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Exploring effective approaches of integrating cervical screening services into the normal routine care within HIV clinics: A qualitative study in a Ugandan community health facility.

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Abstract

Cervical cancer is the leading cause of gynaecologic cancer death in sub-Saharan Africa, with HIV being a high-risk factor for its' development. Where HIV prevalence is high, interventions can ideally be delivered through a 'one-stop shop' approach addressing both conditions simultaneously. Whilst evidence supports the feasibility and significance of service integration, there is a paucity of literature on practical and sustainable approaches to implementation in resource-constrained settings. Evaluation of the Knowledge for Change cervical cancer project in the facility under study found only 31.3% of eligible women utilising HIV services had been screened in August 2019. Furthermore, just 18.6% of those screened returned for an annual appointment - on average 9 months later than scheduled. My study thus sought to generate new data to explore how best to integrate cervical screening services into the normal routine of this HIV care clinic. It took a qualitative approach comprising of in-depth interviews with ten health care providers. The data was coded in NVivo 12 and analysed thematically. Four themes emerged from the interviews: views on the current cervical screening service provision, the perceived benefits and challenges of integrated HIV and screening services, health education and 'expert clients' and screening follow-up mechanisms. Overall, this study has confirmed the feasibility and significance of integrating cervical screening into HIV care and has synthesized practical and sustainable approaches to implementation in resource-constrained settings.

Keywords

Cervical cancer, HIV, Integration, Screening, Service delivery, Resource-constrained setting, Uganda

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1 Introduction

Cervical cancer is the fourth most common cancer among women globally, with an estimated 604,000 new cases in 2020 (Sung et al., 2020). It is estimated to kill about 300,000 women and affect nearly 600,000 women yearly (Arbyn et al., 2020). Over 85% of cases occur in low- and middle-income countries with sub-Saharan Africa carrying the highest burden globally (Ferlay et al., 2018). Bruni, et al. (2015) report that about 331.4 million women in Africa aged 15 years and older are at risk of developing cervical cancer, and 99,038 new cases of cervical cancer are diagnosed each year with about 60,098 dying from the disease. Although cervical cancer is one of the best-understood cancers, preventable through vaccination (Bharadwaj et al., 2009) and regular cervical screening (Denny, Quinn & Sankaranarayanan, 2006), in Uganda, it remains the leading cause among women of both cancer-related incidence (54.8 per 100,000) and cancer-related deaths (40.5 per 100,000) (Ferlay et al., 2018). This is mostly attributed to no or limited access to screening programmes and infrastructure (Nakisige et al., 2020); the low cervical screening uptake together with a high prevalence of human papilloma virus (HPV) amongst women in Uganda (ICO information centre on HPV and Cancer [HPV Information Centre], 2016). Whilst evidence supports the feasibility and significance of service integration in relation to cervical screening, there is a paucity of literature on practical and sustainable approaches to implementation in resource-constrained settings. This dissertation will therefore focus on exploring the perceptions and experiences of health care providers towards the cervical screening service within a facility, its integration as a normal routine in a HIV care clinic and how best the cervical screening program can be refined to achieve effective integration.

1.1 Uganda and its healthcare system

Before focusing specifically on cervical cancer within Uganda, it is useful to provide a brief overview of Uganda and the healthcare system that operates within the country. Uganda is a landlocked and low-income developing country in eastern sub-Saharan Africa. The country is bordered by Kenya, Rwanda, Tanzania, Congo DRC and South Sudan (see Figure 1).

Uganda is a multilingual nation with about 56 tribes that speak different languages. However, English and Luganda are the predominant languages spoken across the country. Nonetheless,

it is important to understand the different cultures of the various regions of the country as these affect public health interventions. Religion also plays an essential aspect in the life of Ugandans, with about 84.4% of the population being Christian and 13.7% Muslim - this could influence attitudes and behaviours towards HIV and cervical cancer care.

The country has a free market economy with a mean economic growth rate of 5.5% between 2010 and 2014 (World Health Organisation, WHO, 2016) which means it is a low-income nation. Indeed, 33% of the Ugandan population live on less than US\$2 a day (World Bank: Uganda, 2016) and 64% of the working population are subsistence farmers (Uganda Bureau of Statistics, 2016).

Uganda has also been reported to be the largest refugee hosting country in Africa and the third largest in the world (GoU & UNHCR, 2017). This places another huge burden on the country's infrastructure, yet the aid received per person is very small. Nonetheless, the recent discovery of oil is anticipated to boost its economy and health sector to an unprecedented proportion (Mawejje, 2019).

Although Uganda's health indicators are poor (Mukasa, 2012), it has witnessed a progressive record in the fight against HIV – from reported prevalence rates of 18%–30% in the 1990s (one of the highest in the world at the time) to a drastically decreased prevalence rate of around 6.5% in the late 2000s (GBD 2015 HIV Collaborators, 2016; Vithalani, & Herreros-Villanueva, 2018). In 2019, about 1.5 million people were identified to be HIV positive and the HIV prevalence rate in the country was 5.8% (UNAIDS, 2019).



Figure 1:1 Map of Africa showing Uganda's location

Image source: <http://www.mapsopensource.com/uganda-location-map-in-africa.html>

Uganda's national health care system is divided into a public sector (which is under the Ministry of Health) and a private sector. The latter comprises of private not-for-profit (largely mission hospitals / faith-based organizations), private for-profit, and traditional and complementary Medicine Practitioners (TCMPs) who are mostly informal, unlicensed providers (Mills et al., 2002; O'Hanlon et al., 2016). The public sector infrastructure encourages government-led health care and consists of a hierarchically organized network of health facilities to improve access to care and promote a referral system. The hierarchy of the public health facilities consist of, in ascending order, health centre (HC) I, II, III, and IV, general hospitals, regional referral hospitals (RRHs), and national referral hospitals. There is no physical structure to a HC I but it comprises of the village health technicians (VHTs), who are trained community members that promote community utilisation of health services,

provide basic health education and curative services for malaria, pneumonia and diarrhoea. The HC II provides basic outpatient and community outreach services only. HCIIIs comprise of nurses and nursing assistants who can treat common conditions like malaria and coughs. HC III serves at the subdistrict level to provide basic essential obstetric care and simple diagnostic testing laboratory services in addition to the services provided at HCII. This is headed by a clinical officer (a clinician with three years of medical training).

The HCIV provides emergency obstetric care in addition to the services provided at a HCIII. It also consists of an operating theatre and inpatient departments, and as such, this facility employs at least two medical officers (clinicians with five years of medical training) and more nurses and midwives. Regional Referral Hospitals (RRH) offer specialist medical and surgical services including mental health, ophthalmology, dentistry and more diagnostic tests. Consultant medical staff are also available. The national referral hospitals are set up for comprehensive specialist services though can also provide the services available in RRHs. However, there are only two national referral hospitals in Uganda; Mulago and Butabika which are both located in the capital city (Kampala). Butabika is the national referral for mental health care. The Uganda Cancer Institute (UCI) in Mulago is the only centre for cancer care in the country with an 80-bed capacity receiving about 6,000 cases every year (Nakisige, Schwartz & Ndira, 2017).

Patients are recommended to follow the hierarchical order while seeking care i.e. from the HC I-IV to the regional and national referrals, such that, if one level of the health centres is unable to treat a patient due to lack of expertise or resources, the patient would then be referred on to the next level facility. However, this is not always the case as some patients choose and are able to directly access a higher-level healthcare facility due to convenience or the perception that only the higher-level facilities are adequately staffed. This lack of a clear health referral system leaves Mulago hospital and the regional referral hospitals overcrowded

leading to poor patient care, bribing of health care providers for care and essential drugs stockouts¹.

Despite the decentralised health system, access to health care services is still significantly affected by financial limitations and geographic inaccessibility to health facilities particularly in rural areas (Mukasa, 2012). Although reports suggest 72% of the population live within 5km of a health facility, in Kampala there are 8.4 health facilities per 10,000 members of the population, whilst in the more rural district of Yumbe there are only 0.4 health facilities per 10,000 people (Ministry of Health, 2015). Additionally, health care provision is better in the private facilities than public and those who can afford to pay often choose not to use public health facilities (Ackers & Ackers-Johnson, 2017).

The Ugandan health care system is deficient of health care professionals (Ozgediz et al., 2008); with a doctor-to-patient ratio of 1:24,725 and a nurse-to-patient ratio of 1:11,000 (Unwanaobong et al., 2018). Additionally, the nature of surgical care delivery is defined by privatization, absenteeism, and “moonlighting” whereby doctors hold both government and private positions (Paina et al., 2014; O’Hanlon et al., 2016). More than 54% Ugandan medical doctors work in both the private and the public sector (Mandelli, Kyomuhangi & Scribner, 2005; Lwasa, 2007). The terms and conditions in the public sector, particularly the rural posts, are often considered unattractive, which adversely affects deployment and retention of doctors (Rockers et al., 2012; Baine & Kasangak, 2014). Records from the health professional councils show that 42,530 (52%) of the health workforce were employed in the public sector in 2015, 9,798 (12%) in the Private Not-For-Profit sector, while 29,654 (about one third) were private practitioners, were unemployed or had emigrated (Ministry of Health, 2015). As such, health and health care in Uganda is sometimes still characterised as being poor (Chandler et al., 2013) and it is within this context of constraint that health care professionals deliver cervical cancer prevention services.

¹ A drug “stock-out” means having less stock of medicine available in a health facility than required for patients as stipulated by the national guidelines; or simply a drug not being available due to it being out of stock.

1.2 Cervical cancer in Uganda

While Uganda lacks a national cervical screening program, a key goal of the national strategic plan for cervical cancer prevention and control in 2010 was to have 80% of eligible women screened and treated for cervical precancerous lesions (Ministry of Health, 2010). Unfortunately, screening in Uganda is erratic and opportunistic in that it is initiated by health professionals or by the patients themselves and absent in certain parts of the country as funding for such programs is scarce and only donors and non-government organisations (NGOs) implement the prevention strategies in very few areas (Tsu et al., 2018). Uptake of the screening services are often negatively impacted by limited access to the facilities (due to distances from the services), long wait times, costs and lack of convenient clinic times/days (Kumakech et al., 2014; Bukirwa et al., 2015). Additionally, there is a shortage of trained screening providers and a high turnover of health workers in Uganda (PATH, 2013). Therefore, this could explain the very low baseline lifetime screening rate of between 4.8% to 30% possibly due to the disparities in screening rates across the country (Ndejjo et al., 2016), and thus the high rate of diagnosis with advanced disease (Nakisige et al., 2017).

The cervical screening guidelines in Uganda are based on a “See and Treat” algorithm targeting women aged 25 to 49 years. Visual inspection of the cervix with acetic acid is the main screening procedure used, and most women diagnosed with positive mild-moderate precancerous lesions are treated using cryotherapy. HIV- negative women undergo three yearly cervical screening whilst the HIV-positive women are meant to be screened annually. Midwives and nurses are the primary providers of cervical cancer screening as well as treatment (Ministry of Health, 2010). In addition to cervical screening, another national prevention initiative was introduced involving HPV vaccination for girls in primary schools aged 10-13 years (Gulland, 2012). However according to Isabirye et al. (2020), there has been a low uptake (22%) of this vaccine amongst the target population (girls aged 10 to 14 years).

1.3 The context for the research

Knowledge for Change (K4C) is a UK based charity and non-governmental organization (NGO) in Uganda. It has been operating in Uganda since 2012, with the main objective of promoting and strengthening the public health facilities. The core values of K4C center on

attaining sustainable, ethical, and mutually beneficial improvements in health infrastructure and the capacity of staff and healthcare students <http://knowledge4change.org/about-us/>.

In 2015, nursing students from Liverpool on placement with Knowledge for Change (K4C) undertook outreach work with a local NGO: The Youth and Women's Empowerment Project (YAWE) involving cervical screening. The women they met while on outreach raised their concerns about access to cervical screening and the lack of treatment options if they received a positive screening result and this initial consultation with potential service users initiated the design of the K4C cervical cancer prevention project in the case study area. Additionally, lessons from an initial pilot intervention by K4C in Kampala, which highlighted concerns around costs for the service being passed on to women, further helped to develop the project. As such, 2017 saw the setting up of one of the first cervical cancer see-and-treat services in the Ugandan public sector, providing free of charge screening and on-the-spot same day treatment for all women between 25 and 60 years. The model combines the use of visual inspection under acetic acid (VIA), state-of-the-art technology in cervical screening (the mobile phone based Enhanced Visual Assessment 'EVA' system) with sustainable cold coagulation treatment in a task-shifting environment (focusing on midwifery and nursing staff). Therefore, in practice, the midwives and nursing staff use the EVA device to perform high-quality cervical screenings via improved visualization (i.e. that magnifies the images of the cervix) and consultation with colleagues and the obstetrician in case of a challenging diagnosis as the device allows for access to all patient data, images, annotations, and colposcope impression through a secure portal.

Services are delivered according to the Ugandan national and WHO cervical screening guidelines. The screening clinic operates every Thursday and Friday and is offered to the women in the waiting area of the different clinics during the morning health talks. Despite these initiatives, the screening coverage remained poor, with only 148 women out of 27,357²

² The total female population in the case study area is about 27,357 according to the National population and Housing census 2014 undertaken by the Uganda Bureau of Statistics (UBOS). However, this number does not represent the actual catchment population of the Health Centre under study since there is no specific boundaries for the catchment area and everyone has a right to access health services at any Health facility of their choice. As such, the 27,357 female population is inclusive of females that fall outside the catchment area and those not eligible for screening.

in the case study area attending the service in the first 16 months of the project (June 2017-September 2018). As a response to the poor uptake of the screening service, the project received funding from the Department for International Development (DfID) Small Charities Fund (SCCF) in October 2018 to attract women into the facilities for screening services. K4C thus embarked on a multimethod approach to implement a sustainable and effective community-based intervention to improve the quality and utilization of the cervical screening services in the case study area. It is from then (October 2018) that I took on the role of local lead of the project.

I am a fully qualified medical doctor by profession and as stated before, I currently work as the K4C cervical cancer project lead in the facility under study. In this research I therefore take on two roles - the researcher and a fellow practitioner at the facility. This dual role has benefits and challenges which I will discuss later in the methodological chapter.

As part of my clinical roles in the cervical screening clinic, I performed six monthly audits and carried out other administrative tasks for the project. From these reports, I realised several eligible HIV positive women had not been screened and many screened women were missing out on their subsequent appointments despite the screening occurring on the same days with HIV care services. From June 2017 to end of August 2019, only 31.3% (161/515) of the eligible women registered in the HIV clinic had been screened. Furthermore, about 18.6% (30/161) of the screened women returned for their annual subsequent screening appointments, but after an average delay of 7-9 months from their scheduled appointment dates. Many studies have reported that these women are at a higher risk of developing cervical cancer and faster disease progression (Coghill et al., 2013; Clifford et al., 2016; Stelzle et al., 2020). As such, there was need to develop a sustainable intervention that would promote uptake of the screening services by this population. I then received funding from the Royal Society of Tropical Medicine and Hygiene (RSTMH) to support the integration of cervical screening into the HIV clinic as a way of promoting screening uptake and timely follow up. K4C also offered to sponsor my study as a master's project, and as such this Master by Research (MRes) forms part of the wider project to integrate cervical screening

services into the HIV care clinic. This dissertation focuses specifically on exploring the perceptions of the health workers towards the integration of cervical screening into the HIV care services and hopes to identify recommendations towards successful implementation of the integrated service. The research was conducted at a health centre III of a district in Uganda that is approximately 300 km from Kampala.

The cervical screening is conducted in a room adjacent to the laboratory (same building) and very close to all the other facility clinics. The room is about the size of an average bedroom; however, partitioned into two by a non-transparent green curtain to provide privacy during the 'intimate' procedure. It also has a large veranda just at the front of the room which acts as the waiting area for the women. When a woman comes for screening, they are welcomed into the first portion of the room, which mainly contains two or three chairs, a table and registers. This set up is not only to make people feel welcome, but it also provides a clinical confidential atmosphere for consultation about any reproductive health concern, in-depth health talks about cervical cancer prevention, the screening procedure etc. The patient, after verbal consent, is then taken for the procedure in the next portion of the room that comprises of a sink, a table with the screening equipment, an examination couch dressed in mackintosh (a waterproof cover) and a small trolley close to the couch.

The screening clinic operates as a 'walk-in' service with no prior appointments set for the day. As such, the screening attendance has a fluctuating a pattern and can be anywhere from one to 30 women on a single day. The attendance peaks correlate with staff training and periodic community outreach work and mass screening campaigns by K4C or other NGOs. The poor attendance is normally associated with poor weather conditions (heavy rain) and public holidays.

In terms of logistics, the screening service, as mentioned earlier, is supported by K4C and as such, they continuously supply the unit with all the screening essentials. Additionally, the service is not recognised as under the Ministry of Health; as such, the government does not budget for it in terms of staff and logistics (in case of stockouts). During the screening days (Thursday and Friday), there is usually a significant shortage of health care workers to run the health facility. For example, on a daily basis, there is only one midwife per shift (8am-6pm; 6pm-8am), running the maternity department (antenatal, labour and postnatal ward), one

clinician or nurse at the outpatient department and one or two laboratory staff. However, Thursdays and Fridays are the busiest days for the facility with additional clinics offered i.e. screening, immunisation, HIV and EID (Mother and baby clinic to eliminate HIV transmission). As such, a second midwife is usually rostered on, to cover the antenatal appointments (three to 30 women) while concurrently attending to any women in labour and the postnatal ward. Consequently, the health care providers are stretched to deliver quality services resulting in long waiting times for the women. Nonetheless, K4C facilitates a Ugandan volunteer to support the running of the screening clinic, and sometimes, there are one or two more volunteers who normally support the midwives in the other services. These volunteers are midwives or nurses who have undergone their respective training and are either awaiting their exam results and subsequent registration with the Ugandan Nurses and Midwives Council, or who are yet to find employment.

1.4 Aims and objectives

The aim of the research was to explore how to effectively integrate cervical screening into the normal routine HIV care services of the health facility, and as such, optimise screening coverage and timely follow-up amongst HIV positive women in care at the facility. In order to address this aim, my research had three key objectives:

- To explore the perspectives and experiences of health care providers towards the current screening service at the health facility;
- To explore the health care providers' perspectives on the integration of cervical screening services into the HIV clinic of the health facility; and
- To understand how the cervical screening program needs to be developed in order to ensure its effective integration as a normal routine service in the HIV clinic.

1.5 Structure of this dissertation

This chapter has presented an overview of the study context; more specifically, describing the Ugandan healthcare system, the current burden of cervical cancer within the country and existing cervical screening services. The literature on integrated cervical screening in HIV care will be reviewed in Chapter two, whilst highlighting research gaps and the need for my study. Chapter three gives a detailed account of the approach and methods used in the

research, including justification for the design. The findings and discussion will be presented in chapters four and five. Finally, Chapter six will present a summary of the study, state limitations, draw conclusions and recommendations for future work.

2 Literature review

2.1 Introduction

This chapter will provide an overview of cervical cancer, HIV and cervical cancer prevention services, with a focus on Uganda. It also serves to demonstrate what has already been researched in the areas of integration of cervical cancer prevention services into HIV care clinics, highlighting existing gaps in the research and the rationale for the proposed study.

I opted to use a narrative literature review which summarizes and critiques a collection of literature to provide the reader with a comprehensive overview of the subject in hand (Cronin, Ryan & Coughlan, 2008). After consulting a professional librarian, the following databases were chosen: CINAHL, MEDLINE, SCOPUS, Hinari and online portals of relevant organizations like WHO. Further literature was identified using Google scholar, and a secondary literature search of the already identified studies' reference lists was also used to ensure inclusion of additional relevant studies. Searches were run regularly to allow for emerging literature to be incorporated in both the literature review and analysis of my data. Search key words included cervical cancer, HIV, integration, cervical screening, experiences, perspectives, Uganda, resource-constrained settings, sub-Saharan Africa. I sought to include studies conducted in Uganda specifically, but also sub-Saharan Africa as a whole, so that the findings could be applicable to Uganda but also other resource-constrained settings.

2.2 Cervical cancer and HIV

Cervical cancer is ranked as the most common type of gynaecological cancer and the leading cause of gynaecologic cancer death in low- to middle-income countries (Ferlay et al., 2013; Fitzmaurice et al., 2015; Vaccarella et al., 2017). In 2012, 528,000 new cases and 266,000 cases of death from cervical cancer were reported, with 85% of these deaths stated to have occurred in sub-Saharan Africa (GLOBOCAN, 2012; Ferlay et al., 2013, 2015). Uganda is ranked seventh amongst the countries having the highest cervical cancer incidences and is also reported to have the highest cervical cancer related mortality rates at 15.6 % as compared to 13.8 % for East Africa and 8.2 % globally (WHO/ICO, 2010).

Infection with the high-risk or oncogenic HPV types is the main cause of pre-cancerous and cancerous cervical lesions (Wardak, 2016). Nearly 3.6% of women in Uganda are predicted

to be infected by cervical HPV type 16 and 18 (different strains of the virus) at a given time – which contribute to about 57.0% of invasive cervical cancers (ICO/IARC Information Centre on HPV and Cancer -Uganda, 2018). Other contributing causes of cervical cancer are co-infection with HIV, tobacco smoking, oral contraceptive use, infection with Chlamydia trachomatis and herpes simplex type-2, immune suppression, and certain dietary deficiencies (Baseman & Koutsky, 2005; WHO, 2010).

In a project evaluating cervical screening techniques in Uganda, HIV positive women were reported to have had a higher prevalence of the cervical precancerous lesions - grade 2+ than HIV negative women i.e. 12.9% vs 1.7% respectively (Bansil et al., 2015). The research findings on the association between HIV and cervical cancer propose that HIV positive individuals have a higher rate of persistent multiple high-risk HPV infections (Mbulawa et al., 2010) and higher incidence of both precancerous and invasive cervical cancer lesions (Pantanowitz & Michelow, 2011). Cobucci et al. (2015) attributes this relationship to an increased access to the anti-retroviral therapy (HIV medication) and the development of health care infrastructure that has lengthened life expectancy for HIV positive women, and thus exposing them to the risk of developing other AIDS-defining cancers. However, HIV weakens the natural cell-mediated immune responses that are required to clear HPV infection and thus increasing the likelihood of an HIV positive woman's cervical cells developing into premalignant lesions and advancing to invasive cancer (Stein et al., 2008; Odafe et al., 2013; Choudhury et al., 2016).

UNAIDS/WHO (2006) estimates that about 17.3 million women form almost half of the total number of HIV positive individuals worldwide and of these, 13.2 live in sub-Saharan Africa. Uganda is only second to South Africa where 2,363 individuals get infected with HIV every week. Currently in Uganda, as regards to UNAIDS 2019 data, 1.4 million people were HIV positive in 2018, and about 23,000 AIDS-related deaths were reported: with an estimated HIV prevalence among adults (aged 15 to 49) standing at 5.7%. However it is important to note that women are more affected by HIV than men, with 8.8% of adult women in Uganda being HIV positive compared to 4.3% of men. Additionally, HIV prevalence is almost four times higher amongst females aged 15 to 24 than males of the same age (WHO/Uganda Ministry of Health, 2017; UNAIDS 2018; 2019).

Sia et al. (2016) attribute this gender inequality in HIV/AIDS prevalence in Uganda to the gender differences in the distributions of observable HIV/AIDS risk factors (i.e., socio-demographic characteristics, sexual behaviours, and HIV/AIDS awareness) between women and men. For instance, the lower socioeconomic status of women predisposes them to transactional and intergenerational unprotected sexual relations that may increase their vulnerability to HIV (Beegle & Ozler., 2007; Mojola, 2011; Bandali, 2011; Njue, Voeten & Remes, 2011). Additionally, poorer and less-educated women may not be that knowledgeable about risks so as to adopt HIV risk-reducing behaviours (Pascoe et al., 2015).

2.3 Overview of cervical cancer prevention services

Cervical cancer can be prevented by public health programs such as HPV vaccination, screening women for pre-malignant changes, treatment and follow-up care at early stages of the disease (Jacqueline & Christina, 2000; Heydari et al., 2018). For example, in high-income countries with the introduction and implementation of these screening programs, cancer incidence has greatly reduced. However, countries with either no screening programme or lack of quality screening or low screening coverage, have registered a steady rate or even increased incidence of cervical cancer (Torre et al., 2016). According to the WHO, only 5% of women have been screened for cervical cancer in Low and Middle-income countries as opposed to nearly 50% percent in the developed countries (Orang'o et al., 2016). This is attributed to factors such as inadequate knowledge, a few trained and skilled health care providers, insufficient resources to conduct/sustain screening programs, minimal access to health care, ineffective and inadequate treatment, in low middle-income countries (Anorlu, 2008; Benard et al., 2008; Giorgi, Baldacchini & Ronco, 2014; Chidyaonga-Maseko, Chirwa & Muula, 2015; Ganesan, Subbiah & Michael, 2015; Akinyemiju et al., 2016; Leinonen et al., 2017).

According to the comprehensive cervical cancer control International Federation of Gynaecology and Obstetrics (FIGO), screening programs can only be successful if the following elements are present:

1. High coverage (80%) of the population at risk of cervical cancer.
2. Proper follow-up and treatment for those who are tested positive on screening.

3. Effective links between program components (for example from cervical screening to diagnosis and treatment).
4. High quality of coverage, screening tests, diagnosis, treatment, and follow-up.
5. Adequate availability of resources for the screening programs.

In 2014, the WHO developed a comprehensive cervical cancer control guide, which included: (1) primary prevention of the HPV infection among girls aged 9–13 years via HPV vaccination; (2) secondary prevention through the various cervical screening methods like Papanicolaou smear, HPV testing, and visual inspection of the cervix with acetic acid followed by treatment of the detected precancerous lesions and (3) tertiary prevention which included cervical cancer treatment and palliative care. The WHO guidelines for cervical cancer control recommend cervical screening as soon as sexually active females are tested positive for HIV, regardless of age, using any available cervical screening method and thereafter use of cryotherapy and loop electrosurgical procedure (LEEP) for treatments of precancerous lesions. In addition, HIV counselling and testing (HCT) has been recommended to be included into cervical screening programs, and vice versa, more so for the countries with high HIV prevalence (WHO, 2013; 2014).

The Ugandan Ministry of Health also developed a strategic plan to get more women screened in response to the high incidence and mortality from cervical cancer (Ministry of Health, 2010). The objectives of this plan included:

- Raising awareness around and advocating for cervical cancer prevention and treatment in Uganda.
- Reducing the incidence and prevalence of HPV in Uganda through vaccination of girls aged 10-14 years.
- Decreasing cervical cancer incidence by 50 percent through screening of all eligible women and treatment of cervical precancerous lesions.
- Increasing access to cervical screening and treatment services amongst eligible women aged 25–49 years by providing necessary screening and treatment services in both lower-level and higher-level health facilities.

However, policy implementation has been challenging particularly with the absence of trained personnel, limited funding, and lack of vaccines in rural and slum areas (Kirabira & Nagaddya, 2012; Mwaka et al., 2016; Ndejjo et al., 2016). These structural constraints are worsened by the fact that most Ugandan women lack knowledge of the risk factors for cervical cancer but also the significance of timely screening, early diagnosis and timely management of cervical cancer (Lyimo & Beran, 2012). Additionally, many Ugandans do not regard themselves to be at risk of getting the cancer and have significant fear of being diagnosed (Abdullahi et al., 2009; Lyimo & Beran, 2012; Twinomujuni, Nuwaha & Babirye, 2015). Collectively, these factors can expound in part the low levels of screening in Uganda and other African countries (Cervical Cancer Action et al., 2015; Kahesa et al., 2012)

The cervical screening guidelines in Uganda are based on a “See and Treat” method. Women aged 25 to 49 years are targeted for screening using VIA (visual inspection with acetic acid). Those with precancerous lesions eligible for treatment are treated using cryotherapy. The screening interval is every three years for HIV-negative women and yearly for HIV-positive women. Midwives and nurses are the primary providers of cervical screening and treatment (Ministry of Health, 2010). Unfortunately, screening in Uganda is inconsistent, absent in some areas or opportunistic i.e. not organised and screening can be done when the health care provider or patient request for it (Ndejje et al., 2016). Additionally, when invasive cancer is suspected, a very limited number of women would be subjected to a colposcopic-guided biopsy as colposcopy is mainly accessible at three high-level government facilities, specimens are only processed in only one government pathology laboratory and the country has very few pathologists. It also takes weeks, or even months, to get biopsy test results and pathology services (Nakisige et al., 2017).

2.4 Integrating cervical screening into HIV clinics

The WHO defines integrated service delivery as: “the management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system.” (WHO Technical Brief No.1, 2008:1). Several studies have investigated the acceptability, feasibility and significance of such integrated approaches of service delivery in resource-constrained regions (Mwanahamuntu et al., 2011; Kumakech et al., 2014; White et al., 2017). The key benefits

reported from these studies are that integrated approaches avail a wider range of women's health services for HIV positive women; promote cost-effective use of resources; increase client satisfaction and uptake of a range of sexual and reproductive health services; and improve the quality of care and efficiency in service provision.

Despite the well-known recognition of the importance of integrating HIV and cervical cancer prevention services, in developing countries this integration has been challenging due to poorer and inefficient health systems characterised by lack of clear policies, limited infrastructure, systemic issues related to scheduling appointments, insufficient drugs and clinical supplies, and inadequate and poorly motivated health care providers. Additionally, there are several concerns about disclosure of one's HIV status and resultant stigma in general outpatient settings, longer wait times, user fees and staff burnout (Moon et al., 2012; Ezechi et al., 2013; Matenge & Mash, 2018). Some studies have identified facilitators and recommendations to service integration including simple and low-cost interventions, electronic patient records, adequate staff training and supervision, well written guidelines on integration and involvement of male partners (Cooper et al., 2015; Phiri et al., 2016). However, there is a paucity of literature on the best approach/strategy for integrating cervical screening into HIV care services in resource-constrained settings.

In a study by Phiri et al. (2016) looking at strategies for successful implementation of reproductive health services into HIV care in a low-resource HIV clinic in Malawi, they employed several practices to fully integrate sexual reproductive health services into HIV care. In their experience, they incorporated a monitoring and evaluation system from the programme planning stage to ensure that integration does not overburden existing services and compromise quality of care; employed task-shifting to better distribute workload; and provided comprehensive staff training. Additionally, they incorporated the integration at low additional cost over routine care with use of electronic records to ease scheduling of family planning/HIV care visits. However, their study mainly focused on integrated family planning service delivery in the HIV clinics, with limited coverage of methods of promoting the uptake of cervical screening and how the staff and clients were notified about subsequent screening appointments. Additionally, from February 2012 to the end of May 2014, only 21% of the eligible female patients were screened which is still below the cervical screening target of the eligible population.

In this same study health education on family planning issues and cervical screening was delivered in an open environment (waiting areas) via health talks, flipcharts and posters. These health talk sessions were mainly to inform patients about their family planning services, method options, and cervical screening. More in-depth education was also available from healthcare providers if needed. This is consistent with a study by Bukirwa et al. (2015) which conducted 18 in-depth interviews with HIV infected women and six key informant interviews to assess factors associated with cervical screening uptake among HIV infected women at Mildmay Uganda. In this study, they reported that they focused on integrating cervical cancer related health education in the daily health talks delivered to the clients in the waiting area and clients were offered a more in-depth education and a chance to screen in the clinicians' rooms. However, they found that health education did not meet the knowledge needs of the women. The study reported that a number of respondents complained that health education had gaps and was not readily available nor well structured. The women preferred to be enlightened about the screening procedure, why they should do it annually even with negative results, and their options if diagnosed with cervical cancer. The respondents (women) noted that health workers only inform clients about the existence of cervical screening services and encourage them to screen without giving comprehensive information about the cancer and other reproductive health services such as family planning.

This raises questions in relation to the kind of information that would be adequate to meet the knowledge needs of the clients during the health talk sessions to facilitate more uptake of screening in an integrated clinic. No study has been undertaken on how health education has been managed to cater for the needs of the clients in such resource-constrained settings. However, literature has cited the barriers to such adequate health education in resource-constrained settings. For instance, Ports et al. (2015), attributed the gaps in health education to lack of proper training of staff, limited staff time and not having enough resources like information pamphlets. The respondents (HIV infected women and key informants) in a study by Bukirwa et al. (2015) suggested that the workload of staff coupled with inadequate staffing and the timing of the health talks impacted on the ability to deliver health education i.e. clients who attended the clinics later in the day did not receive the information as the health education was carried out only in the mornings.

Health education and offering a cervical screening appointment, as seen in most literature, is normally conducted by health care providers or community health workers. However, in a study by Pfaff et al. (2018), cervical screening was offered to all eligible women in HIV care by ‘experts by experience’ i.e., HIV positive patients who have been within the health system for a long time, are open about their HIV status and have shown exemplary practices in relation to HIV service health seeking behaviors and adhering to their HIV treatment. If the woman accepted the offer, she was accompanied to the screening room by one of these experts by experience. However, in Pfaff et al’s study there was no clear mention of the actual process of delivering support through this method; for example, it was not clear whether the experts by experience participated in the health talks, discussed their respective screening experiences with their peers or if they were expected to undergo cervical screening themselves in order to be selected to offer the service to other women. Additionally, there was no mention of their training nor remuneration. Nonetheless, several studies have investigated the use of this approach to overcome some of the barriers to cancer care in resource-constrained countries (see, for example, Mwanahamuntu et al., 2009; Herazo-Maya et al., 2015; Lim, 2015). In these studies, the experts by experience were referred to as ‘patient navigators.’ These patient navigation programs have proven to increase the uptake of cervical screening services and follow up rates for subsequent screenings (Wells et al., 2008; Robinson-White et al., 2010; Paskett, Harrop & Wells, 2011). The use of experts by experience is also a common approach in other service areas like drug and alcohol treatment, homelessness and anti-poverty initiatives.

In a qualitative study by Bateman et al. (2019) that explored the acceptability of patient navigators in Tanzania and also identified barriers and facilitators to cervical screening, diagnosis, follow-up care and treatment among clinicians and HIV positive women and clinicians, all the women were in support of the patient navigation program and they showed interest in contributing in such programs from where they could learn about cervical screening and help other women prevent cervical cancer, including escorting the women to the referral cancer institute for further management. However, most of them desired reimbursement, particularly to cover their travel expenses in many patient navigation programs for breast and cervical cancer screening (Asgary, Naderi & Wisnivesky, 2017), which is not unreasonable to expect. Additionally, all the respondents in the study by Bateman et al. (2019) agreed that patient navigation programs are an effective way to

improve awareness, increase uptake of cervical screening and follow-up treatment. These results are consistent with a quantitative study of HIV-positive women in Tanzania that found 97% of participants expressed a desire for the services of patient navigators such as emotional support, setting up appointments and explanation of medical terms. The majority of patients also preferred to be accompanied by a patient navigator for cervical evaluation and treatment. Nonetheless, Bateman et al. (2019), recommend that in order for such navigation programs to be successful, it is necessary to have standard operating procedures in place for referrals, communication and follow-through i.e. measures to support cooperation between the referral centre and the clinics and focal people to ensure that patients follow through with their appointments.

Another concern with the integrated clinics is the potential of increasing the waiting times at the facility. In qualitative studies by Kumakech et al. (2014; 2015) exploring perceptions and preferences of health care providers, policy makers and community members (both women and men) and village health teams respectively regarding the integration of HIV and cervical screening services; the respondents feared that screening integration would worsen the already long waiting times at health facilities. However, Phiri et al. (2016) report that after integration, they did not experience any changes in clinic waiting time and their patient flow was not adversely affected as they saw the same number of clients as before integration, suggesting that provision of additional services may not significantly slow client visits overall. Nonetheless, long waiting times at health facilities is an on-going and pervasive problem in understaffed health systems in developing countries such as Uganda (Deribe et al., 2008) and requires an improvement in staffing levels to absorb the extra load created by integration. Alternatively, the adoption of rapid and batch cervical screening technologies such as multiplex HPV DNA testing using CareHPV™ as a screening method, with a self-sampling option can potentially reduce the workload of health care providers in an integrated HIV and cervical screening program (Kumari et al., 2009). Additionally, Bateman et al. (2019) recommend for more staff training as a primary solution to improving patient care and decreasing wait times. With regards to addressing staff shortages, some of their respondents suggested that there should be permanent staff assigned to screening alone as opposed to all staff being trained in screening procedures, so that there would be individuals available to cover those who are absent.

In the study by Kumakech et al. (2014) highlighted above, most of the participants (health care providers and policy makers) felt that in order to address the issue of long waiting times for women at the integrated clinic, a team of health care providers should be put in place to perform the different tasks in the integrated clinic and should work together whenever possible in the same room, to promote a faster service delivery. Additionally, a few participants expressed their view that the strategy should be to book a few women per day for the integrated screening. This poses questions on how to book and coordinate client screening appointments/visits in an integrated approach, which I hope my research will help to provide an understanding of.

The study by Pfaff et al. (2018) on early experiences in integrating cervical cancer screening and treatment into HIV services in Zomba, Malawi, indicates that a modification to the existing HIV programme using an electronic medical record (EMR) was developed to remind clinicians when cervical screening was due, to limit daily numbers of referrals to match capacity and to notify clinicians to check if women went for screening when referred and alert clinicians to women who had a positive screening test but did not receive same-day treatment. However, what is unclear is how the appointments were managed or how many women were booked for cervical screening a day. Nonetheless, on comparing data from five months prior to the implementation of the modification of the EMR to six months after the intervention, the percentage of women who received cryotherapy the same day increased from 33% to 83%, but the monthly average of women receiving VIA screening from the HIV clinic for the first time showed little change (from 64 to 61 women per month). As such, the reminder system did not appear to have increased uptake from those who have never screened. Bukirwa et al. (2015) also reported that routine reminders and appointments for screening instead of relying on the patients to initiate the process would address the issue of a general lack of reminders and information on the screening schedule in the health education among those that screened only once. To date, no research has focused specifically on the use of records to facilitate first time screening, which is something that I will also address in this dissertation.

2.5 Summary

This literature review demonstrates that incorporating cervical screening into HIV services is beneficial and feasible; however, it requires an efficient health system with a structured approach. The review has identified a paucity of literature on the best approach/strategy for integrating cervical screening into HIV care services in resource-constrained settings. This is particularly in the areas of health education (the structure of the health talk and use of expert clients), screening appointments and follow up mechanisms for clients who have never been screened. It is these gaps in the knowledge that my research aims to help address.

As highlighted in the introduction chapter, this research was conducted as part of an RSTMH funded project with an overarching aim of integrating cervical screening as a normal routine service in HIV care in a case study health centre. This dissertation will focus on exploring the perceptions and experiences of health care providers towards the cervical screening service in the facility, its integration as a normal routine in the HIV care clinic and how best the cervical screening program can be refined to achieve effective integration in the HIV clinic. In doing so, it hopes to generate new data to inform interventions for the wider project i.e. implementation of the integrated service delivery.

The next section (Chapter three) will present a comprehensive account of my methodological approach and methods used in the research.

3 Research design and methodology

3.1 Introduction

This chapter discusses my philosophical assumptions and methodological approach. It also highlights the research questions and describes the methods used in the research. This includes a discussion of the target population, sampling strategy, interview process, data analysis and ethical considerations for this project.

3.2 Methodological approach

All research is based on some underlying philosophical assumptions about what counts as ‘truth’ in and of the social world, and how phenomena should be investigated (Weaver & Olson, 2006; Denzin & Lincoln, 2011). Therefore, it is crucial that these assumptions are made explicit and are congruent with my choices of methodology and methods.

Broadly, research paradigms can be classified into two major philosophical categories; positivism and interpretivism. Positivism is rooted in the ontological assumption of objective truth and the belief that the researcher is ‘separate’ from the phenomenon being investigated (Guba, 1990; Guba & Lincoln 1994; Hammersley and Atkinson, 1995). The reality is thus independent of social construction and knowledge is directly observed or quantified (Walsham, 1995). The positivist perspective posits that social life can be studied in a scientific manner in order to form irrefutable and objective truths that can be generalised across populations. It also emphasises on quantitative methods that are more about breadth than depth of data (Guba, 1990). As such, my study is not positivist – I am not seeking objective truth but rather an in-depth understanding of individual participants’ experiences and perceptions of the phenomenon from a subjective standpoint and within a specific context. This study thus fits with the philosophical assumptions of the interpretive research paradigm.

From the interpretivist perspective, social reality is not singular or objective (so it is not about hypothesis testing), but rather the world is shaped by people’s experiences and social contexts (Hudson & Ozanne, 1988; Carson et al., 2001). As such, researchers interact with the participants and establish their knowledge through the meanings ascribed to the phenomena studied. They thus use meaning (versus measurement) oriented methodologies

for the development of knowledge and this knowledge is context and time dependent (Rolfe, 2000; Reeves & Hedberg, 2003). Additionally, in interpretivism there are no 'correct' or 'incorrect' theories but rather these are judged according to how 'interesting' they are to the researcher and those involved in the same areas (Walsham,1993).

Congruent with interpretivism, a qualitative approach was most appropriate here to allow for an understanding of health care providers' perceptions and experiences with integrated cervical screening and HIV care services within a specific setting. Also, it was evident that there were limited existing studies through my literature review, specifically qualitative studies providing an in-depth understanding of how to effectively integrate cervical screening into HIV care services. I thus adopted a descriptive qualitative approach. According to Creswell. (2007), well-designed qualitative methods assist in understanding many areas of healthcare in which there are unanswered questions and uncertainty. Furthermore, "Qualitative research typically involves an in-depth and holistic approach, through the collection of rich narrative materials using flexible research design" (Polit, Beck & Hungler 2001: 469). As such, using qualitative methodology enables research participants to give richer answers than a survey would allow, thus yielding detailed understanding of participants' experiences and possibly providing valuable weight that could be missed by any other method (Burns & Grove, 2009; Earle, 2010; Creswell, 2012). However, as only small numbers of participants are investigated, this qualitative method is sometimes critiqued for being subject to researcher bias, the lack of reproducibility and generalizability (Punch, 2006; Burns &Grove, 2009). In this case however, the qualitative data complements the quantitative data of a wider project at the facility under study. Additionally, although my research does not claim to be generalisable, it may resonate with healthcare providers in other low-income settings.

I also adopted the use of first person in the write up of the dissertation as a way of pursuing a reflexive approach to the study (Smith, Flower & Larkin, 2009). Adopting the use of first-person makes my perspective and constructive role in creating meaning in this study more visible and also adds to the subjective experience congruent with my interpretivist approach and my insider perspective. Being able to locate myself in this study is important in ensuring an understanding of my part in it, or how I may have, as an individual, influenced the research process (Greenbank, 2003; Cohen, Manion, & Morrison, 2011; Bourke, 2014). As

such, I acknowledge myself and my experiences as an active player in this study. I also acknowledge that my position as the researcher and a colleague to the study participants will shape the findings of this study.

3.3 Methods

Following my interpretive approach, my research involved the use of face-to-face semi-structured qualitative interviews. The rationale for this is that semi structured interviews allow for more complex issues to be probed, answers clarified, and the researcher may be more successful in obtaining additional depth as well as sensitive information due to the relaxed atmosphere (Polit & Hungler, 1999). The interviews were thus conducted with a semi-structured question guide and prompts were used to encourage the participants to provide additional insights regarding their views and experiences of the cervical cancer prevention service in the health facility.

The study was guided by the following research questions identified from the gaps in the literature review: -

- What are the perspectives and experiences of health workers towards the screening activities at the health facility?
- What are the health workers' perspectives on integrating the cervical screening service into the HIV clinic of the health facility?
- How can the cervical screening program be refined, to achieve effective integration as a normal routine service in the HIV clinic?

The main issues discussed in the interviews were the health care providers' views on integration of the cervical screening into the normal routine of HIV care services and their experiences with the current cervical screening model in the facility. Whilst all the participants were asked the same questions during the interviews, I did not necessarily follow the exact order of the interview question guide, as it was guided by the flow of the conversation in each individual interview.

However, being both a colleague at the facility and the researcher, I acknowledge that my relationship with the participants outside of the research context and/or the way I am

perceived by them, could have influenced what they shared in the interviews. As such, in a way of mitigating this potential informant bias, I continuously informed the participants during the interviews that there were no right or wrong answers to the questions and that the interviews were mainly to capture their views and experiences with the service which could inform implementation strategies. I also mostly used open questions to ensure in-depth responses from the participants. Nonetheless, my position enabled me to conduct the interviews from a unique perspective – during the interviews, I was able to prompt and fill in gaps with the knowledge I gained through the experience of working with the participants. I was also able to ‘see more’ or notice interesting data due to a greater understanding of the specific context that the comments were related to (Brannick & Coghlan, 2007).

In order to create enough time for the interviews, the participants were asked to provide their preferred dates, time and location for the interviews. Most of them preferred the interviews to be conducted at the health facility, often before their shifts or during less busy workdays. Out of the 10 interviews, four were conducted at the cervical screening room, two at a different health facility (but still at the screening room), three took place at the refreshment area of the facility and one at the HIV triage area. Given the time constraints that participants faced, most interviews were kept within 30 minutes. All the participants agreed to be audio-recorded. As pertaining confidentiality and anonymity, all participants were anonymized by assigning them a unique identification number on completion of each transcript and all audio recordings were deleted after transcription. All data was stored on a password protected laptop on a secured network at the University of Salford, allowing access only to the researcher for analysis, after which it was also destroyed.

3.4 Population and sample

The target population were health care providers participating in provision of care in either the HIV and/or the screening clinic at the time of data collection and who consented to participate in the study. All the health care providers were offered inclusion regardless of their level of qualification or years of clinical experience.

This facility was chosen as it is the only community health facility offering both cervical screening and HIV care services in the district. Additionally, this study is part of a wider evaluation project by K4C in the same health facility.

My position as a colleague at the facility was invaluable when identifying appropriate participants for the research as I already had access to the interview sample. As such, I opted to use a purposive sampling approach which is a non-probability sampling method that allows for the researcher to choose participants who would provide “rich” data to meet the objectives of the study (Creswell, 2012). The sample is thus handpicked as they have the required characteristics for the study (Taylor, Kermode & Roberts, 2006).

In this study, I approached participants based on their role and experiences within the provision of care in the cervical screening and HIV clinics. Being a health care provider within the facility, I was able to easily identify the participants who were eligible to be included in my sample frame. These consisted of 16 health care providers. The sampling procedure involved selecting participants from this list by occupation and job role (staff or volunteer) in order to capture the diversity within the different designations. With receipt of permission letters from both the facility in-charge and the District Health Officer (see under ethical considerations), I approached the health care providers in person to invite them to take part in the interviews. Each of the invited participants was given a participant information sheet [see appendix II] detailing the purpose of the study and what was involved. This was followed up with the opportunity for the health care providers to ask questions prior to obtaining final consent. Consent was obtained for interviews in the form of a signed consent form [see appendix III]. Participation in the study was non-mandatory and participants had the right to withdraw from the study at any time without consequence and any data already collected from them or in relation to them would not be used in the study.

A total of ten participants agreed to participate in the research from the initial identified sample frame and these consisted of 5 midwives (3 of these were volunteers), 1 clinical officer, 1 nurse, 1 VHT, 1 records personnel and 1 who was both a nurse & midwife. Although the sample was diverse, as my interviews progressed it became evident that the same themes were emerging across the interviews and that a point of ‘saturation’ i.e. the point in which ‘no new information or themes are observed in the data’ (Guest, Bunce and Johnson, 2006: 59) had been reached in my interviews.

3.5 Position of the researcher

Since a researcher's culture and position possibly affects his or her project (Malterud, 2001), it is important for me to reflect on my position. As stated previously, I am a fully qualified medical doctor with five years of clinical practice in Uganda and participation in multiple research projects. During the period of this research, I was also the cervical cancer prevention project lead within the health facility under study. Throughout my career journey, I have been able to actively participant in research training programmes like the Good Clinical Practices (GCP) by NIDA Clinical Trials Network and the General Data Protection Regulation (GDPR).

I am also an awardee of the Royal Society of Tropical Medicine and Hygiene (RSTMH) small grant 2019. I was granted this funding to develop work on integrated cervical cancer prevention services in the HIV clinic, of which my masters' study is a subset of. However, during the research process, it got challenging to differentiate my masters' study from my wider funded project, as in the latter I was very interested in an action research approach (which was not practical given the time constraint of the MRes). As such, I concentrated on the qualitative interviews within the funded project for my masters' dissertation.

As the project lead of the K4C cervical cancer prevention and one of the cervical screeners within the health facility, I acknowledge my position as an insider - immersed within the sample as a fellow health care provider. As previously mentioned, this position proved beneficial in relation to accessing my sample – the health care providers – and I was able to obtain a deeper and rich understanding of their perspectives on integrated cervical screening and HIV care. According to Brannick & Coghlan. (2007), being an insider enables the researcher to 'see more' or notice interesting data due to a greater understanding of the specific context that the comments are related to. It is less likely for participants' responses to be misunderstood as the researchers are usually conversant with the language and jargon used by the participants.

All interviews in my study were conducted in English as all the participants are conversant with it and were taught in the English language. However, I acknowledge that some phrases arose that are particular to Uganda, but I feel these were not misinterpreted in any manner as I am a Ugandan and have lived in the same community before and during data collection.

However, the insider researcher must be aware of the potential for informant bias (Mason, 1996). The relationship with the researcher outside of the research context and/or the way the researcher is perceived may influence what participants share in an interview (Dwyer & Buckle, 2009). The insider researcher, if perceived as one who ‘understands’, may be able to gain more through having a rapport with the participants being willing and comfortable to discuss in-depth perspectives during an interview (Dwyer & Buckle, 2009). The contrary may occur whereby the participant may not ‘open up’ to the researcher for fear of being judged or its impact on their ongoing relationship (Mercer, 2007; Chavez, 2008). As such, being a fellow health care provider at the facility, despite the definite benefit of understanding the services on ground potentially placed me in a position whereby the participants may not have desired to mention any negative comments regarding the cervical screening service and its integration into the HIV care clinic. To mitigate my influence, before each interview I highlighted that the interviews were not in any way an assessment of their knowledge or capabilities, but rather an opportunity to share their experiences, beliefs and opinions with me. I believe that this helped to reassure the participants that this research was aimed at supporting the service and not appraising individual working practices. I also mostly used open questions to ensure in-depth responses from the participants. However, as discussed in chapter 5 under the strengths and limitations section, triangulation would have also been useful to mitigate any biases (Blaikie, 2000; Scandura & Williams, 2000).

3.6 Ethical considerations

Since the research study involves human participants and discussion of topics which the participants might find sensitive, ethical issues were considered as follows:

Firstly, ethical approval was sought from the University of Salford as part of a complex intervention/action to improve cervical screening services in Uganda under Knowledge for change, which was granted on May 3rd, 2019 (HSR1819-061) [see appendix V]. Once this was approved, I obtained permission from the District Health Officer (overall head of the health facilities in the district) and the facility in-charge [see appendix VI and VII]. With receipt of these permission letters, I approached the health care providers in person to invite them to take part in the interviews. As earlier stated, each of the invited participants was given a participant information sheet [see appendix II] detailing the purpose of the study, and

what was involved, and consent was obtained in form of a signed consent form [see appendix III]. Participation in the study was voluntary and participants had the right to withdraw from the study at any time, without consequence, and any data already collected from them or in relation to them would not be used in the study.

Where necessary, consent forms, transcripts, field notes etc. were scanned and stored on a password protected folder on secured network at the University of Salford. I did not retain any hard copies.

3.7 Data analysis

The qualitative data were analysed using thematic analysis (Liamputtong, 2009; Braun & Clark, 2013; Crowe, Inder, & Porter, 2015). Thematic analysis is an approach that allows for identifying, organizing, describing, analysing, and reporting themes found within a data set (Braun & Clarke, 2006). This method was considered for this study due to its theoretical freedom in provision of a flexible approach that can be modified for the needs of many studies providing a rich and detailed account of data (King, 2004; Braun & Clarke, 2006). As the researcher plays an active role in thematic analysis, identified themes are to an extent informed by the researcher's personal and theoretical standpoints (Taylor & Ussher, 2001). Considering my interpretivist approach and the fact that thematic analysis is a useful method for examining the perspectives of different research participants (Braun & Clarke, 2006), this method of data analysis was most appropriate for my study.

The phases of thematic analysis as outlined by Braun and Clarke. (2006) were used to guide the analytical stage in this study. Firstly, the analysis started with immersion in the data and involved verbatim transcriptions of the audio recordings, which I transcribed myself (Braun & Clark, 2013; Crowe et al., 2015). I feel being able to transcribe the interviews myself helped me to be more familiar with the data, and it laid a solid foundation for the data analysis. The interviews and transcripts were listened to and read several times for a general understanding of the data while making notes of my initial thoughts. The transcripts were then imported into the software package NVivo 12 from where coding of data was done, i.e. texts in each transcript that I found interesting and relevant for the study were organized into nodes. These nodes refer to *'the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon'* (Boyatzis,

1998:63). I then collated all the sections of the interview that fit into each node. In the third phase of analysis, I sorted my codes into themes. This was done by looking at my nodes and their associated extracts and then trying to collate the nodes into broader themes that say something interesting about my data. This was an iterative process - I kept moving nodes back and forth to form different themes. I then reviewed and refined the identified themes to form sets of themes that were coherent and distinctive. This was also iterative and was done by reading through all the extracts related to the nodes in order to explore if they supported each identified theme and to crosscheck if there were any overlapping themes. Nodes that brought some contradictions within a theme were moved into other existing themes where they fitted better. Some broader themes were split into separate themes. Patterns of themes appearing in the data were identified and clustered into groups which formed the basis for the thematic categories (Crowe, Inder & Porter, 2015). The thematic categories were organised into coherent broader areas under the research questions. Quotations in the transcripts that best illustrated the themes were also selected and used to illustrate the findings.

The following chapters present the findings and subsequent discussion of the study. The findings are presented in chapter four – which looks at the experiences of the health care providers with the cervical screening service, their perspectives on integration of the service as a normal routine in the HIV clinic and their views on how best to integrate the two clinics within the case study facility. Chapter five will then discuss my findings, the strengths and limitations and rigor of my study.

4 Findings

This chapter presents the findings under four main themes: (i) views on current service provision; (ii) the perceived benefits and challenges of the integration of cervical screening into the HIV care services; (iii) health education and ‘expert clients’ and (iv) screening follow-up mechanisms.

4.1 Views on current service provision

One of the key issues that emerged from the interviews related to the health care providers’ attitude towards service provision at the cervical screening unit. All the participants were very positive towards the service. For instance, the nurse below reports; -

It gives us pride. It’s something good. It gives a name to the community and xxx [case study city] in general since we are giving the service here and it’s welcoming to our side. For the patients, it is good. Reason being - people have been dying without knowing what’s killing them. Now that we have the service here, and it is free charge - that’s why you see we are getting numbers. If you could see the number of mothers who were screened within this facility, the numbers are appetizing. So, they have a positive attitude towards it. (HCP 6 – Nurse)

The nurse above hints on a couple of elements about the service. Firstly, in the study area, the facility is the only public health centre providing cervical screening services. This makes the case study facility unique within the region. This may explain why the staff had such pride in it. Secondly, the quote suggests a perception that the women also appreciate the service as its free and they can now be screened regularly. The fact that the service is free unlike in other institutions makes it more attractive to the women. The midwife below further reports that all the components of the service including treatment is free which is the best option for patients in a resource-constrained setting.

...and the good thing K4C brought this service free of charge, even though they find that the person is positive, they treat her free of charge and in other institutions, they do pay money for the treatment. (HCP 2 – midwife)

Additionally, the main burden they had in the region was a shortage of screening facilities and as such, people had to move to further places to be screened. Now that the local health centre provides this service, it was suggested that the women appreciate the fact that it is closer and hence reduces the cost of travel:

They love it, because you know cancer screening was like so much a big thing, and people had to travel to Kampala to know their status. But now that it's closer to us, they are happy. (HCP 3 - Midwife & Nurse)

Generally, the screening service at the facility has recorded an increase in the number of women being screened. This could be attributed to the short waiting time interval for the service:

The waiting hours are mostly not that long like in a big hospital. Mothers come and they are worked upon earlier and they go home in time. They don't usually complain about issues like overstaying for long. (HCP 1 – midwife)

In my study, the participants suggested that the women are 'handled well' during the screening process (as stated by the midwife below). This refers to the personal care people receive at the screening unit – that involves respect, addressing an individual's need(s) on a one-to-one basis, privacy and patient involvement in decision making. As one participant stated:

Most of them [patients] have been appreciating the service and they are not complaining about the painful procedure like how they used to talk about their previous screening experiences in other health facilities. It has not been our case at xxx [case study facility]. They are always handled very well, no one complains. (HCP 5 – Midwife)

This could be the other facilitator for increased uptake of the screening services. In the screening unit, each of the women who are referred or have shown interest to be screened have a private conversation with the health care provider. This is centred around the woman's concerns, assessment of her eligibility to get screened, the procedure, possible outcome and management. As such, there is a greater likelihood that all concerns expressed by the women are addressed during this one-to-one health talk and throughout the screening procedure. This helps to relieve anxiety, any discomfort or pain during the procedure thus promoting a more positive attitude towards the service and health seeking behaviour.

Participants also described how the service had supported early diagnosis, prognosis and better management of the patient. As one midwife stated:

To me, it is good, because one gets to know where she lies. If she's positive for precancerous lesions, she gets to be treated in time. And if she doesn't get to know her

status in time, it becomes difficult for this client to get treatment when she has the cancer. (HCP 10 – Midwife)

The health care providers also report that the service is cost effective. For example, the service uses the visual inspection under acetic acid (VIA) screening method which has proven to be very cheap and simple.

It's a simple procedure, and at a low cost. (HCP 1 – Midwife)

However, to maximise on service delivery, the health care providers suggested for certain infrastructure to be improved:

We need more things to use; a better bed, light, a screen whilst screening the woman such that she can't see what's happening on our side. And I think the sitting position, we need a more comfortable chair cause the chairs we are using cause a bit of pain. If you did it for a long time, you feel back ache. (HCP 6 – nurse)

4.1.1 Professional development

Another key aspect of the health care providers' experience with screening service was the professional development that they received:

I got to learn how to screen, which I never knew before. (HCP 6 – Nurse)

The service is good for me to enhance my skills as a nurse/midwife and to add on my experience. (HCP 3 - Nurse & midwife)

However, for a solid grasp of the knowledge and skill, it is of importance for the trained health care providers to be able to continually apply these skills. For example, one of the respondents described the importance of the experience gained from continuous screening:

Now like for example, last Friday I was on duty, and I couldn't leave this side to go and start screening the other side. But I see now I've really spent a lot of time without going to the screening clinic which I see is a gap because the many times you screen different cervix, the more experience you get. (HCP 9 – midwife)

Additionally, for this service to be of utmost benefit to the health workers in terms of professional development, refresher training courses and continuing medical education (CMEs) have been recommended by the participants to keep the staff updated.

Those refresher courses should continue and yeah maybe more CMEs to keep us updated because we might forget. Even if we repeat what we've studied. You see adults we don't read books. So, when you sit down and they make you remember, it really helps to understand more. So those trainings, the refresher courses, those CMEs should continue. (HCP 10 – Midwife)

However, some of the respondents hinted at challenges with the training that was offered. For example, the training usually occurs during normal working hours with staff trying to balance between work and study. Therefore, it was suggested that instead of more health workers being trained on cervical cancer prevention during their normal work duty rota, only a few should be selected for in depth training away from the workplace to promote better understanding of the topic and hence better service delivery.

Maybe, K4C should take some staff members for a training, for typical training rather than training on job. Cause it is a lot. These things of training staff on job is not easy. We need a lot of theory and a lot of practical. If there's a chance of K4C to support some staff members from the facility to have at least enough time of training in specifically in cervical cancer. (HCP 10 – Midwife)

4.1.2 Sustainability of the service

In the case study area, cervical screening services is conducted by NGO health clinics at a cost but with free screening during village outreach activities. However, as previously stated, K4C collaborates with the health facility under study to provide free cervical screening and treatment services. Their contribution is in terms of training health care providers, provision of consumables and volunteers to support the staff conducting the screening on the busy clinic days. As such, for the integrated clinic to be effective, it is important to consider the sustainability of the screening service.

Currently, most of the respondents were uncertain about its sustainability at the facility in case the partnership with K4C comes to an end as the midwives below state; -

But, the moment K4C comes out of it, I know there will be some big gap. I think it would continue, but not the way it has been moving like the way K4C has been doing it. This is because now, most of the support is coming from K4C. one thing is about labour, people working in it, the things we are using ... but the truth is it will really stop. That's the truth because now, like us, we are supported by K4C to go to the field, talk to these mothers, health educate them, to come and do the screening, so the moment K4C pulls out, there is nothing that would motivate us to go to the field. (HCP 5 – Midwife)

If there is continuous supply of resources and there's human resource, we can maintain the service. Yeah, the only challenges are two, human resource and the supplies. (HCP 10 – midwife)

The midwives above highlight the challenges of the service that would need on-going financial resources for its continuity i.e. to enable a continuous supply of consumables and provision of staff training, incentives for the volunteers and occasional maintenance. As K4C's core values centre around ethical, sustainable and mutually beneficial improvements in healthcare, infrastructure and the capacity of staff, this service can only be sustainable if there is a proper collaborative system put into place to continue supporting it.

As such, most of the respondents recommended integration of the cervical cancer prevention project into the facility as part of the normal services provided by the Ministry of Health to achieve sustainability. It was suggested that if the service was part of the Ministry of Health, the consumables, maintenance and human resource needs could be sourced from the public sector:

If it is integrated with the system, the ministry, it can stay. yes, they should integrate it in the system. Then the logistics can be ordered through them (ministry of health). Even it would not be an added extra duty as we say. For us here at xxx [case facility] we say that it's added because there's nothing done in other health centres but if it is in the ministry, even when you're given a job, you know there's immunisation, there's cancer screening, etc so it's you to re-organise yourself to the system. (HCP 9 – midwife)

However, it may be challenging to integrate the service within the ministerial services in the immediate future given the inadequate resources and perhaps other 'urgent' health concerns considered by the Ministry. However, to achieve better chances for sustainability of the project, the participants suggested very minimal running of the program by K4C. It should be able to be fully run by continuous rotation of the trained health workers in the screening unit, such that it becomes a routine in the health facility and the service fully integrated into the unit:

The best thing is interchanging, not like Y (doctor) was there screening, Y will come back for screening, Z (midwife) should come back for screening, no, can someone from xxx (the health facility) go in for the whole day, for that procedure today without anyone from K4C? something like that. Then next time another person goes in; like you come in like a by the way, not like it is compulsory for you people to open. So that this thing, when you are out of it or absent, it can still go on. Even I think it should be made compulsory that, let all the health workers who were trained to participate in what they were trained. Like if you were trained, can you show what you were trained

so that when maybe they are not around, these people have already picked interest to do what they were trained for, that would be the best thing.
(HCP 5 – Midwife)

The recommendation by the midwife above about rotating staff in the screening clinic might be challenging as like in many health facilities in low resource setting, there is a shortage of staff in the facility running many services concurrently. As such, the participants acknowledge the significance of additional health personnel to support the cervical screening service:

Maybe adding more health workers on the screening like to ease up the work, like it should be so fast not like few people to work upon it. That's the only thing I'd do to improve it. (HCP 5 – midwife)

And if it would be possible, we would need more reinforcement of staff on those heavy days, like Thursday and Friday as it's when we get the most of mothers.
(HCP 3 - Nurse & midwife)

The nurse/midwife above cites the need for more staff support on Thursdays and Friday as these are the days in the facility with several busy clinics i.e. immunisation, HIV, (Early Infant Diagnosis) EID and cervical screening clinics, and yet currently only about four staff on duty are expected to effectively run all these services concurrently.

4.1.3 Gender concerns

Another key theme that emerged from the interviews in relation to experiences of service provision related to gender. More specifically, the interviews raised concerns about embarrassment and stigma associated with undressing for screening and health education respectively in the presence of the male staff:

Being a male nurse, I need to explain myself more to be allowed to screen them. So, it's still a challenge with things of privacy since they are ladies but at least when I explain they get to understand me and allow me to do the screening. (HCP 6 – Nurse)

From the experience of the male nurse above, it was suggested that most of the women would agree to be screened by a male health care provider when they are well informed about the procedure.

Participants also highlighted possible fears amongst women to have a health talk about cervical cancer prevention in the presence of men. This could possibly be attributed to stigma associated with the cancer:

First and foremost, one thing to change is to separate the women from the men during ART clinic health talk, cause, you know there are those fears. They don't want to be picked from the rest, that maybe come for screening. Others have the fear that they could be having the cancers themselves, so, if at all they are separated from men, I think they can talk what is on their minds. (HCP 7 - Records personnel)

The health care provider above suggests that this separation is necessary to provide a conducive environment for the women to open-up and discuss their concerns in the absence of their male counterparts.

4.2 Perceived benefits and challenges of the integration of cervical screening

The second key theme in this chapter focuses on the perceptions of the health care providers towards the integration of cervical screening within HIV care.

All the participants were positive towards the integration of cervical screening services within a HIV clinic. For instance, the midwife below highlights how it would support the follow up of the women, minimize transport costs and increase access for cervical screening services during the HIV care visits:

It is good because with ART clinic when it's an ART clinic day, you get more clients which is not easy on a normal day because these people live in different places but because this is a gathering centre where they come to pick their treatment, it is very good for this client to have all services at once and she goes back rather than giving her a return date that come back on this date which is hard on transportation. In Africa, people have many challenges on transportation, so she may not come back if you give a different date. But if you put services together, both ART and cervical screening, it is okay. It actually reduces on the transport costs for the client. (HCP 10 – midwife)

Additionally, as HIV positive women normally frequent the health centres for their drug refills, integrated service provision offers an opportunity for them to access cervical screening and the associated family planning services more regularly during their visits.

In the case when screening is integrated in the HIV clinic, it could help the health care workers provide same day appointments for both services thus overcoming transport costs, follow up challenges and time away from other responsibilities for the women. As one midwife stated:

just know mothers no longer have to move from one place to another; now they just come for many things within one place, without wastage of time and they have liked our services so much. (HCP 2 – midwife)

Integrating services is time saving, as the women can access all the required services from one facility instead of looking for services that are scattered in different locations or even visiting the same facility on different days for different services offered.

Another perceived benefit of integration is the provision of a better means of record keeping – having all the patient’s details in one facility. This helps clinicians to have a better picture of each of the patients when presenting with any concerns:

And if it’s connected to the ART clinic, anyway, then everything is in one case and you even have it in one folder you can treat the person as one. And it’s better to have all the data in one clinic and not spread all over xxx [study area] clinics. (HCP 1 – midwife)

One of the most frequent perceived benefits by almost all the participants is the improved targeting of the women at high-risk for cervical cancer:

It’s a good thing to make cervical screening a routine in ART because these women, their immunity is suppressed; their bodies have some cells that don’t function as well as in those without the virus. So, they have a higher chance of getting the cancer. It is therefore good specially to tell them to be screened every year. (HCP 4 - VHT, Peer mother)

Integrating cervical cancer prevention care into the routine HIV care services provides an opportunity to screen this population. If both the screening and HIV care clinics are integrated, it would promote a more aggressive screening schedule recommended by WHO and minimise on the missed opportunities for screening during their numerous visits for drug refill or medical reviews.

Despite all the above perceived benefits of integration by the participants, a number of participants also discussed the challenges to this form of service integration. For example,

they were worried about the increased responsibilities and their limited staff numbers to run such a service, and resultant effect of the prolonged waiting time on the women:

Then to the staffs, it was an issue that it was an added activity for them. Other health facilities don't have such. But for us we have this added activity, it is not much rejected but they say it is added... it's because of being few. If we were many, it wouldn't be having problems. Now like for example, last Friday I was on duty, and I couldn't leave this side to go and start screening the other side. (HCP 9 - midwife)

Currently, the staff at the health facility, though they appreciate the benefits of the service, they view it as an added activity which can negatively impact on their workload.

Following the concerns of increased responsibility on their already significant workload, some of my research participants proposed the development of a staff duty rota for the screening clinic. It was suggested that this would help to distribute staff to cover all clinics:

... it would help to have one staff fixed on the rota specifically for the cervical screening and the rest in the other departments. (HCP 1 – midwife)

The participant above suggested that one staff be allocated on the rota for cervical screening. This would ensure that when a woman visits the screening clinic, the service is ongoing hence she's able to be screened and then proceed to the next service faster.

However, others suggested that to overcome the challenge of very busy screening days, there was a need for the service to run on a daily basis:

What I would change is the dates. Let it run weekly, like a whole week every day. I'd say if it ran like all days of the week, Monday to Friday, it would be good instead of packing so many women for screening in just two days. (HCP 3 - nurse & midwife)

The nurse/midwife suggests that if the cervical screening service was spread out throughout the week, this would reduce the workload on Thursday and Friday, a concern also raised by the health care provider below:

The clinic runs for few days in a week and runs concurrently with other clinics, like for example the ART clinic on Thursdays, so you find yourself occupied in ART and you're not able to come and screen in time. (HCP 3 - Midwife & Nurse)

There is thus a potential that integration would prolong the waiting time of the women at the unit which would negatively affect service delivery.

4.2.1 Limits to the current target screening population age

Another key perspective to the integrated clinics that emerged from the interviews related to the limitations of the set target screening population. For instance, the midwife below states:

It's not great practice to stick to [Ministry] guidelines because some people here start practicing sex at an early age. So, when you start at 25 years you may miss out this person who started early and yet she has multiple partners, and she may even be suffering from this condition without her knowing. And now because we are targeting 25 years, you miss out some people. So, me I think they should change the age of 25 to at least less. (HCP 10 - Midwife)

As seen previously, HIV positive women are at a higher risk of developing the cancer and as the midwife above states, it would therefore be appropriate to consider screening this population at an earlier age. Almost all the participants suggested for 18 years to be the target screening age in the integrated clinic. For instance, one health care provider stated:

There's no target group for screening amongst the HIV positive women in xxx [case study facility] but in case we are to establish one, maybe we could establish the age and we say maybe starting at 18 years going above. (HCP 5 – Midwife)

Nonetheless, the health care providers also suggested other factors that would prompt them to refer a lady to be screened; -

...depending on the presentation. Like abnormal vaginal discharge, some itching, something to do with vaginal problems we could send those ones too for screening. (HCP 9 – Midwife)

If a lady is having PV bleeding, which is on and off, recurrent and we have tried to control it and it has refused. So, despite other conditions, we can do the screening. (HCP 8 – Clinician)

The health care providers above mention that if a woman presents with vaginal symptoms as listed above, this could also warrant screening. In my experience, this also helps the health care providers with certain diagnoses during examination of the cervix. For example, a lady who presents with recurrent bleeding, the screening could help distinguish any benign lesion from a cancerous one.

4.3 Health education and ‘expert clients’

Health promotion and education is vital for effective service delivery. In the facility under study, awareness-raising activities are conducted at outpatient clinics’ often in waiting areas which focuses on raising awareness on disease prevention methods and the promotion of available services offered by the health facility.

The interviews highlighted that health education and understanding of the screening purpose were perceived to be vital by all the participants to encourage continuous uptake of screening. For example, the midwife/nurse below reports on the significance of a “good” health education towards positive cervical screening seeking behavior:

You know, actually these ladies, if they are given a good health education and they understand the reason why they are screening, they’ll do it lovingly especially knowing the risk they have on getting cervical cancer. (HCP 3 - nurse & midwife)

This health care provider is trying to convey that when the women are given comprehensive information about cervical cancer, they are empowered to make decisions about their health resulting into them taking a personal initiative to be screened. The nurse/midwife uses the adverb ‘lovingly’ to mean the desire developed by the women to be screened equated to better health-seeking behaviour.

Most of the participants also suggested that the women are highly responsive (as seen by their attendance) after the health talks, as one nurse/midwife highlighted:

The turn up of the women after the health talks in the ART and the immunization clinics is good. The women are responsive. (HCP 3 - nurse & midwife)

However, the health care providers were concerned about when would be appropriate to introduce health talks about cervical screening to HIV positive clients. As these women are already vulnerable to other stressors, some of the participants suggested it would be more appropriate to introduce the topic of cervical screening to a newly diagnosed HIV positive woman at least one to three months after diagnosis. This gives the women time to deal with the new diagnosis and related treatment requirement, rather than overwhelming them with additional screening requirements, as the two midwives below stated:

I think everyone will be tested for HIV and if she's positive should be counselled about cervical cancer within the first maybe three months, probably not in the first day of the testing because she faces other problems at that time, the shock is still, hmm, like the emotional part is not ready to get on something else. (HCP 1 – midwife)

It's really very hard to talk to a newly diagnosed HIV positive woman about screening. It's better to first counsel them about her positive results and drug adherence, then send them home with the ART drugs. Of course, you can inform them, when you are coming back for the refill next month come also ready to take the cancer screening. Someone goes home, first recovers from that word you're HIV positive, then next month she comes when she's ready to take more drugs and attend any other essential HIV care services. So, I think we should give them a month. (HCP 9 – midwife)

Another concern expressed by all the respondents was who would be best to deliver the health talks. Most participants considered community health workers, commonly termed as VHTs (village health technicians) as the most appropriate people to deliver the health talks. VHTs are defined as uncertified health workers who have received some form of training relevant to the given intervention to help them perform functions related to healthcare delivery.

According to my research participants, VHTs are preferred to give the health talks due to their established rapport with the community members. For instance, the following respondent states:

We have community health workers/VHTs at the ART clinic. Those could be a better option cause those community health workers are familiar with the clients and the clients are okay with them. So, if at all, they are the ones to pass on the message to the clients, then there would be no cause for alarm. (HCP 7 - Records personnel).

The health care provider suggests using community health workers would thus promote more informal and friendly in-depth discussions on cervical cancer prevention. Nonetheless, several of my research respondents suggested that it may be best for the health talks to be conducted on a collaborative basis, as described by the midwife below:

Most times I say cooperation is good. Cause if the VHT, you know the VHTs have been very helpful. If they are there just seated [the other health workers] and the VHTs give the talk to the women, it is very good. Then if the health worker also tops up to the voice, I think this thing would sound more beautiful than if only left to the VHT. Cause others may think the VHTs don't have much information, but if all of them they cooperate, she talks and then all of them they stand, the VHT talks about

her part, this one talks about her part, everyone, I think the voice would be heard so good. (HCP 5 – Midwife).

Another midwife preferred the idea of a two-stage process of collaboration with the community health workers:

But I think the VHTs can tell them that there is cervical cancer screening and give them some bit of information. So, but when they come to the screening room, or in the doctor's room, we can feed them with a lot of information on cancer screening, but the VHT should be the first person to let them know. (HCP 2 – midwife)

As such, two forms of collaboration were proposed by the participants for the health talks:

- 1- The health team delivers the presentations together in one sitting with the clients.
- 2- Conducting two consecutive sessions of health education

The latter involves the VHTs doing the general awareness-raising and then the women interested in the screening are directed to the screening clinic from where they would be given an in-depth understanding and counselling.

In addition to the use of VHTs and health workers, the participants were also optimistic about the use of experts by experience or 'expert clients' to promote awareness-raising. As highlighted in the literature review, expert clients are HIV positive patients on treatment (anti-retroviral therapy) for a significant period of time, who are open about their HIV status and have shown exemplary practices in relation to HIV service health seeking behaviors (e.g., adhering to their HIV treatment). These individuals volunteer to provide information to others based on their own experiences.

The use of expert clients in health education was reported by all participants to have the potential of increasing the attendance rates of women for screening, as stated by the midwife below:

Basically yes, there would be an increase in numbers of women screened with the use of expert clients. (HCP 5 – Midwife)

Furthermore, integrating testimonies from the expert clients during the health talks was proposed as another way of counteracting many of the myths and misconceptions around cervical screening. Some of the misconceptions that participants referred to included concerns that screening involved cutting out the cervix or heightened risks of getting cancer.

They also reported women were anxious about possible risk of becoming infected during the procedure as they assume health workers use the same instruments on all women without sterilization. Participants also highlighted that some of the women they meet are fearful of pain and discomfort during the procedure. It was felt that the expert clients had an important role to play in dispelling some of these myths:

And I think there are some rumors about the screening like we've heard that we take the cervix out and put it in a glass or a And examine it or we really burn something so there are strange rumors that are not true and if there's an expert client who has experienced or attended the screening, she can further explain what really goes on and how it feels, if it's painful or not and it might be good if someone is raising that awareness. (HCP 1 – midwife)

Cause they think instead we are worsening their situations. They think we use the same instruments from the other person to the other second client and they think we are transferring these infections to them. So, they think, instead we are the ones causing them to develop cervical cancer. (HCP 10 - Midwife HCP)

As above, the need for appropriate training and collaboration was highlighted, with most of the participants suggesting that the use of expert clients in health education would be more effective if they were trained and also worked in collaboration with the community health workers;

But to me, these clients would work best if we can maybe be there to add something, and it would be better for us to give them knowledge, what to tell their peers. That would be the best like how we hear of peer mothers³, it's the same thing to expert clients. It would even be best, if they had the education talk with the VHTs and they sat next to them and they said I attended the screening, if you have any questions don't hesitate to ask me. (HCP 6 – Nurse)

Collaborative health talks would ensure that accurate and consistent information was being provided, but also ensure that expert clients were not contributing to cervical screening myths. The midwife reports that:

But because this thing is still new, the so-called cervical cancer screening is still new, even the expert client in HIV still fears being examined. And more negatives will come

³ Peer mothers are trained mothers, who work alongside health care providers to offer support and education to their peers mainly in PMTCT (prevention of mother to child transmission of HIV) services; such as safer feeding options for infants and nutritional guidelines for women living with HIV.

if these people are not informed very well. Like if they don't have enough information, then when they give out information which is not clear, it will affect the patients, and this will really be not good to them. (HCP 10 – Midwife)

The midwife above highlights the importance of sensitising the expert clients on cervical screening to avoid the dissemination of inaccurate information.

Although the use of expert clients was viewed positively, participants also reported possible challenges with the use of expert clients in terms of facilitation. Facilitation in this regard refers to something the health facilities can give to these expert clients to motivate them to do the work, more like an incentive. The clinician below states that the health facility has few expert clients because of the issue with incentivisation:

The facility only has a few selected expert clients because of the issue of facilitation. Otherwise, if it were not because of that, we would have more expert clients. (HCP 8 – Clinician)

What the clinician is referring to here is that the health facility lacks the resources to remunerate/support meaningful involvement of more expert clients, and hence it is challenging to receive the support of many of these women in overcoming the barriers of screening. However, the participants suggested simple reimbursements or incentives in terms of refreshments, privilege (being worked on first), money for transport and phone call charges, might be appropriate:

Motivation for the expert clients is also another challenge. Because they'd ask you for transportation, cause they've to make meetings. Ah, call their fellow women and have a meeting, so that they explain more about the cervical cancer screening. So, this expert client will request for some small motivation, as in transportation, refreshments for those people who have come for the meeting and even her time because she'd be doing other activities at her home. (HCP 10 – midwife)

Maybe you can give them a bottle of soda and they do that work for only that day and they should be worked on first; like when an expert client comes, before others, they first work on that person, an expert client, then after they work on other people to give the expert clients some time to meet the others. And it's better if there are many expert clients such that they can alternate. Not having only one expert client every Thursday. (HCP 2 – midwife)

However, it is currently very challenging to evaluate what sort of remuneration would be considered adequate and ethical for these clients.

4.4 Screening follow-up mechanisms

The second key issue that emerged from the interviews relates to the need for an appropriate follow-up mechanism, specifically a notification and/or a reminding system to alert both the clinicians and the women on their due screening appointments and thus facilitate timely initial and subsequent screenings.

The health care providers highlighted the significance of clear documentation on each of the client's HIV drug refill clinic review files. This would promote vigilance and notification of the clinicians of the cervical screening service plan for each of the women in the proposed integrated clinic as mentioned by the midwife below:

I think the moment the clients go for the screening; it should be documented in their files - screened this year. So documentation would be very good because when another health worker is not around, this person will read and see, hmm, this person was screened, then this one is set to be given treatment and the one who has not been screened, or maybe in the file there is nothing to indicate that the woman was screened, this person would be sent for the screening. That means there will be someone to check, okay this person was not screened, yet she's eligible. Let me tell her about screening and refer her immediately. (HCP 5 – midwife)

Currently at the health facility, the women are handed small personal result slips after cervical screening that contains their results and next screening appointment dates. However, when they attend their routine reviews at the HIV clinic, this information is not included in their main records (files) hence it is difficult for the health workers to trace when a patient is due for screening. As such, as the participant above suggests that in order to resolve this issue, it would be important for the women's records in the HIV clinic to also reflect the screening results of each woman. The clinicians in the HIV clinic would thus have the duty to liaise with the screening unit in order to update each of the women's files.

However, as the women are meant to be screened annually but make numerous visits to the HIV care clinic for medical reviews or drug refill, participants suggested that it may be challenging for the clinicians to track down their screening history from their files. As such, some respondents recommended an alternative record reminder system, as stated by the midwife below:

Or better yet, you can just design for them the cards, that show their yearly screening history. And the mother should move with that card or even it can be filled and like

put in her ART file. That one can help you, every time a client comes, her screening result is documented in that card, that can be a good idea for easy follow up.
(HCP 2 – Midwife)

This midwife proposed designing a card to be used specifically for the integrated service delivery in the HIV clinic. This card would then be attached in each patient's HIV care file/records, and it would indicate the client's screening history. So, in the case a client has had her cervix screened, she would then present her result slip to the clinician in the HIV clinic who then updates her screening card to reflect on her screening results, management plan and subsequent screening date. The next time she comes in for her routine HIV care appointment, the clinician would be able to crosscheck on the screening card to confirm when she is next due for screening or if she is eligible to be screened. Additionally, following the use of cards for the monitoring of the patients' viral loads in the HIV clinic, the health workers recommended that the screening card could be designed in a similar format as these cards to promote the integrated service delivery, as one midwife highlights:

And if maybe you can get a card which is big enough to be attached in the file just for cervical screening, like the ones we have for viral load. Cause when you're opening, you see when the woman last had the viral load testing, then when you want cancer to be as viral load, you also see is this one yet due? You should make a card that should be put in their files for those who have already screened and the date they screened. So, when you're reading through the card, this one was screened in June last year, so is due for more screening in June next year. So, if it's May, tell her next month we are going to screen you for cancer. When you come, come prepared for the screening.
(HCP 9 – midwife)

The respondent above also mentions another interesting concept on the issue of reminding clients in advance about when they are due for screening. This is important as the women can then plan appropriately for their screening appointment date.

In addition to the use of cards, a number of participants felt that it was also essential to develop a cervical screening appointment system for the women receiving HIV clinic care services. The participants suggested the use of appointment books to facilitate this as the midwife below states:

Or another way, what I think, maybe we should formulate an appointment book whereby we should have a page for every month in every year. Every month and every year. (HCP 10 – midwife)

Currently, as discussed in chapter one, the cervical screening clinic operates as a drop-in service, with no scheduled appointments. The health care providers in the screening unit thus do not know how many women will attend the clinic or even who is due for screening from the HIV clinic and would need follow up. As such, it is challenging to plan effectively for the clinic. The use of appointment books would help notify the health workers beforehand of the women due for screening and thus promote effective follow up and timely screening appointments.

4.5 Conclusion

Overall, this chapter has looked at the experiences of the health care providers with the cervical screening service and their perspectives on integration of the service as a normal routine in the HIV clinic. It also presented the health care providers' views on how best to integrate the two clinics within the case study facility.

The findings show that the health care providers have a very positive attitude towards the screening facility and appreciate the need for its integration in the HIV clinic. However, they recognised the need for improved conditions including increasing the number of staff, setting clear guidelines on target screening population and integration of the service under the Ministry of Health to ensure sustainability of the service.

It further revealed how clinicians, VHTS and expert clients can collaborate to deliver comprehensive cervical cancer prevention services in the HIV clinic amidst the challenges of limited resources. The chapter finally highlighted a provider-initiated screening follow-up mechanism to promote timely initial and subsequent screenings.

5 Discussion

5.1 Introduction

This research explored the perceptions and experiences of health care providers towards cervical screening service provision and its integration as a normal routine service in the HIV care clinic of a resource-constrained setting. This section discusses my findings in relation to existing literature. It does so under two sub-headings: (i) health care providers' perspectives and experiences with the screening service and (ii) proposed strategies for effective integration of the two clinics. I then discuss my epistemological strengths, limitations and rigor of the study.

5.2 Health care providers' perspectives and experiences with the screening service

The findings show that the health care providers have a positive attitude towards participation in the screening activities at the facility which is in agreement with what Obol et al. (2021) found among health workers in rural health centres of Northern Uganda. In my study, the optimism was due to the fact that most of the health care providers have been trained in cervical screening and they considered it an opportunity to improve their skills which concurs with Obol and colleagues' study. In their study (Obol et al., 2021), they suggested that health care providers trained in cervical screening are more likely to have positive attitudes towards participation in cervical cancer prevention activities.

Attitudes of health care providers play a crucial role in patients' health care experience and can have a subsequent impact on their future health care seeking behaviours. Perceived negative attitudes of health care providers can be a major deterrent for those seeking care (Majrooh et al., 2014; Ibrahim et al., 2014). For instance, in a systematic review by Jonas et al., (2017), healthcare workers' negative behaviours and attitudes were considered unlikely to encourage women to access and utilize sexual and reproductive health services. As such, given the role health care providers play in delivering health education about cervical cancer, there is need to improve coverage of cervical screening training for health workers to promote positive attitudes.

My study further reports (stated indirectly by the participants) that HIV positive women are willing to be screened for cervical cancer. This is in agreement with Ezechi et al's., (2013) study that reveals a relatively high cervical screening acceptance rate among HIV infected women in routine care in Nigeria. In my study, the acceptability was attributed to the short waiting time intervals, service being free of charge, delivered with principles of respectful care and being close to the community. This concurs with previous studies that suggest all the above as facilitating factors to utilisation of the screening service (White et al., 2012; Ezechi et al., 2013; Bukirwa et al., 2015; Matenge & Mash, 2018).

Additionally, the health care providers were optimistic towards integration of the current cervical screening service into HIV care. This is consistent with other studies on integrated cervical cancer and HIV care (see, for example, Kumakech et al., 2014; 2015; Sigfrid et al., 2017; Pfaff et al., 2018).

This study also reports on many perceived benefits of integration. These include the view that HIV and cervical screening integration would promote access and uptake for cervical screening services, minimize loss to follow up of women scheduled for HIV and cervical cancer treatment, and it is time and cost saving for the women. These benefits of an integrated approach to HIV and cervical screening expressed by participants of this study concur with those observed by Kumakech et al., (2014); (2015) and White et al., (2017).

However, also consistent with previous studies was this study finding that almost all the participants perceived the integrated service as an added activity which could negatively impact on their workload. Increased workload was thought to lead to negative consequences of prolonged waiting time for women at the health facility. Many other studies have also cited increased responsibilities, shortage of staff and its resultant implication of low morale and staff burnout (Kumakech et al., 2014; Cooper et al., 2015; White et al., 2017).

5.3 Proposed strategies for effective integration of the two clinics.

Following concerns arising around sustainability, the limited number of health care providers, health promotion and the target age group for screening in an integrated approach, the participants suggested a couple of strategies for effective implementation. These will be

discussed under four sections: (i) health education strategies, (ii) Guidelines, (iii) appointments and follow-up approaches, and (iv) Government support.

Health education strategies

My study recommends more comprehensive health education on; cervical cancer and purpose of timely screening in order to promote screening uptake amongst this at-risk group. This is consistent with other studies that show an increase in cervical screening rates with more awareness-raising interventions (Papa et al., 2009; Ezechi et al., 2013; Abiodun et al., 2014; Musa et al., 2017).

According to Ackers et al. (2018), basic communication – or lack of it – plays an essential role in shaping women’s attitudes towards using public services particularly in lower-level health facilities and in relation to non-emergency primary care. As such, delivery of comprehensive information about cervical cancer prevention is also critical to enable women to make informed choices. Several studies have documented a lack of knowledge about cervical cancer and poor awareness of cervical screening as one of the main reasons for poor health-seeking behavior (Abiodun et al., 2014; Hasahya et al., 2016; Musa et al., 2017; Habtu, Yohannes & Laelago, 2018). However, Bukirwa et al. (2015) study also raises a number of fairly basic issues and concerns which providers need to be aware of and address during health education sessions. These include women’s need to understand how the procedure is done, why they should do it yearly when they had negative results, and what will happen to them if they are diagnosed with cervical cancer.

As HIV positive women are already vulnerable to other stressors, most of the participants suggested it best to educate a newly diagnosed HIV positive woman about cervical screening at least one to three months after diagnosis. Currently no other study has been identified that highlights this issue. Nonetheless, Ndikom & Ofi. (2012) and Bukirwa et al. (2015) agree that women prefer to deal with one or a few issues at a time and to address immediate priorities such as taking their HIV medication.

Still as regards health promotion, all participants considered VHTs and expert clients best to deliver the health talks. This is consistent with studies that document that this task shifting to community health workers and expert clients increases overall access to healthcare and

improves health seeking behaviour (Talukder & Rob, 2010; Robinson-White et al., 2010; Paskett, Harrop & Wells, 2011; Sabo et al., 2013; Haver et al., 2015; Sharma et al., 2019). Furthermore, the benefit of using expert clients is seen in other service areas like drug and alcohol treatment, homelessness and anti-poverty initiatives.

In my study, the purpose of using expert clients in health education was mainly to counteract many of the myths and misconceptions around cervical screening via the integration of their screening experiences in the talks. This is consistent with study findings by Bukirwa et al. (2015). Additionally, the misconceptions that participants referred to in my study were also similar to those in previous studies i.e. the removal of the uterus or parts of it during screening (Teng et al., 2014; Bukirwa et al., 2015); fear of becoming infected during the procedure or persistent abnormal discharge due to poor sanitation/use of one device from one woman to another without disinfection (Busingye et al., 2012; Bukirwa et al., 2015; Hasahya et al., 2016; Black, Hyslop & Richmond, 2019); fear that the procedure might cause cancer (Teng et al., 2014); and perceived pain and discomfort of the procedure (Fletcher et al., 2014; Shabana, 2014; Black, Hyslop & Richmond 2019).

One of the key issues arising with the use of expert clients revolved around the kind of remuneration and training considered adequate for their roles in sensitization. No study has so far been identified clearly illustrating what sort of remuneration would be considered adequate for their roles in sensitization and what training or shadowing opportunities might be useful. As such, this is an important area for future research. However, the participants suggested simple reimbursements or incentives in terms of refreshments, privilege (being worked on first), money for transport and phone call charges to be appropriate. It is currently very challenging to evaluate what sort of remuneration would be considered adequate and ethical for these clients.

My findings also suggest a collaborative approach in the delivery of health talks to the women i.e. involving the clinicians, the VHTs and expert clients. Collaborative health talks would ensure that not only is accurate and consistent information provided, but also that expert clients are not contributing to cervical screening myths. Escoffery et al. (2014) suggest that group education involving presentations from doctors, community health workers, or

experts by experience was part of an evidence-based measure that promotes cancer screenings.

Guidelines

My findings also recommend for clear guidelines to be set for the integrated clinics. This was particularly on target screening age amongst the HIV positive women. As HIV positive women are at a higher risk of developing the cancer, all participants preferred for this population to be screened at an earlier age of at least 18 years. Currently no study has been identified citing the preferred target age for commencement of cervical screening in an HIV positive woman. Viviano et al., (2017) report that sufficient data is yet to be presented to define a minimum set of age-specific screening targets in this group. In a study examining screening frequency, predictors of screening results and patterns of sensitisation strategies by age group in a large, programmatic cohort in Zambia, they found that younger women with HIV aged 20–29 years had the highest predictive probability of being screened positive for precancerous lesions followed very closely by those younger than 20 years (Pry et al., 2021). As such, it would therefore seem appropriate to screen HIV positive women at an earlier age than their HIV negative counterparts to prevent progression to cancer.

In the recently updated WHO global strategy towards the elimination of cervical cancer, 90% of girls are required to be vaccinated with the human papillomavirus (HPV) vaccine by age of 15 years, 70% of women screened with a high-performance test by 35 years with a repeat screening by 45 years and 90% women identified with both pre-cancerous and invasive cervical cancer treated (WHO, 2019). However, targets relating to HIV positive women have yet to be distinguished from the general population. Nonetheless, the WHO guidelines for screening and treatment of precancerous lesions for cervical cancer prevention (2013), recommend cervical screening in all sexually active girls and women, as soon as a woman or girl has tested positive for HIV. In Uganda, the cervical screening guidelines recommend commencement of cervical screening at 25 years of age no matter the HIV status (Ministry of Health, 2010). These guidelines are therefore challenging to incorporate in practice with differing target age groups.

Appointments and follow-up approaches

The findings proposed routine reminding (for both the clinicians and the women) and an appointment system for screening in an integrated approach. This would involve the use of clear and detailed documentation, cervical screening cards attached in each of the clients' treatment files and appointment books. The above propositions reiterate the findings of Bukirwa et al. (2015) who suggested a need to ensure that clients are reminded to have their repeat screening using cards and proper documentation. Fletcher et al., (2014) also suggest that health care providers should work with the women to address their scheduling needs to improve adherence to medical appointments. This is mainly because some women heavily rely on their primary HIV providers' recommendations for cervical screening.

Additionally, Burack et al. (1998) suggest that once a primary care visit takes place, the behaviour of the primary care provider with respect to recommending a screening test becomes an important determinant of cervical screening by eligible patients. As such creating a provider initiated routine reminder system and clear and accurate communication between the providers and the women would significantly increase uptake of cervical screening services as acknowledged in several studies (Baron et al., 2010; Everett et al., 2011; Musa et al., 2017).

Government support

Many of the participants reported that government support was critical for effective and sustainable integration of both services. They suggested for the screening service to be included as part of the Ministry of Health services, such that the consumables and human resource could be sourced from the public sector. This is in agreement with a study in Malawi that reported that their Ministry of Health largely funded infrastructure and personnel costs while the donor community provided drugs and commodities in public clinics (Phiri et al., 2016). White et al., (2017) suggest that by leveraging existing in-country programmatic capacity for cervical cancer service delivery, governments could identify where synergies or gaps exist and optimize resources to increase access to cervical cancer prevention and treatment services. They also reported that buy-in from key government and other influential stakeholders was a central component in the successful introduction of integrated cervical cancer services.

In addition to the employment of more staff by the government, my participants also proposed that the available local staff trained in cervical screening be regularly rotated in the cervical screening clinic to improve on their skills and also limit the gap in shortages of trained health care providers in cervical screening. This would thus ensure availability of staff to coordinate the integrated clinic. Phiri et al., (2016) also discussed rotating provider roles to ensure input and buy-in from clinic staff in their study.

5.4 Strengths and limitations

This study had strengths and limitations. First, it solicited views from health care providers using semi-structured interviewing which allowed for rich and in-depth responses that accurately answered my research questions. These insights into the health care providers' perspectives and experiences towards an integrated approach of cervical screening and HIV care was very crucial towards implementation of appropriate interventions at the facility under study. Unfortunately in this study, the perspectives of the service users (women) were not captured due to time constraints and language barrier. This limits the comparability of the findings between the two groups.

My position as a research insider was also an integral part of this study and influenced how the research was conducted. My prior experience in the study facility enabled me to easily access my sample and conduct the interviews from a unique perspective. During the interviews, I was able to prompt and fill in gaps with the knowledge I gained through the experience of working with the participants. I was also able to 'see more' or notice interesting data due to a greater understanding of the specific context that the comments were related to (Brannick & Coghlan., 2007). However, A potential disadvantage of my position may have been informant bias (Mason, 1996). My relationship with the participants outside of the research context and/or the way I am perceived by them, could have influenced what they shared in the interviews (Dwyer & Buckle, 2009). As such, the use of triangulation could have been useful to mitigate any research biases (Lincoln & Guba, 1985; Blaikie, 2000; Scandura & Williams, 2000). Triangulation is an approach that involves use of multiple methods (such as member checking and participant observation), multiple informants and multiple data sources in order to study a particular social phenomenon (Denzin, 2009). However, due to time constraints and the fact that the master's study must be my own work,

this approach was not suitable for my dissertation. Nonetheless, throughout this study, I was sensitive to possible biases by being conscious of the possibilities for multiple interpretations of reality.

Another limitation to this study was the qualitative nature which limits the generalizability of my research findings (Punch, 2006; Burns & Grove, 2009). Qualitative studies are not intended to be generalizable as the data collected is very context specific (Polit & Hungler, 1995). Nonetheless, although my results may not be generalisable to every setting, it may resonate with healthcare providers in other low-income settings, and it also reports important information that could be instrumental in the design of future integrated cervical screening and HIV care services. My findings also complement the quantitative data of a wider project at the facility under study.

5.5 Rigor

The rigor of this qualitative study was ensured by paying attention to the credibility, trustworthiness and transferability of the research (Lincoln & Guba, 1985). From my interpretivist perspective, there is no objective truth to which the findings of this study can be compared. However, the use of reflexivity and semi-structured interviewing enhanced rigour and truthfulness of the findings in this study (Koch & Harrington, 1998; Murphy & Dingwall, 2003; Chan et al., 2013). My prolonged engagement with the data during the research process and my precise data analysis confirms the credibility of the findings (Lincoln & Guba, 1985). In order to facilitate potential transferability of this study, the context and methodological approach were explicitly described (Creswell, 1998; Tobin & Begley, 2004).

6 Conclusion and recommendations

6.1 Introduction

This chapter recaps the aims of the study that were set out in the first chapter. It then reviews the key findings of the study whilst assessing if these aims have been met. The chapter then reflects on the contribution to knowledge that this study has made. Finally, I make recommendations for future research.

6.2 A recap of the aim and objectives

The aim of the research was to explore how to effectively integrate cervical screening into the normal routine HIV care services of the health facility, and as such, optimise screening coverage and timely follow-up amongst HIV positive women in care at the facility. In order to address this aim, my research had three key objectives:

- To explore the perspectives and experiences of health care providers towards the current screening service at the health facility;
- To explore the health care providers' perspectives on the integration of cervical screening services into the HIV clinic of the health facility; and
- To understand how the cervical screening program needs to be developed in order to ensure its effective integration as a normal routine service in the HIV clinic

6.3 Key findings and impact of the research

Although cervical cancer is one of the best-understood cancers, preventable through vaccination (Bharadwaj et al., 2009) and regular cervical screening (Denny, Quinn & Sankaranarayanan, 2006), in Uganda, it remains the leading cause among women of both cancer-related incidence (54.8 per 100,000) and cancer-related deaths (40.5 per 100,000) (Ferlay et al., 2018). As previously mentioned, HIV positive women have a higher incidence of both precancerous and invasive cervical cancer lesions (Mbulawa et al., 2010; Pantanowitz & Michelow, 2011; Bansil et al., 2015). This is because HIV weakens the natural cell-mediated immune responses that are required to clear HPV infection and thus increasing the likelihood of an HIV positive woman's cervical cells developing into premalignant lesions and advancing to invasive cancer. (Odafe et al., 2013; Choudhury et al., 2016). Additionally,

with the growing use of highly active antiretroviral therapy (HAART), most AIDS-related diseases incidences are steadily reducing, but incidences of cervical cancer have not markedly decreased. Whilst previous studies (Mwanahamuntu et al., 2011; Kumakech et al., 2014; White et al., 2017) supported the feasibility and significance of service integration, there was a paucity of literature on practical and sustainable approaches of implementation in resource-constrained settings. It is this gap in knowledge that my research aimed to address.

Overall, my study revealed that health care providers have a very positive attitude towards the screening facility and appreciate the need for its integration into HIV care clinics; however, under an efficient and well-structured health system. They also reported (indirectly) positive responses and experiences of women using the integrated service. This is consistent with other studies on integrated cancer and HIV care (see, for example, Kumakech et al., 2014; 2015; Sigfrid et al., 2017; Pfaff et al., 2018). However, within my study there was more emphasis on issues relating to sustainability and staff capacity to run the integrated service. Most of the respondents recommended incorporation of the cervical cancer prevention project into the Ministry of Health services to promote sustainability and strengthen resource management. This would address a few operational issues identified as impediments to the screening service and of its integration into HIV care such as shortages of human resources and the over dependence on NGOs for provision of supplies, staff training and funds.

Another key perspective to the integrated clinics that emerged from the interviews related to the target screening population. Currently in Uganda, the cervical screening guidelines recommend commencement of cervical screening at 25 years of age no matter the HIV status of an individual (Ministry of Health, 2010). However, the WHO guidelines for screening and treatment of precancerous lesions for cervical cancer prevention 2013, recommend cervical screening of all sexually active girls and women, as soon as a woman or girl has tested positive for HIV regardless of age. This causes a challenge in practice in terms of what guidelines to follow. As seen previously, HIV positive women are at a higher risk of developing the cancer and it would therefore be appropriate to consider screening this population at an earlier age.

Furthermore, one of the main discussions by all participants centred on a screening follow-up mechanism and a comprehensive delivery of health education as a strategy to achieve

effective integration of cervical screening as a normal routine service in the HIV clinic. The latter comprised of the need for task shifting, i.e. the collaborative use of expert clients and community health workers to raise cervical cancer awareness amongst the HIV positive women. The approach of using expert clients to offer cervical screening was an important finding and an area of interest for further research. It would be important to explore what training or shadowing opportunities might be useful for these clients and what sort of remuneration would be considered adequate for their roles in sensitisation.

Additionally, the health care providers proposed a screening follow-up mechanism comprised of a notification and/or a reminding system (use of cards and appointment books) to alert clinicians on when a woman is due for screening and thus promote provider-initiated reminder system for the women. This was suggested to potentially address the issue of a general lack of reminders and thus promote timely initial and subsequent screening appointments as also reported in a study by Bukirwa et al. (2015).

My study therefore makes a timely contribution to the evidence base for practical integrated cervical screening and HIV care in resource-constrained settings. It has also helped to address some of the existing gaps in research on the integrated approach to booking and coordinating client screening appointments.

Furthermore, the findings of this study have been used in practice, specifically supporting the development of newly designed cervical screening cards and an appointment book to provide health care providers prior notification of the women due for screening and their appointment dates at the facility. As such, the research helped develop a system of ‘call and recall’ of women due for screening, resulting in an exponential increase in timely screening of HIV positive women in care: from 31% to nearly 80% (recommended target for any screening programme) in ten months of the intervention.

6.4 Recommendations

Based on the study findings, there are gaps that still require addressing to promote effective integration of cervical screening and HIV services, tailored to the requirements of all stakeholders (health care providers and HIV positive women). These will be discussed under three sections: (i) policy and guidelines, (ii) service improvement and (iii) future research.

Policy and guidelines

As previously mentioned in chapter two, Uganda lacks a national cervical screening program. However, in 2010, the Ministry of Health set up the national strategic plan for cervical cancer prevention and control, with a key goal of having 80% of eligible women screened and treated for cervical precancerous lesions by 2015. Unfortunately, this has still not been achieved with currently estimated baseline lifetime screening rates of between 4.8% to 30% across the country (Ndejjo et al., 2016), and high rate (80%) of late presentation with advanced cervical cancer (Nakisige et al., 2017). It is also important to note that this national strategic plan for cervical cancer prevention and control has neither been reviewed nor updated since its formulation. This perhaps reveals a lack of priority in management of this public health burden in the nation. As such, based on the evidence gathered through my interviews and analysis, there is a need to review and update the cervical cancer control strategies in Uganda, whilst prioritizing evidence-based interventions that are most appropriate to the public health burden and available national resources. Additionally, there is also need for the setting of clear guidelines for use in the integrated service delivery – particularly the target screening age amongst HIV positive women. This would mitigate confusion on what guidelines to follow (Ugandan or the WHO) during service delivery.

Service improvement

A number of operational issues have been identified in my research as impediments to the implementation of cervical cancer prevention programs such as the shortage of trained providers, consumables and finances (possibly as a result of competing health priorities). Therefore, I recommend for the Ugandan Government to increase coordination among existing implementers of cervical cancer prevention services (private, and nongovernmental organizations) as a way of leveraging existing in-country programmatic capacity. This could help identify where synergies or gaps exist and thus optimize resources to promote improved coverage for cervical cancer prevention and treatment services. Additionally, it was evident in my research that in order to promote sustainability and resource management, cervical screening services in the public sector need to be incorporated into the jurisdiction of Ministry of Health.

Furthermore, the research shows how the government should give consideration to incorporating a task shifting principle in health promotion, as it is effective for awareness-raising. For instance, experts by experience and community health workers could be trained to raise awareness in their respective communities and as such, bolster community engagement and awareness about cervical cancer prevention.

Future research

While the feasibility of integrated cervical cancer prevention and HIV services has been demonstrated, there are still some operational research questions on how to best deploy services that promote improved uptake and quality. My proposed topics for future research include:

- Investigate the appropriateness of introducing health talks about cervical screening at time of HIV diagnosis.
- Explore the approach and impact of using expert clients to offer cervical screening in integrated clinics.
- Determine the content of health education messages provided to women prior to screening and investigate if this content is considered adequate to meet the knowledge needs of the women. This may identify possible information gaps and communication challenges and help address these challenges in the future.

Finally, as this dissertation focused on health care providers only, I feel that the experiences and perspectives of the service users (HIV positive women) within the integrated approach must be explored in detail as well. This will help to understand the service users' perspectives and experiences with the integrated service provision and thus inform better interventional strategies to help address any limitations.

7 Appendix I: A reflection - my research journey

This has been one of the most challenging and yet so fruitful endeavours I have been able to do. Even though I looked forward to the end of it pretty much from the start, I surprisingly got to enjoy it and I am amazed at the strides I have made plus the lessons that came with it.

At the beginning of the study, it was more like I was on a military mission - get things done and move on to the next phase. I thought I had it all figured out with my overly ambitious proposal for the masters' project. I was hoping to do an exploratory sequential mixed study all in one year and I genuinely believed I could achieve this. Perhaps what gave me this 'false' confidence was the fact that I had large sums of quantitative data from the facility records – which I was comfortable to analyse and at that time, I had already done interviews with the health care providers.

Reality hit me when I started to analyse my health care providers transcripts, lo and behold, my world started to crumble. I was so clueless on qualitative data analysis. I thought one had to just enter data into NVivo and it automatically analyses and presents you findings. I distinctly remember staring at the data on my laptop screen for months, not able to make sense out of it. I tried to compensate for this by analysing my quantitative data (in a way this consoled me) but I had to think fast if I were to go according to my well figured plan of the qualitative data forming the basis of my intervention strategy. The situation got worse when the 16 interviews⁴ with the HIV positive women were very shallow; my research assistant conducted the interview more like “Q&A” without delving deep into the participants perspectives. I was not able to conduct the interviews myself due to the language barrier and difficulty in accessing the women. The women were only available on screening days, yet I would be the only health care provider at the screening unit. This would not only create biased responses but a disruption in service provision. Nonetheless, I would not have been able to include them in my thesis anyway as it must be my own work. As such, I took on the advice of my supervisors to concentrate only on the interviews that I had completed myself

⁴ As this thesis constitutes the qualitative portion of a much wider action research project, I originally planned to interview both the HIV positive women and health care providers.

with health care providers. Of course, my stubborn self was still in denial, I refused ‘defeat’ and I thought I could still design a simple survey for the women for the post intervention phase. It is important to note that throughout this period, my supervisors kept advising me to narrow down my masters to a small gap in knowledge, in that only the interviews I had with the health care providers could still help me write my thesis unless I wanted to turn my masters’ study into a PhD. No one, not even myself could explain my fixed mindset on a mixed methods study - perhaps I just wanted to at least have a big dissertation? My supervisors kept thinking I was writing about the wider K4C project, which was totally different from my research. They kept telling me to focus on my specific objectives instead of the wider project. I can’t even recall when I finally came through to only do the qualitative study – perhaps at least a year later. I embarked on spending most of my time reading Masters’ theses and qualitative research literature.

The experience of undertaking this masters’ study has afforded me the opportunity to develop in my academic writing, critical thinking as well as qualitative data analysis and so on and so forth. I have also been able to present my findings at the Royal Society of Tropical Medicine and Hygiene (RSTMH) research in progress event where I emerged the best presenter. I will also be able to walk away from this beautiful and yet so challenging experience with a masters’ degree (if all goes well). Much as I am overjoyed and proud of the contributions of this study towards the successful integrated approach of cervical screening and HIV care, this is only just the start of the fight against the highly preventable cancer.

8 Appendix II: Participant Information Sheet

Exploring effective approaches of integrating cervical screening services into the normal routine care within HIV clinics

You are invited to take part in a research study. In order to decide if you wish to take part, please take time to read over the following information, making sure that you understand it fully.

Purpose of the study

The study aims to explore how to effectively integrate cervical screening into the normal routine HIV care services of the health facility and as such, optimise screening coverage and timely follow-up amongst HIV positive women in care at the facility.

Why have I been invited to take part?

You have been invited to take part as you are one of the health service providers working in the HIV care clinic and/or cervical screening unit at the health centre under study.

Do I have to take part?

Your participation in this study is entirely voluntary. You do not have to take part. If you decide to participate in this study, you may change your mind and withdraw from it at any time without explanation or negative consequence. Should you choose to withdraw; any data collected from yourself will be destroyed and removed from the study.

What will happen to me if I decide to take part?

You will be asked to take part in a one-to-one interview with the researcher, to share your views on integrated cervical screening and HIV care. The interviews will be audio recorded and last about 30 minutes. All recordings will be deleted once they have been transcribed, and transcriptions or any published works relating to the study will be anonymised to maintain confidentiality.

Expenses and Payments

Whilst you are participating in the interview you will be offered refreshments.

What are the possible disadvantages and risks of taking part?

There are no known disadvantages or risks associated with taking part in the study. However, if you should feel concerned or upset, please inform the researcher.

What are the possible benefits of taking part?

The researcher cannot promise that the study will help you, but the information obtained from the study may aid in identification of opportunities to improve on the quality, effectiveness and efficiency of the screening programs and act as a foundation for evidence-based change.

What happens to the results of the study?

Results of the research will be presented in a written master's dissertation by the researcher. Results may also be shared at conferences or within peer reviewed journals and in form of reports to the Royal Society of Tropical Medicine and Hygiene (RSTMH) and Knowledge for Change (K4C).

Who is organising and funding the study?

This study will be conducted as a master's project which is a subset of the complex intervention/action to improve cervical screening services in Uganda under Knowledge for change (K4C). It has received funding from the Royal Society of Tropical Medicine and Hygiene (RSTMH).

Who has reviewed the study?

The study has been reviewed and approved by the University of Salford research ethics committee as part of the wider project by Knowledge for change, which was granted on May 3rd, 2019 (HSR1819-061). Permission to conduct this study at the facility was also obtained from the District Health Officer (overall head of the health facilities in the district) and the facility in-charge.

What should I do if I have any complaints?

Should you have any complaints about the researcher, or the research being conducted you can in the first instance contact the researcher's supervisors, Professor Lisa Scullion, (l.scullion@salford.ac.uk) or Dr. Eileen Cunningham, (e.a.cunningham2@salford.ac.uk). Should you remain unsatisfied following the respective response, you may contact Anish Kurien, Research and Innovation Manager at the University of Salford, (A.Kurien@salford.ac.uk)

Further information

For any further information please feel free to contact the researcher (Dr. Judith Auma). If you have any concerns regarding the study, you may contact the researcher's supervisor (Prof. Lisa Scullion).

Dr. Judith Auma: J.Auma@edu.salford.ac.uk

Professor Lisa Scullion: l.scullion@salford.ac.uk

Thank you for considering taking part!

9 Appendix III: Research participant consent form

Title of Project: Exploring effective approaches of integrating cervical screening services into the normal routine care within HIV clinics: A Qualitative study in a Ugandan Community Health Facility.

Please circle as appropriate

- I confirm that I have read and understood the participant information sheet for the above study and understand what my contribution will be Yes No

- I have been given the opportunity to ask questions (face-to-face) Yes No

- I agree to take part in the interview Yes No

- I agree to the interview being tape recorded Yes No

- I understand that my participation in the study is voluntary and that I can withdraw at any time without giving an explanation Yes No

- I understand how the researcher will use my responses, who will see them and how they will be stored Yes No

- I agree to take part in the study Yes No

Name of participant

Signature Date.....

Name of researcher taking consent.....

10 Appendix IV: Interview Guide

1. Establishing rapport, introduce myself and the project, consent etc.
2. Have you ever taken part in service provision at/for the cervical screening clinic?
(Could be directly or indirectly). If yes, what was your role?
Probe:
 - What were/are your experiences?
 - Pros and cons
 - What would you change about it?
3. What factor(s) would you consider for screening or perhaps referring a woman for cervical screening?
4. What is your view on Kagote HIV/ART clinic starting to offer cervical screening as part of the normal routine services for the HIV positive women?
Probe:
 - Is it something she/he feels would be a great practice (If so why and if not, why not?)
 - If the screening is incorporated into the HIV clinic, how would he/she prefer such services to be run?
 - who would be in a better position to offer cervical screening to the HIV positive women? Give reasons
5. What are your views concerning the use of expert clients to offer cervical screening to the HIV positive women in the ART clinic?

11 Appendix V: Ethics application approval letter



Research, Enterprise and Engagement
Ethical Approval Panel

Doctoral & Research Support
Research and Knowledge Exchange,
Room B27, Maxwell Building,
University of Salford,
Manchester
M3 4WT

T +44(0)161 295 2280

www.salford.ac.uk

5 March 2019

Dear Louise,

RE: ETHICS APPLICATION–HSR1819-061 – ‘Community-based intervention to improve cervical screening services in Uganda; an evaluation protocol for the K4C cervical screening model.’

Based on the information that you have provided, I am pleased to inform you that ethics application HSR1819-061 has been approved.

If there are any changes to the project and/or its methodology, then please inform the Panel as soon as possible by contacting Health-ResearchEthics@salford.ac.uk

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Sue McAndrew'.

Professor Sue McAndrew
Chair of the Research Ethics Panel

12 Appendix VI: The facility in-charge permission letter



*In any correspondence on this
Subject please quote reference no:*

**OFFICE OF THE
IN-CHARGE
KAGOTE HEALTH CENTRE III
WEST DIVISION, FORT PORTAL
MUNICIPAL COUNCIL,
P. O. BOX 29, FORT PORTAL**

Date: 4th July, 2019

TO WHOM IT MAY CONCERN

**RE: CLEARANCE FOR CONDUCTING RESEARCH IN KAGOTE
HEALTH CENTRE III**

Introduce to you **Dr. Judith Auma** (a split-site Postgraduate researcher) from the University of Salford, UK and Aga Khan University, Uganda; who has been permitted to conduct research on integrated cervical screening and HIV care at Kagote Health Centre III.

Dr. Judith Auma is a master's student and currently the Knowledge for Change (K4C) project lead for the cervical cancer prevention service at our facility. Her project is designed to optimize cervical screening coverage and timely follow-up amongst HIV positive women in care at the facility. The research aims to integrate cervical screening as a normal routine service in the HIV care clinic. The study will be part of the wider evaluation protocol for the Knowledge for Change model, of which ethics has already been obtained from the University of Salford and permission granted by the District Health Officer, Kabarole.

Any assistance rendered to her will be highly appreciated.

Yours Sincerely,

**Ms. Agondeze Betty
In-Charge Kagote Health Centre III**



Cc. Staff Kagote Health Centre III
Cc. Dr. Judith Auma
Cc. File

13 Appendix VII: The District Health Officer support letter



KABAROLE DISTRICT LOCAL GOVERNMENT

Tel: +256 483 22575 – District Health Officer (DHO)
Tele-Fax: +256 483 23043 - Secretariat
Email: ddhskabarole@yahoo.com
ddhs.kabarole@health.go.ug

Directorate of Health Services
Kabarole District
P. O. Box 38
FORTPORTAL

Your Ref:

Our Ref: Health

Date: 25th January, 2019

To Whom It May Concern:

RE: EVALUATION PROTOCOL FOR THE K4C CERVICAL SCREENING MODEL IN KABAROLE DISTRICT, UGANDA

As the District Health Officer responsible for health services in Kabarole District, Uganda, I am delighted to support the planned research project aiming to improve cervical cancer prevention services. I understand that the K4C project, managed by Professor Louise Ackers and run in collaboration with British and Ugandan doctors and midwives, will be seeking to hear clients' and health service providers' experiences of cervical cancer prevention service integration into HIV care services, views regarding sustainability and potential scalability of the K4C cervical screening model within the local community health facilities and women's experiences with the model.

The project will involve mapping of the district and a short community awareness survey by the village health technicians (VHTs) to identify screening coverage rates and also raise awareness amongst the population. Furthermore, it will consist of health education sessions at Mountains of the Moon University, interviews of health service providers and clients (women of reproductive age), ethnographic observations and review of health facility data and reports.

This work will be conducted with support from the Department for International Development (DfID) Small Charities Fund (SCCF). Ethical approval is being sought at both the University of Salford, UK and Mountains of the Moon University in Uganda. We look forward to your active engagement with this project.

Yours Sincerely


Dr. Mtigahi Richard
District Health Officer, Kabarole.

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