIC HEALTH SERVICES IN CAPE TOWN: PERSPECTIVES AND EXPERIENCES OF HEALTH CARE PROVIDERS - LINKED TO 802/2014 (Masters Candidate Rutendo Madzima)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee.

It is a pleasure to inform you that the HREC has formally approved the above-mentioned study.

Approval is granted for one year until the 30th September 2017.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator must obtain appropriate institutional approval before the research may occur.

The HREC acknowledge that the student Rutendo Madzima will also be involved in this study.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938
This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP), South African Good Clinical Practice Guidelines (DoH 2006), based on the Association of the British Pharmaceutical Industry Guidelines (ABPI), and Declaration of Helsinki (2013) guidelines.

The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.
Appendix 5: Instructions for authors: BMC Public Health

Research Articles

Criteria | Submission process | Preparing main manuscript text | Preparing illustrations and figures | Preparing tables | Preparing additional files | Style and language

Assistance with the process of manuscript preparation and submission is available from BioMed Central customer support team. See 'About this journal' for information about policies and the refereeing process. We also provide a collection of links to useful tools and resources for scientific authors on our page.

Criteria

Research articles should report on original primary research, but may report on systematic reviews of published research provided they adhere to the appropriate reporting guidelines which are detailed in our Editorial Policies. Please note that non-commissioned pooled analyses of selected published research will not be considered.

Submission Process

Manuscripts must be submitted by one of the authors of the manuscript, and should not be submitted by anyone on their behalf. The corresponding author takes responsibility for the article during submission and peer review.

Please note that BMC Public Health levies an article-processing charge on all accepted Research articles; if the corresponding author’s institution is a BioMed Central member the cost of the article-processing charge may be covered by the membership (see About page for detail). Please note that the membership is only automatically recognised on submission if the corresponding author is based at the member institution.

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See below for examples of word processor and graphics file formats that can be accepted for the main manuscript document by the online submission system. Additional files of any type, such as movies, animations, or original data files, can also be submitted as part of the manuscript.

During submission you will be asked to provide a cover letter. Use this to explain why your manuscript should be published in the journal, to elaborate on any issues relating to our editorial policies in the 'About BMC Public Health' page, and to declare any potential competing interests.

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File Formats

The following word processor file formats are acceptable for the main manuscript document:

- Microsoft word (DOC, DOCX)
- Rich text format (RTF)
- Portable document format (PDF)
- TeX/LaTeX (use BioMed Central's TeX template)
- DeVice Independent format (DVI)

TeX/LaTeX users: Please use BioMed Central's TeX template and BibTeX stylefile if you use TeX format. During the TeX submission process, please submit your TeX file as the main manuscript file and your bib/bbl file as a dependent file. Please also convert your TeX file into a PDF and submit this PDF as an additional file with the name 'Reference PDF'. This PDF will be used by internal staff as a reference point to check the layout of the article as the author intended. Please also note that all figures must be coded at the end of the TeX file and not inline.

If you have used another template for your manuscript, or if you do not wish to use BibTeX, then please submit your manuscript as a DVI file. We do not recommend converting to RTF.
For all TeX submissions, all relevant editable source must be submitted during the submission process. Failing to submit these source files will cause unnecessary delays in the publication procedures.

**Preparing main manuscript text**

General guidelines of the journal's style and language are given below.

**Overview of Manuscripts sections for Research Articles**

Manuscripts for Research articles submitted to *BMC Public Health* should be divided into the following sections (in this order):

- Title page
- Abstract
- Keywords
- Background
- Methods
- Results and discussion
- Conclusions
- List of abbreviations used (if any)
- Competing interests
- Authors' contributions
- Authors' information
- Acknowledgements
- Endnotes
- References
- Illustrations and figures (if any)
- Tables and captions
- Preparing additional files

The Accession Numbers of any nucleic acid sequences, protein sequences or atomic coordinates cited in the manuscript should be provided, in square brackets and include the corresponding database name; for example, [EMBL:AB026295, EMBL:AC137000, DDBJ:AE000812, GenBank:U49845, PDB:1BFM, Swiss-Prot:Q96KQ7, PIR:S66116].
The databases for which we can provide direct links are: EMBL Nucleotide Sequence Database (EMBL), DNA Data Bank of Japan (DDBJ), GenBank at the NCBI (GenBank), Protein Data Bank (PDB), Protein Information Resource (PIR) and the Swiss-Prot Protein Database (Swiss-Prot).

For reporting standards please see the information in the About section.

**Title Page**

The title page should:

- provide the title of the article
- list the full names, institutional addresses and email addresses for all authors
- indicate the corresponding author

Please note:

- the title should include the study design, for example "A versus B in the treatment of C: a randomized controlled trial X is a risk factor for Y: a case control study"
- abbreviations within the title should be avoided
- if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable through their individual PubMed records, please include this information in the “acknowledgements” section in accordance with the instructions below. Please note that the individual names may not be included in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

**Abstract**

The Abstract of the manuscript should not exceed 350 words and must be structured into separate sections: **Background**, the context and purpose of the study; **Methods**, how the study was performed and statistical tests used; **Results**, the main findings; **Conclusions**, brief summary and potential implications. Please minimize the use of abbreviations and do not cite references in the abstract. **Trial registration**, if your research article reports the results of a controlled health care intervention, please list your trial registry, along with the unique
identifying number (e.g. **Trial registration**: Current Controlled Trials ISRCTN73824458). Please note that there should be no space between the letters and numbers of your trial registration number. We recommend manuscripts that report randomized controlled trials follow the [CONSORT extension for abstracts](#).

**Keywords**

Three to ten keywords representing the main content of the article.

**Background**

The Background section should be written in a way that is accessible to researchers without specialist knowledge in that area and must clearly state - and, if helpful, illustrate - the background to the research and its aims. Reports of clinical research should, where appropriate, include a summary of a search of the literature to indicate why this study was necessary and what it aimed to contribute to the field. The section should end with a brief statement of what is being reported in the article.

**Methods**

The methods section should include the design of the study, the setting, the type of participants or materials involved, a clear description of all interventions and comparisons, and the type of analysis used, including a power calculation if appropriate. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses in the Methods section.

For studies involving human participants a statement detailing ethical approval and consent should be included in the methods section. For further details of the journal's editorial policies and ethical guidelines see [About this journal](#).

For further details of the journal's data-release policy, see the policy section in [About this journal](#).

**Results and discussion**

The Results and discussion may be combined into a single section or presented separately. Results of statistical analysis should include, where appropriate, relative and absolute risks or
risk reductions, and confidence intervals. The Results and discussion sections may also be broken into subsections with short, informative headings.

Conclusions

This should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance. Summary illustrations may be included.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations can be provided, which should precede the competing interests and authors’ contributions.

Competing interests

A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Authors must disclose any financial competing interests; they should also reveal any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

Authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where an author gives no competing interests, the listing will read 'The author(s) declare that they have no competing interests'.

When completing your declaration, please consider the following questions:

Financial competing interests

- In the past three years have you received reimbursements, fees, funding, or salary from an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? Is such an organization financing this manuscript (including the article-processing charge)? If so, please specify.
• Do you hold any stocks or shares in an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? If so, please specify.

• Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? If so, please specify.

• Do you have any other financial competing interests? If so, please specify.

Non-financial competing interests

Are there any non-financial competing interests (political, personal, religious, ideological, academic, intellectual, commercial or any other) to declare in relation to this manuscript? If so, please specify.

If you are unsure as to whether you, or one your co-authors, has a competing interest please discuss it with the editorial office.

Authors' contributions

In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section.

According to ICMJE guidelines, An 'author' is generally considered to be someone who has made substantive intellectual contributions to a published study. To qualify as an author one should 1) have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) have been involved in drafting the manuscript or revising it critically for important intellectual content; 3) have given final approval of the version to be published; and 4) agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.
We suggest the following kind of format (please use initials to refer to each author's contribution): AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

All contributors who do not meet the criteria for authorship should be listed in an acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, a department chair who provided only general support, or those who contributed as part of a large collaboration group.

**Authors' information**

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

**Acknowledgements**

Please acknowledge anyone who contributed towards the article by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include the source(s) of funding for each author, and for the manuscript preparation. Authors must describe the role of the funding body, if any, in design, in the collection, analysis, and interpretation of data; in the writing of the manuscript; and in the decision to submit the manuscript for publication. Please also acknowledge anyone who contributed materials essential for the study. If a language editor has made significant revision of the manuscript, we recommend that you acknowledge the editor by name, where possible.
The role of a scientific (medical) writer must be included in the acknowledgements section, including their source(s) of funding. We suggest wording such as 'We thank Jane Doe who provided medical writing services on behalf of XYZ Pharmaceuticals Ltd.'

If you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the “acknowledgements” section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors.

Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

**Endnotes**

Endnotes should be designated within the text using a superscript lowercase letter and all notes (along with their corresponding letter) should be included in the Endnotes section. Please format this section in a paragraph rather than a list.

**References**

All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text, followed by any in tables or legends. Each reference must have an individual reference number. Please avoid excessive referencing. If automatic numbering systems are used, the reference numbers must be finalized and the bibliography must be fully formatted before submission.

Only articles, clinical trial registration records and abstracts that have been published or are in press, or are available through public e-print/preprint servers, may be cited; unpublished abstracts, unpublished data and personal communications should not be included in the
reference list, but may be included in the text and referred to as "unpublished observations" or "personal communications" giving the names of the involved researchers. Obtaining permission to quote personal communications and unpublished data from the cited colleagues is the responsibility of the author. Footnotes are not allowed, but endnotes are permitted. Journal abbreviations follow Index Medicus/MEDLINE. Citations in the reference list should include all named authors, up to the first six before adding 'et al.'.

Any in press articles cited within the references and necessary for the reviewers' assessment of the manuscript should be made available if requested by the editorial office.

An Endnote style file is available.

Examples of the BMC Public Health reference style are shown below. Please ensure that the reference style is followed precisely; if the references are not in the correct style they may have to be retyped and carefully proofread.

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