

Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers.

By

Sindiso Masuka, BSc (Hons)

A thesis submitted to the University of Birmingham for the degree of MASTER OF RESEARCH (MRes) in Clinical Health Research

College of Medical and Dental Sciences

School of Nursing and Midwifery

University of Birmingham

September 2022

UNIVERSITY OF  
BIRMINGHAM

**University of Birmingham Research Archive**

**e-theses repository**

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

## Declaration

---

I hereby declare that the work presented in this thesis has not been submitted for any other degree or professional qualification and is the result of my independent work.

---

Sindiso Masuka

---

September 2022



## Dedication

---

To my dearly loved, beautiful and robust mother, Sehliselo Irene Tshuma.

You are an inspirational woman who is always there for me and motivates and inspires me daily.

## Acknowledgements

---

First and foremost, I would like to thank God for granting me continued grace and blessings to finish my studies. It would not have been possible without his mercies that endure forever.

Throughout the writing of this thesis, I have received a considerable amount of support and encouragement. I would like to thank my supervisors, Professor Annie Topping and Dr Nikolaos Efstathiou, whose expertise was invaluable in formulating my project's research question and methodology. I also wish to acknowledge my clinical supervisor Dr Kaveh Manavi and my work colleagues for their extraordinary collaboration. Thank you to all the participants who supported me greatly and were a massive part of this project through your contributions.

I would particularly like to single out my lead supervisor Professor Annie Topping, for the valuable guidance, through monthly supervision throughout my studies. You were patient with me, knowledgeable, and gave me the advice I needed to complete my thesis effectively. I would also like to thank my family for being there for me always and supporting me through every step of this journey. You have been my pillar of strength. To my son Nathan, you are a treasure. You were understanding and kept nudging me, "Mom, you need to finish your work!". Finally, my friends were of great support in encouraging, providing light-hearted moments, and always supportive in allowing me to see my work through.

## **Cover letter**

---

### **Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers.**

Dear Examiners,

To enhance my knowledge and skills in health research, I embarked on a research programme leading to the degree of MASTER OF RESEARCH (MRes) in Clinical Health Research with the University of Birmingham in October 2018. There was a delay in programme completion due to the COVID-19 pandemic. I submit this thesis in part fulfilment for the MASTER OF RESEARCH (MRes) degree in Clinical Health Research.

#### **Background**

Homeless people living with the human immunodeficiency virus (HIV) face major challenges in accessing HIV health services and adhering to antiretroviral therapy (ART). HIV therapy has advanced, but this population still has complicated health problems and drug non-adherence. Healthcare workers have a role in uncovering strategies and healthcare models most suited to assisting patients in improving health outcomes, such as viral suppression through adhering to medication and maintaining regular contact with HIV services.

#### **Objectives**

This thesis describes a research project that sought to understand service engagement and ways to improve adherence to ART among our homeless service users living with HIV from the perspective of healthcare staff. The short-term process outcomes were to improve knowledge and identify the factors impacting service engagement to make recommendations for redesigning the service to improve outcomes for homeless people living with HIV.

#### **Methodology and methods**

This thesis comprises three elements, which report different aspects of the completed research project. These elements are presented in three chapters: a literature review, a research article, and a reflective report.

Chapter 1 reports a 4,000-word scoping **literature review** using a systematic process. I chose to undertake a scoping study to capture the existing literature and gaps in models of care or interventions that address improvements in healthcare for people living with HIV and experiencing homelessness.

Chapter 2 of this thesis contains a 6,000-worded **research article** that reports on a qualitative focus group study undertaken in one large multisite metropolitan NHS Trust serving over one million people. Data was analysed using thematic analysis, and the findings identified several recommendations to improve service delivery for those living with HIV in this population.

Chapter 3, the concluding chapter of the thesis, contains a 2,500 word **reflective report**. I present a critical analysis of the process of researching and conducting research and justify the decisions and methods employed. The report also provides additional insight into the research journey and my development as a researcher. I have used some of the components of the reflective practice framework proposed by Bain et al. (2002) to structure the report. The key learning I gained from conducting the project will also be explored.

## **Findings**

The scoping review (Chapter 1) identified several available methods and interventions to improve service engagement and adherence to antiretroviral therapy for homeless people with HIV. These were categorised into patient navigation, case management, and supportive housing models. The fourth topic grouped the other interventions found: incentivised care models, clinical service models, patient-centred medical homes and linkage of care models. Examining these interventions found they had positive effects, were cost-effective, enhanced patient experience, and improved patient health outcomes. Collaboration, relationship building, and outreach work improved engagement and adherence to antiretroviral therapy. This was based on the context and environment in which they were employed.



The findings in presented in Chapter 2 identify areas for concern and potential roadblocks to an ideal model of care for homeless HIV-positive people, along with suggestions to address these problems. The findings are based on the opinions of healthcare professionals about the services they provide. Utilising a patient-centred approach, collaborating with other healthcare providers, charities, and organisations that assist the homeless, and offering a more flexible service, revising the service model were cited as solutions for better health outcomes in this population. It was also found that implementing some of the suggested proposals will be challenging due to financial and legal restrictions.

The reflective report (Chapter 3) provided insights into the personal development that has occurred throughout my Masters studies. More effective time, project, and learning management abilities have been acquired. Resilience and continuing with studies despite the disruptions of the pandemic and being able to reflect on critical topics such as the choice of research methods when conducting studies also resulted in greater understanding and uncovered realisations on many levels. This has inspired and provided me with newfound confidence to guide future research that will benefit homeless people living with HIV.

## **Conclusions**

The findings raise healthcare professionals' awareness of available interventions and models of care to improve the healthcare of homeless people living with HIV. The results of this study have also shown that it is beneficial to consult workers' opinions and experiences to contribute to service improvement and redesign. The qualitative focus group study brought together the discussion of the interventions, which will be instrumental in guiding future research into ways of service provision in meeting the needs of homeless people living with HIV.

Thank you for your time and consideration.

Yours sincerely,

Sindiso

## Table of contents

---

### Table of Contents

<b>Declaration .....</b>	<b>i</b>
<b>Dedication.....</b>	<b>iii</b>
<b>Acknowledgements .....</b>	<b>iv</b>
<b>Cover letter .....</b>	<b>v</b>
<b>Table of contents.....</b>	<b>viii</b>
<b>List of figures.....</b>	<b>xi</b>
<b>List of tables .....</b>	<b>xii</b>
<b>Appendices .....</b>	<b>13</b>
<b>Chapter 1: Models of care and interventions addressing improvement of healthcare for people living with HIV experiencing homelessness: A scoping literature review .....</b>	<b>14</b>
1.1 Introduction.....	14
1.2 Methods .....	16
1.2.1 Stage 1: Identifying the research question .....	16
1.2.2 Stage 2: Identifying the relevant studies .....	17
1.2.3 Stage 3: Study selection .....	20
1.2.4 Stage 4: Data charting and collation .....	22
1.2.5 Stage 5: Summarising and reporting findings.....	23
1.3 Results .....	23
1.3.1 Patient Navigation Models .....	24
1.3.2 Case Management Models .....	25
1.3.3 Supportive Housing.....	26
1.3.4 Other models and interventions.....	27
1.4 Discussion.....	28

1.5	Conclusions and Recommendations .....	31
1.6	Conflicts and Acknowledgements .....	32
<b>Chapter 2: RESEARCH ARTICLE .....</b>		<b>33</b>
<b>Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers....</b>		
<b>33</b>		
2.2	Abstract .....	33
2.3	Keywords .....	34
2.3	Background and Rationale .....	34
2.4	Methods .....	37
2.4.1	Study Design.....	37
2.4.2	Setting .....	37
2.4.3	Sample and participants .....	38
2.4.4	Data Collection.....	38
2.4.5	Data Analysis.....	39
2.4.6	Trustworthiness .....	40
2.4.7	Ethical considerations and informed consent .....	41
2.5	Results .....	41
2.5.1	Participants .....	41
2.5.2	Themes.....	43
2.6	Discussion.....	52
2.6.1	Comparisons/Relevance to the existing literature .....	55
2.6.2	Strengths/Limitations of the study .....	55
2.6.3	Recommendations for practical implementation or further research.....	56
2.6.4	Implications for policy and practice.....	57
<b>Chapter 3: REFLECTIVE REPORT.....</b>		<b>58</b>
	Overall reflection on the thesis process .....	58

<b>List of References .....</b>	<b>63</b>
<b>Appendix A: Search Strategy Results .....</b>	<b>75</b>
<b>Appendix B: Literature Review Matrix Table .....</b>	<b>93</b>
<b>Appendix C: Focus group discussion guide .....</b>	<b>110</b>
<b>Appendix D: Participant Information Leaflet .....</b>	<b>114</b>
<b>Key Contacts .....</b>	<b>118</b>
<b>Appendix E: Consent Form .....</b>	<b>119</b>
<b>Appendix F: Participant Invitation Email .....</b>	<b>121</b>
<b>Appendix G: Summary Table of Codes, Themes and Example Quotations. ....</b>	<b>123</b>
<b>Appendix H: Medical Research Council self-assessment decision tool.....</b>	<b>125</b>

## List of figures

---

**Fig. 1:** PRISMA 2009 Flow Diagram for article selection

**Fig. 2:** Codes and Themes

## List of tables

---

**Table 1:** PEO Framework

**Table 2:** Exclusion and Inclusion criteria

**Table 3:** Literature Review Matrix

**Table 4:** Types of interventions reported in the review

**Table 5:** Study participants' demographics

**Table 6:** Summary table of themes codes and quotations

## Appendices

---

**APPENDIX A:** Search strategy results

**APPENDIX B:** Literature review matrix table

**APPENDIX C:** Focus group discussion guide

**APPENDIX D:** Participant Information leaflet

**APPENDIX E:** Consent Form

**APPENDIX F:** Participant Invitation email

**APPENDIX G:** Summary table of codes, themes, and example quotations

**APPENDIX H:** Medical Research Council self-assessment decision tool

## Chapter 1: Models of care and interventions addressing improvement of healthcare for people living with HIV experiencing homelessness: A scoping literature review

---

This chapter describes the rationale, conduct and findings of a scoping review to provide context for the subsequent study and information that sets the foundation for the rest of the thesis, specifically the research article in Chapter 2.

### 1.1 Introduction

The Human Immunodeficiency Virus (HIV) is a virus that attacks the immune system and reduces the capability of defence systems to fight infections and diseases. Acquired Immunodeficiency Syndrome (AIDS) is when HIV infection has progressed to an advanced stage and is characterised by the development of certain cancers, conditions, and other serious illnesses. It can take between two and fifteen years for AIDS to develop after initial infection with the virus (World Health Organization (WHO), 2018). To prevent mortality and morbidity, a consequence of HIV infection, the British HIV Association (BHIVA) (2016) recommends that antiretroviral therapy (ART) is offered to all people living with HIV. Advances in ART have significantly improved the physical well-being of people living with HIV, resulting in people receiving ART experiencing sustained virological suppression and better treatment outcomes (BHIVA, 2016). However, for ART to be effective, it requires high adherence. Low adherence to ART leads to drug resistance, HIV transmission risk, disease progression to AIDS, increased costs associated with treatment, and the need to use complex regimes (BHIVA, 2016).

At the end of December 2019, 98 552 people received care for HIV infection in the United Kingdom (UK) (Public Health England, 2020). Of great concern is the homeless population that is infected with HIV as they are particularly susceptible to HIV due to lifestyle behaviours that may expose them to greater risks (Arum et al., 2021). According to Smith et al., (2017), homeless people have an HIV infection rate of up to 16 times higher than those who live in stable housing. Daily pressures, exposure to violence, sexual exploitation, alcohol and drug misuse often to cope with stress or mental health difficulties, and poor diet make homeless people vulnerable to HIV infection (Smith et al., 2017). Non-adherence to ART and the failure to maintain regular engagement with medical



care is a fundamental problem for the homeless population that requires consideration by healthcare providers. Homeless patients present specific challenges to healthcare providers as they often are sporadic attenders and only intermittently access HIV care. Hence, despite advances in the treatment of HIV, medication non-adherence and complex health issues contribute to uncontrolled HIV (Fuster,2019).

In England, legislation and other strategies exist to combat homelessness and reduce inequalities. The Homelessness Reduction Act 2017, implemented in April 2018, is a policy driver in reducing the health inequalities associated with homelessness. The Act puts new responsibilities on local authorities to reduce levels of homelessness. The primary new duties of the Act are to prevent and relieve homelessness for all eligible applicants regardless of priority need. The legislation facilitates local joint working and extends the help that local authorities must provide (The Homelessness Reduction Act, 2017).

The National Institute for Health and Care Excellence (NICE) sets standards for improving health and social care quality to enhance the healthcare provided to homeless people. Quality standards are used to identify gaps and areas of improvement, assess and measure the quality of care, and provide evidence to demonstrate that quality care has been provided. Tailoring healthcare services to the individual is one of the quality standards that have resonance, and service providers must ensure that they consider individual patient needs and circumstances (NICE, 2022).

The Commissioning for Quality and Innovation (CQUIN) scheme is how NHS England works to improve clinical quality and drive change and transformation in the National Health Service. Targets are set that services agree to meet, aiming to improve patient treatment outcomes, reduce health inequalities, and encourage partnership working across different providers (NHS England, 2017). The British HIV Association (BHIVA), through the collaboration of providers, people living with HIV, and commissioners, set out eight standards of care formulated to provide a holistic quality service that people living with HIV should receive (BHIVA, 2018).

In addition to the national legislation, strategies, healthcare services, organisations and groups that exist to improve the health of the homeless population, there is a need to examine the available evidence and knowledge gaps. The focus on the homeless living with HIV would be of great value

due to the challenges and complexities for patients and healthcare providers. Hence this scoping review examined the health of homeless people living with HIV.

The primary objective of this scoping review was to provide an overview and summarise the available research evidence on the models of care and interventions that address the health and retention in care services of people with HIV who are homeless. Reporting and discussing the available evidence assisted in refining the research question explored in Chapter 2 of this thesis. The other reason for using a scoping review approach was that it can incorporate many sources, such as grey literature from specialist and professional conferences and homelessness organisations. The review was also undertaken to identify implications for future research to inform the management of homeless people living with HIV and influence local and national policymakers and ultimately improve health outcomes for homeless people living with HIV.

## **1.2 Methods**

A scoping review method guided by Arksey and O'Malley's (2005) methodological approach was used. Scoping reviews are valuable in research evidence synthesis as they map the existing literature on a particular topic. They can assist in determining if there is a need to conduct a full systematic review and identify if any systematic reviews already exist on the subject. They help to understand gaps within the literature and summarise and inform the need for future research (Arksey and O'Malley, 2005; Cacchione, 2016; Cooper et al., 2019).

Arksey and O'Malley's framework entails the following key stages: (1) identify the research question, (2) identify relevant studies, (3) select studies, (4) chart the data, (5) collate, summarise, and report results (Arksey and O'Malley, 2005).

### ***1.2.1 Stage 1: Identifying the research question***

To guide the search, the following research question was posed:

- What interventions or models of care are available to improve the health of homeless people living with HIV?

### ***1.2.2 Stage 2: Identifying the relevant studies***

To develop an effective search strategy to retrieve related evidence and answer the review question, the Population, Exposure, and Outcome (PEO) framework was used. It is a valuable guide for developing relevant search terms to search databases (Copnell, 2016). Table 1 below outlines the review question applied to the PEO model. However, Arskey and O'Malley (2005) caution against using a strict definition or applying limitations for a scoping review and recommend maintaining a thorough approach that might generate a wide range of evidence.

**Table 1.**

**PEO Framework**

P, E, O	Review Question	What methods are available to improve the healthcare of homeless people living with HIV?
<b>P</b>	Population	Homeless people with HIV.
<b>E</b>	Exposure/Intervention	Models of healthcare delivery designed to meet the specific needs of this population, including improving access to and engagement with services.
<b>O</b>	Outcome	Improved access to health care, Improved adherence to antiretroviral therapy, Improved continuity of care, and service improvement.

The databases that were identified to be pertinent to the review question were: PubMed; EMBASE; MEDLINE; PsycINFO; CINAHL. An electronic search was undertaken using different combinations of keywords to retrieve the relevant literature. The search was limited to articles published in the last 15 years that were written in the English language. The period was chosen because it covered more recent articles, such as significant advances in managing HIV, antiretroviral therapy regimes, and legislation to combat homelessness. A further search was conducted by hand, searching key journals, homeless organisations, conferences, and websites. Key relevant homelessness websites and organisations such as; <https://www.gov.uk/homelessness>; <https://www.crisis.org.uk>; [www.homeless.org.uk](http://www.homeless.org.uk); conferences from the British HIV Association (BHIVA), National HIV Nurses Association (NHIVNA), the Queens’s institute, among others. Google Scholar was also used to find other grey literature and primary sources.

The initial search terms were ‘HIV,’ ‘antiretroviral therapy,’ ‘homeless,’ ‘rough sleepers,’ ‘health,’ ‘healthcare,’ ‘intervention,’ ‘impact,’ ‘model,’ ‘efficacy’ ‘service,’ ‘engagement,’ ‘access,’ ‘use,’

‘utility.’ Please refer to Appendix A for the complete list of search terms, truncations, combination strategy and complete search results.

The results did not include all the articles. Table 2 outlines the inclusion and exclusion criteria that were used.

**Table 2: Inclusion and Exclusion Criteria**

<b>Criterion:</b>	<b>Inclusion:</b>	<b>Exclusion:</b>
<b>Time period</b>	Published between 2005 and 2021	Published before 2005
<b>Exposure of interest</b>	Homelessness and HIV infection.	Articles that did not report on homelessness and HIV.
<b>The geographic location of study</b>	Any geographic location of study	
<b>Types of studies</b>	Studies designing and testing the efficacy of health care interventions for homeless patients, observational and descriptive papers detailing existing services, including reviews of the effectiveness of strategies, and qualitative studies describing experiences of clinicians and homeless patients’ use of services.	
<b>Study design</b>	Any study designs included.	N/A
<b>Participants</b>	Homeless people living with HIV	Homeless people without a diagnosis of HIV.
<b>Language</b>	Articles published in the English language	Non-English language articles
<b>Reported outcomes</b>	Improved access to health care, Improved adherence to antiretroviral therapy, Improved engagement in care, and service improvement.	
<b>Setting</b>	Any health care setting, clinics, primary care, secondary care setting, community-based care, and jails were included.	
<b>Study design</b>	All designs included	
<b>Type of publication</b>	All types, original studies, reviews, editorials,	

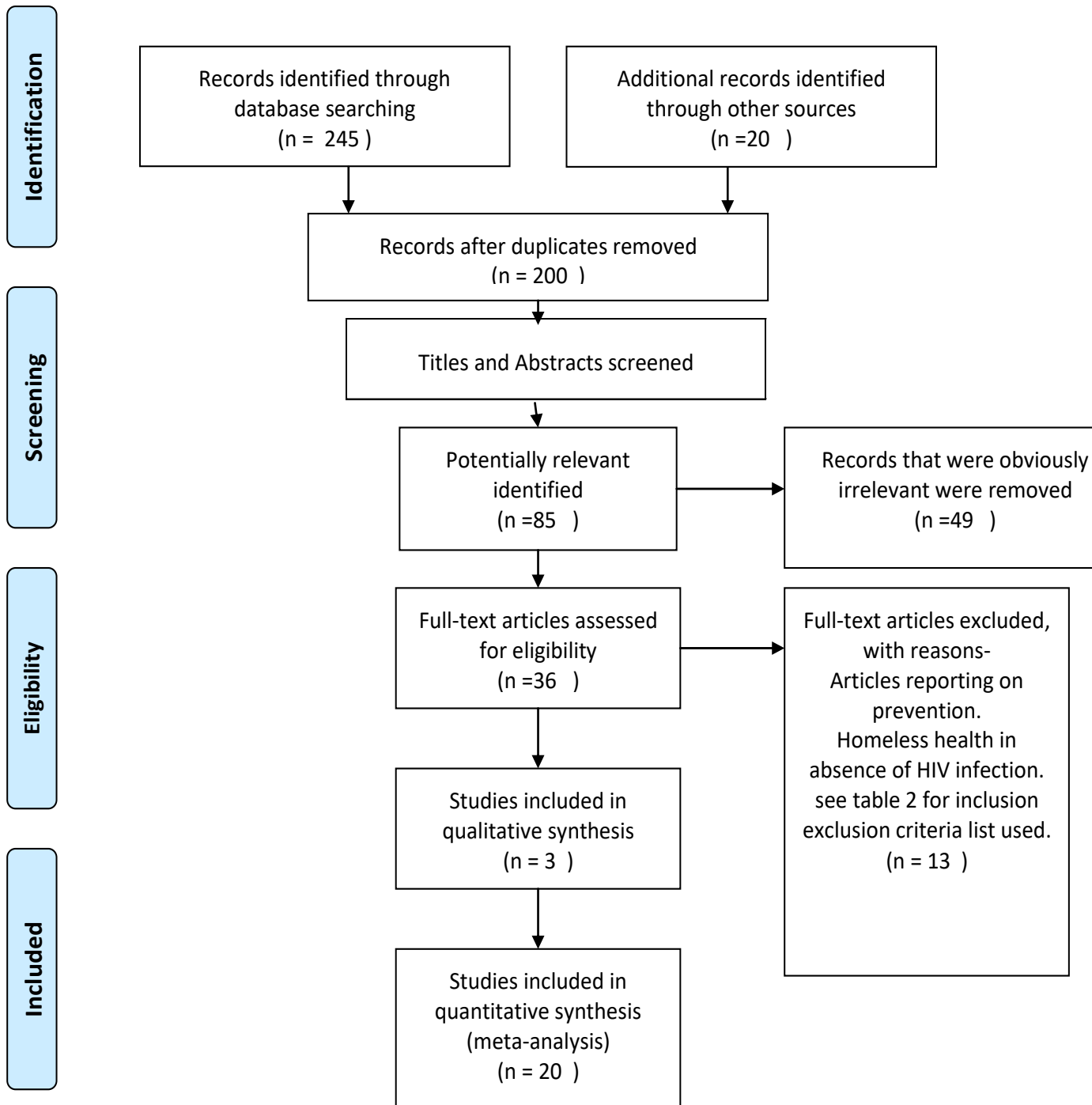
### ***1.2.3 Stage 3: Study selection***

The searches identified several articles using a screening process. Articles identified in the databases that were duplicated were removed. The first stage of the screening was to review titles and abstracts and exclude those that were irrelevant. The second stage was to check full-text articles. Several articles that were not relevant were excluded, particularly articles that related to care that was generic to homeless persons without the specific element of being HIV positive. These articles were primarily associated with Hepatitis C treatment and tuberculosis (TB) treatment in the absence of HIV and therefore were omitted. Articles that reported on the prevention of HIV in the homeless and not populations living with the infection were also excluded. Guided by the inclusion and exclusion criteria, 23 studies were identified as relevant to the review questions and included in the study. Data was extracted from the results of all included studies by the researcher and reviewed by an academic supervisor. The reference lists from chosen articles were also valuable for providing additional relevant literature that had not been identified through the searches.

The process of selecting studies followed The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses. **Fig. 1** below outlines the procedure used to select articles included in the review



## PRISMA 2009 Flow Diagram



#### **1.2.4 Stage 4: Data charting and collation**

The charting of selected articles is the fourth stage of Arskey and O'Malley's (2005) scoping review framework. Each of the 23 included articles was summarised according to the fundamental concepts of the review questions, using author, date, location of study, research questions or hypothesis, methodology, analysis, essential results, and comments on the limitations and implications for future research. Included articles are tabulated in Table 3, found in Appendix B.



### **1.2.5 Stage 5: Summarising and reporting findings**

The final stage of Arskey and O'Malley's (2005) scoping review framework is to summarise and report on the findings to present an overview of reviewed literature. A combination of methods to show the review results and provide an overview of the breadth of the literature has been employed. Included studies have been presented in a tabular form (Please see table 3, in Appendix B), which shows the distribution of evidence according to the different types of intervention. Accompanying the table is a descriptive summary of how the results are linked with the review question. The methodology used to synthesise the findings was thematic synthesis. Some elements of the Critical Appraisal Skills Programme (CASP) checklist (2022) for research studies have been used to provide an organised and quicker way of identifying the strengths and weaknesses of research studies. As the papers included and reviewed used a broad range of designs from randomised controlled trials to qualitative studies, checklists were used as applicable.

## **1.3 Results**

A total of 23 papers were included in the review. Most studies were conducted in the United States (n=19), a few in the United Kingdom (n=3), and one (n=1) study was undertaken in Taiwan.

The studies used a broad range of study designs. Three studies employed a randomised controlled trial design (Metsh et al., 2016; Cunningham et al., 2018; Buchanan et al., 2009); four were qualitative studies (Sarango et al., 2017; Broaddus et al., 2017; Ghose et al., 2019; Hall et al., 2019); two used mixed methods (Hawk and Davis, 2012; Wohl et al., 2017); four were case review reports (Nixon and Mundowa, 2019; Pardasani, 2005; Cameron et al., 2009; Broaddus et al., 2017) one was an editorial report (Gomih et al., 2018), and one was a systematic review (Ko et al., 2013). The remaining eight studies were quantitative designs of varying types, seven were cohort studies comprising the prospective, retrospective and stratified cohort designs (Kushel et al., 2006; Metcalfe et al., 2020; Dombrowski et al., 2019; Flash et al., 2019; Fuster, 2019; Broaddus et al., 2017; Rajabuin et al., 2018) , and lastly, there was one quasi-experimental design (Hall et al., 2019) .

Various healthcare delivery models and interventions were designed to meet the specific needs of homeless people living with HIV, including improving access to and engagement with services. Table 4 outlines the type of interventions reported in this review. The most frequently reported model was the supportive housing and case management models.

**Table 4:** Types of interventions reported in the review.

Type of intervention	Number of Studies (%)
Patient navigation models	4 (15.4)
Case management models	4 (15.4)
Supportive housing models	6 (23)
Incentivised care models	2 (7.7)
Patient centred medical home	3 (11.5)
Clinical service model	1 (3.8)
Mobile Multidisciplinary HIV medical care	1 (3.8)
Linkage of Care models	2 (7.7)
<b>Total</b>	<b>23 (100)</b>

### 1.3.1 Patient Navigation Models

Four studies (Metsh et al., 2016; Sarango et al., 2017; Cunningham et al., 2018; Rajabuin et al., 2018) examined the role of patient navigators in improving retention in HIV care and its effect on health outcomes. All four studies were conducted in the USA. The patient navigator role was created to assist patients through the health care systems to help them overcome hurdles to access services. Navigators connect patients to the resources most suited to their needs (Natale-Perira et al., 2011).

Key themes for this intervention identified in the reviewed papers included: tracking and identification of out-of-care patients; identifying barriers and needs and having a plan of care; supporting clients; addressing issues of stigma; educating clients and connecting them to other services; maintaining frequent communication to provide timely care; working with clients to self-manage their disease; linking and finding appropriate housing; behavioural change; making appropriate referrals to services needed; social and transport support (Metsh et al., 2016; Sarango et al., 2017; Rajabuin et al., 2018; Cunningham et al., 2018;).

The potential to decrease transmission rates and improve health outcomes were outcomes in three of the studies (Sarango et al., 2017; Rajabuin et al., 2018; Cunningham et al., 2018). Sarango et al's (2017) study found that to implement a patient-centred medical home model, they had to invest in a patient navigator who would support and connect patients to critical services they needed.

### **1.3.2 Case Management Models**

Four papers (Kushel et al., 2006; Ko et al., 2013; Irvine et al., 2016; Nixon and Mundowa, 2019) examined a case management model of care as an intervention to improve the care of homeless people living with HIV. Two studies were from the USA, one UK (Nixon and Mundowa, 2019) and the fourth one from Taiwan (Ko et al., 2013).

The Case Management Society of America (CMSA) describes case management as care that includes various activities such as planning, assessment, care coordination, and facilitating. The activities are designed to meet the health needs of individuals using communication-based interventions to plan, assess, coordinate care and facilitation. It is used to maintain people with long term health conditions to improve and enhance health outcomes and patient experience (Ross et al., 2011).

The study by Nixon and Mundowa (2019), presented at the Annual National HIV Nurses Association (NHIVNA) conference, incorporated an adaptation of a named nurse approach with outpatient HIV patients identified as having increased needs such as homelessness.

A systematic review of homeless people living with HIV and using case management models by Ko et al (2013), identified 28 studies that address the effectiveness of case management and its impact on people living with HIV. The review particularly focused on individuals with

unmet needs consisting of patients experiencing homelessness. Research evidence from the review supported case management as an effective model for improving health outcomes, increasing engagement in HIV care, treating other comorbidities and co-infections, and successfully linking patients to the health services they needed (Ko et al., 2013).

All four papers in this review (Kushel et al., 2006; Ko et al., 2013; Irvine et al., 2016; Nixon and Mundowa, 2019) reviewed case management as an intervention and recommended it as a model to achieve improved health outcomes for this study population.

### **1.3.3 Supportive Housing**

Six studies (Pardasani, 2005; Cameron et al., 2009; Buchanan et al., 2009; Hawk and Davis, 2012; Ghose et al., 2019; Hall et al., 2019) included in the review examined supportive housing as an effective model for homeless people living with HIV. Five were undertaken in the US and one in the UK. The methods used in the studies varied from qualitative to randomised control trials, and all positively reported long-term health outcomes in the patients living with HIV who were residents in supportive housing.

The UK study by Cameron et al. (2009) considered the challenges the support workers faced while working across the health and social care limitations in supported housing programs for homeless people with HIV. Semi-structured interviews were conducted with all key workers and people using the service. A navigator and advocate were identified as essential roles of the support worker. Cameron et al. (2009) called for support workers to be flexible to achieve the best results. This study emphasised the significance of collaboration.

Some studies (Buchanan et al., 2009; Hawk and Davis, 2012; Ghose et al., 2019) examined the supportive housing model in combination with other models. Buchanan et al. (2009) conducted a randomised controlled trial to determine the impact of a housing support program in combination with an intensive case management model. Patients were recruited from inpatients at a public hospital. Similarly, Hawk and Davis (2012) used a harm reduction housing first model and assessed its effects on HIV viral loads of homeless people living with HIV. A qualitative study (Ghose et al., 2019) undertaken at a supportive housing programme for homeless women living with HIV who had just been released from prison examined how

housing influenced adherence to antiretroviral therapy. Hall et al. (2019) assessed the influence of supportive housing on levels of incarceration and health service use.

#### **1.3.4 Other models and interventions**

The rest of the papers reviewed (Broaddus et al., 2017; Wohl et al., 2017; Borne et al., 2018; Sarango et al., 2018; Gomih et al., 2018, Dombrowski et al., 2019; Flash et al., 2019. Fuster, 2019; Metcalfe et al., 2020) implemented alternative interventions to improve health outcomes in this study population. These included: incentivised care models, patient centred medical homes, clinical service models, mobile multidisciplinary HIV medical care, and 'linkage of care' models.

Two studies (Wohl et al., 2017, Dombrowski et al., 2019) focused on re-engagement with care using incentivised care models based on the assumption that homeless HIV-infected persons who were out of care were more likely to have adverse outcomes. Wohl et al's (2017) intervention involved a mixed-methods approach that incentivised social network members to refer HIV-positive persons to their linkage program. When patients completed their first HIV medical care visit, money vouchers were given to referrers. The patients were also given money for their visit. The critical aspect of this intervention was the care activities and support that participants benefited from. This included text reminders of appointments and transport vouchers to get to appointments; participants were also accompanied to their visits and helped to navigate to other services (Wohl et al., 2017). Likewise, Dombrowski et al's (2019) approach offered incentives for patients completing visits and achieving viral load suppression. Their approach differed from Wohl et al. (2017) in that patients enrolled in a specially designed clinic for the poorly engaged in care, offering a comprehensive onsite clinic with a pharmacy nearby.

The papers that reported on the linkage models focused on connecting participants to primary care and speciality services to treat other comorbidities like Hepatitis C and Hepatitis B infections. During these interventions, enquiries were made via surveys that the patients completed to establish the barriers patients faced to not accessing medical care. Barriers included clinic affordability, forgetfulness, feeling too sick to attend, and lack of time (Fuster, 2019). The qualitative study by Broaddus et al. (2017) revealed that homeless people living with HIV valued the emotional support and assistance of care specialists in

helping them be independent and better care for themselves. They expressed finding meaning in the relationships built. Suggesting time invested in relationship-building may sustain the benefits of interventions (Broaddus et al., 2017).

The success of a mobile multi-disciplinary team (MDT) was highlighted by Borne et al., (2018). It minimised barriers to care, such as the stigma of attending healthcare services and had many policy implications. Gaps in care were addressed, such as initiating a permanent housing plan. The authors concluded that the standard healthcare delivery system was not enough to address the needs of this review population (Borne et al., 2018). Metcalfe et al. (2020) reported redesigning the HIV clinical service model to respond to an outbreak of HIV among people who inject drugs and experience homelessness, among other issues. This model included adapting pharmacy services to increase antiretroviral adherence by providing daily supervision of administration by the community pharmacist, a dedicated clinical nurse specialist to liaise with multi agencies and deliver antiretroviral therapy as well as take blood for monitoring while patients were in their temporary housing setting, i.e., streets and hostels.

#### **1.4 Discussion**

The review's findings will be discussed, as will any limitations of the sources used in the scoping study. The findings will be discussed in light of current literature, practice, and policy. The results of the scoping review highlight that homeless people who are HIV-positive need assistance to adhere to ART and improve their engagement with care services. This review has identified several interventions to support patients in achieving positive outcomes. The authors of the papers reviewed have offered insightful knowledge gaps and implications for practice, policy, and future research. Some have been tabulated in the literature review matrix, Appendix B and will be discussed herein to help judge the different interventions.

This scoping review found that the patient navigation model positively impacted on homeless persons living with HIV, suggesting that it may help assist UK patients. Sarango et al. (2017) have called for patient navigators to be integrated into the health care team to provide seamless care in connecting and retaining patients. Their findings showed positive effects such as increased retention in care and patient support in self-management,

amongst others. However, their study did not present the educational background or experience of the navigators, which might have offered insight for other healthcare providers who wish to adopt this model into their service.

Similarly, Rajabuin et al.'s (2018) study also illustrated the positive effects of the patient navigation model. They examined the impact of patient navigators on changing the housing status of people living with HIV combined with psychiatric disorders and substance use who were experiencing homelessness. The findings indicated improved patients' housing status and positive health outcomes (Rajabuin et al., 2018). Although the study employed univariate and bivariate statistical and a propensity score-based analyses, the researchers could not assess the direct causal relationship between changes in housing status, HIV health outcomes and other interventions due to the lack of a control group. Time-dependent variables were not included in the analysis, and housing status was self-reported. These methodological weaknesses do not necessarily detract from the contribution it makes. Different outcomes may or may not have been realised if these limitations were incorporated during the study. It has highlighted a recommendation for future research to include a control group.

The scoping review also found that the case management models had the potential to support homeless people living with HIV. Improved health outcomes, retention of patients in care, reduced death rates, and reduced levels of risky behaviours among HIV-infected people who were homeless were cited as benefits of aspects of the case management model (Kushel et al., 2006; Ko et al., 2013; Irvine et al., 2016; Nixon and Mundowa, 2019). Data analysis from Kushel et al.'s (2006) prospective observational cohort study found an association between the use of case management services and improved adherence to antiretroviral medication, and sustained reduction in HIV disease biological markers in the study population. Similarly, Irvine et al.'s (2016) observational cohort study found viral load suppression amongst the patients enrolled in the case management program. While valuable for this topic, a randomised control trial would have been suitable for both studies

(Kushel et al., 2006's and Irvine et al.,2016) as it might have provided a definitive causal association.

Several authors reported the need for ongoing learning or long-term evaluation of interventions. Other limitations cited were the generalisability of findings. Studies involved different settings, hospitals, outpatient clinics, communities, and prisons. The setting must be considered when implementing these interventions in practice as this could impact on their success. The impact of setting is evident in Metsh et al.'s (2016) study that assessed the effect of patient navigation on hospitalised patients living with HIV and engaging in substance misuse. The benefits of the interventions (patient navigation +/- financial incentives) used in the study were not realised compared to usual treatment. The authors concluded that the findings did not support interventions of this nature in a hospital setting (Metsh et al., 2016). On the other hand, a similar study done by Cunningham et al. (2018) yielded positive results when used to examine their effectiveness in sustaining viral suppression among HIV-positive transgender women and men who had been released from prison.

The supportive housing models have also proven to be a preventative health measure for patients and a cost-effective intervention for service providers. Pardasani's (2005) study argued that the model offered preventive care that minimised the movement of homeless people living with HIV back to living on the streets, levels of hospital admissions, moves in and out of prison, and provided them with stability and a social support system which was holistic and comprehensive (Pardasani, 2005). Two case examples were provided to illustrate cost-effectiveness based on reduced dependency on emergency services to address many healthcare and social needs issues faced by this population group. Hull et al. (2019) found that participants not placed in supportive housing had poorer health outcomes and a significant risk of death. Further, bringing to the fore health prevention on the part of the patient and cost-effectiveness for the provider. It holds promise for implementation in practice.

Incentivised care models, patient centred medical homes, clinical service models, mobile multidisciplinary HIV medical care, and 'linkage of care' models contributed to the



availability of interventions available and their limitations, as cited in the review table (Appendix B), will help inform policy, practice and patient education and assist patients. Their adoption in practice may be an issue depending on the local funding streams and the financial allocation of resources in each region or country.

The authors of the included studies also called for the interventions they employed to be strengthened in the future and comparison with similar programs to measure efficacy. Some studies relied on self-report measures, therefore the possibility of underreporting or inaccurate reporting by the study participants cannot be ruled out. Complete HIV clinic support services that support long-term retention in care were cited in several papers. Most studies were conducted in the US and far fewer in the UK highlighting a gap in the literature and the value of this review. Limitations/Strengths

The scoping review is not without limitations. First, a sizeable percentage of the articles examined were from countries with differing healthcare systems and social policy interventions. However, it is possible to explore and adopt these models or find a way to shift the methods based on the research evidence that they have been effective in improving engagement and adherence to ART. The narrow emphasis of the search terms and the years looked at, may have been limiting and could have left out relevant interventions. However, as a wide range of works was analysed, findings indicate important ideas and themes as well as potential research areas. The study helps inform policymakers and stakeholders about available interventions that can be tailored to local services.

## **1.5 Conclusions and Recommendations**

The findings of this scoping review reveal that various models are available to improve service engagement and adherence to antiretroviral therapy for homeless people living with HIV. There is a lack of UK based research, as only three studies were from the UK so adoption of interventions may be problematic. The recommendation would need to be tested in the context of UK service delivery for this population. Future studies should focus on identifying the factors that can improve antiretroviral medication compliance, continuity

of care, and improving the service for better health outcomes for this population. Another recommendation is to conduct further qualitative studies in the UK. A primary research study focussed on understanding barriers and facilitators at a service level by considering health workers' views to inform interventions for better health outcomes for homeless people with HIV. Perspectives of those that deliver the service would shed further insight and research evidence.

## **1.6 Conflicts and Acknowledgements**

There are no potential conflicts of interest concerning the research and authorship of this article.

## Chapter 2: RESEARCH ARTICLE

---

This chapter presents a report of a project carried out to evaluate service provision for people who are homeless, known to HIV services and are taking ART. Details of the rationale for carrying out the study, methods used, results and implications will be discussed. Also contribution and impact on education, policy and practice will be addressed.

### Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers.

---

#### 2.2 Abstract

**Objectives:** Homeless people living with HIV face significant challenges when engaging with HIV health services and adhering to their antiretroviral therapy. There is limited data on the perspectives of those that deliver their HIV care concerning these issues. This study sought to explore the barriers and facilitators to service engagement and adherence from the viewpoint of healthcare workers. It also set out to identify the factors that enable service engagement and recommend any changes required to improve existing practice. Another objective was to identify elements of a best practice model that will guide healthcare workers on how to engage with homeless people living with HIV. The overall aim of this study is to improve adherence to ART, service engagement and associated health benefits of homeless people living with HIV.

**Design:** A qualitative descriptive design study involving two focus groups with healthcare workers. Audio recordings were transcribed verbatim, and data were analysed using thematic analysis.

**Setting:** Healthcare workers were recruited from a large West Midlands NHS Trust providing comprehensive HIV Services on two sites.

**Participants:** A purposive sample of 16 healthcare workers was recruited who were representative of the multi-disciplinary team providing services to this population.

**Results:** Healthcare workers' perceptions on how to improve service engagement and health outcomes for homeless people living with HIV were summarised in four themes: Collaboration, Revised service model, Integration of cross-disciplinary care and an

Individualised approach. Participants highlighted that while some of the existing systems and processes were working, there was a need for change. There were uncertainties about the viability of implementing some of the proposed recommendations due to financial and legislation constraints. There was enthusiasm for more feasible plans, such as establishing a weekly walk-in nurse-led clinic.

**Conclusion:** This study captured the perceptions of healthcare workers about the service they deliver. The results highlight areas of concern and potential obstacles to an ideal model of care for homeless people living with HIV, together with recommendations to address these issues.

### 2.3 Keywords

homeless, HIV, adherence, service engagement, healthcare workers, focus groups,

### 2.3 Background and Rationale

The impact of HIV infection on the homeless population is a growing concern to healthcare providers. Public Health England (PHE) in 2018 recognised an association between ill health and homelessness, reporting poorer health and well-being compared to the general population. The average age of death of a homeless person is 47 years compared to 77 years for the general population (PHE, 2018). There are many types of homelessness, including statutory homeless households, single homeless people living in hostels, shelters, and temporary assisted housing, as well as those sleeping on the streets (Birmingham City Council, 2015). Homelessness is legally defined as a household with no home to occupy in the United Kingdom or anywhere in the world (PHE, 2018). The negative impact of homelessness on health is widely acknowledged.

The rough sleeping annual England statistical data set of autumn 2018, identified elevated levels of homelessness in the Birmingham region. Although it is difficult to assess accurately, there has been an increase in rough sleeping from 57 people in 2017 to 91 in 2018, with the rough sleeping rate being 2.1 per 10 000 households (Ministry of Housing, Communities,

and local government, 2018). Locally there has been a rise in applications from people experiencing homelessness for accommodation (Birmingham City Council, 2015).

According to Land (2018) homeless people with HIV experience higher levels of non-adherence to ART and difficulties maintaining or engaging with HIV care services. As a result, they experience worse health outcomes. The most recent national HIV surveillance data released by Public Health England (PHE) in December 2021 identified a total of 92,562 people received HIV care in the United Kingdom, of which 7,354 (7.9%) were from the West Midlands region of England, where this study was undertaken.

Levels of HIV in people experiencing homelessness are disproportionately higher. A central element of effective management of people with HIV is treatment with antiretroviral therapy (ART) to keep viral load controlled (in order to keep well) and prevent onward transmission (to protect others). Many people who are homeless live disordered lives. A feature is homeless people experience higher levels of non-adherence to ART and often experience difficulties maintaining or engaging with HIV care services (Land 2018). Brown et al. (2017) maintain that there is still a substantial challenge concerning HIV transmission across all populations due to late diagnosis. Again a challenge in this population where diagnosis may only happen when in contact with services for other health needs such substance use or pregnancy, (Knowlton et al., 2006; Waldrop-Valverde & Valverde, 2005).

Recent evidence indicates that adherence with ART by people with HIV effectively reduces the sexual transmission risk of HIV (Rodger et al., 2019). The evidence underscoring the message that undetectable (viral load) equals untransmittable (U=U) virus (Rodger et al., 2019). Further support for the principle that people who keep their viral load undetectable through ART do not transmit HIV infection through sexual activity during periods when condoms are not being worn. PHE in 2019, identified that approximately 14,600 to 19,200 people who had tested positive for HIV, had virus levels that were detectable and therefore could be passed on from one person to another. Of these, some were not linked with, or lost contact with services after diagnosis and hence did not receive ART (PHE, 2020).

Onward transmission of HIV by and amongst the homeless has been a primary concern because of the growing evidence that homeless people living with HIV have difficulties

adhering to prescribed antiretroviral medication (Royal et al., 2009; Wood et al., 2003). Moreover, they have a higher odds ratio of incomplete HIV viral load suppression than housed people (Thakarar et al., 2017). Housing is a principal factor in optimal adherence to ART and treatment outcomes for homeless people living with HIV (Loh et al., 2016; Wolfe, Carrieri, & Shepard, 2010) and access to housing may help reduce the challenges this population face with adherence.

Homeless people living with HIV are particularly vulnerable to adverse health problems due to co-morbidities in addition to HIV infection. The prevalence of Hepatitis C and co-infection with latent TB infection in homeless populations is higher (Story et al., 2016). Likewise, depression (Weiser, 2016; Tsai et al., 2013; Palar, 2014) with food insecurity adding to depressive symptoms amongst homeless people living with HIV.

Despite improvements in health care services in the NHS generally, homeless people are still not receiving adequate care (Thomas, 2011, Story et al., 2018). Perhaps as a consequence of inflexibility and (in)practicality of services for homeless people (Thomas et al., 2011). Solutions proposed include collaborations with stakeholders and voluntary sector organisations to address service delivery for vulnerable communities (Davis and Lovegrove 2010). Patient navigation, case management models, incentivised care models, supportive housing models, linkage of care models, patient centred medical homes, mobile MDT HIV medical care model and clinical service models offer solutions to assist this population for better health outcomes (Metsh et al., 2016; Sarango et al., 2017; Cunningham et al., 2018; Rajabuin et al., 2018; Kushel et al., 2006; Ko et al., 2013; Irvine et al., 2016; Nixon and Mundowa, 2019; Pardasani, 2005; Cameron et al., 2009; Buchanan et al., 2009; Hawk and Davis, 2012; Ghose et al., 2019; Hall et al., 2019; Broaddus et al., 2017; Wohl et al., 2017; Borne et al., 2018; Sarango et al., 2018; Gomih et al., 2018, Dombrowski et al., 2019; Flash et al., 2019. Fuster, 2019; Metcalfe et al., 2020). Please refer to Chapter 1 for discussion of the models and interventions that have been tested with this population.

The overwhelming evidence suggests that challenges remain despite global and local HIV guidelines on best practices. The models of care and interventions identified in the scoping review point out that further research is warranted to improve the health of homeless

people living with HIV (Chapter 1). Most of the models described were not specific to UK services and may not be transferable.

Moreover, few qualitative studies have been undertaken to date, and little information about the views of the healthcare MDT involved in caring for this vulnerable population. The study proposes to explore the views of the healthcare MDT workers about service provision delivered to optimise engagement and adherence with ART and to identify areas for improvement or redesign of current models.

## **2.4 Methods**

### **2.4.1 Study Design**

A qualitative descriptive design was chosen to better understand the perspectives of healthcare workers. A qualitative method was appropriate for this study, as the research sought to explore participants' experiences, attitudes, and beliefs concerning homeless people living with HIV. According to Bradshaw et al. (2017), a qualitative descriptive method is useful when acquiring information directly from those that have experienced what the researcher wishes to investigate. One of the philosophical underpinnings of qualitative description approach is that it is carried out in the natural setting of the participants, data is gathered in the participants' native environment, where they experience the event (Bradshaw et al., 2017). The benefit of using qualitative research is that it can produce rich data and be subjective to the researcher being part of the data collection process (Rahman, 2017).

### **2.4.2 Setting**

A single study site involving the MDT delivering HIV services across two hospital sites. The West Midlands Trust is one of the largest in the English NHS; it treats over 2.8 million patients each year ([www.england.nhs.uk](http://www.england.nhs.uk), 2021). The study was conducted during the COVID-19 pandemic, so public health measures were in place to reduce unnecessary contact, which impacted on the study design.

### **2.4.3 Sample and participants**

Healthcare workers working in the MDTs involved in caring for homeless people living with HIV were recruited across two sites. A purposive sampling method was used to recruit participants. Participants recruited, were healthcare workers with experience of working in HIV services. The participants recruited in this study work together. According to Green and Thorogood (2014), this can be beneficial when undertaking focus groups to maximise interaction between participants. The service employs approximately 40 people, and the participants represented the various grades, roles and professions of the MDT. Study Procedure

An invitation email was sent along with the participant information leaflet (PIS) and consent form to all HIV services staff on both sites. These had all been reviewed and approved by the University of Birmingham STEM ethical review panel (ERN\_20-0112). This approach produced a good response with representation from different staff grades and occupations from both locations. Nurses, pharmacists, doctors, and social workers were recruited.

Participants were sent a doodle poll to choose a convenient date to attend one of the focus group interviews. A meeting room in the Trust was booked, and confirmation emails were sent to those who agreed to participate to indicate the time, location, and schedule for the focus group interviews. A reminder email was sent a week before the agreed focus group date.

### **2.4.4 Data Collection**

The method of data collection for this study was focus groups. Focus groups offer a valuable way of capturing a variety of perspectives and a forum providing an opportunity to brainstorm while providing insights into a phenomenon and obtaining data quickly and cost-effectively (Parahoo, 2014). A strength of focus groups is that they can involve different stakeholders in the process and engage them in exploring the issues and hopefully finding solutions for them (Molina-Azorin and Fetters, 2019).

The focus group interviews were facilitated by postgraduate researcher Sindiso Masuka (SM) with a clinical supervisor and took field notes. Each focus group commenced with introductions, lasted one hour, and was audio recorded using a password-protected digital



recorder before transcription. Recording the interviews helped with accurately capturing the discussions and made analysis easier.

To direct the focus groups, an interviewing guide was created (see Appendix C). This provided an enabling framework so participants could describe and discuss their experiences and brainstorm recommendations that might improve adherence and service engagement. In-depth discussion was generated by asking open-ended questions. To understand the barriers to delivering care for homeless people living with HIV, healthcare workers' experiences were explored. Discussing the participant's understanding of patient experience provided an opportunity to initiate discussions and provided a platform that led to wider exploration of ways for redesigning the service to improve healthcare outcomes for homeless people living with HIV. After each focus group, the researcher (SM) summarised comments and key points discussed by participants.

#### **2.4.5 Data Analysis**

The interview audio recordings were transcribed by SM. Any information that threatened the anonymity of individual participants was removed. The transcribed data file was then uploaded onto the NVivo (Release 1.0) software program, which supersedes the NVivo 12 version, and the sound file was deleted.

Braun and Clarke's (2013) 6-step approach to thematic analysis was applied to analyse the data. It is a method in which patterns of meaning within a data set that relate to the research question(s) are identified and examined.

The first step when undertaking thematic analysis is transcribing the data into written form and checking it against the audio recording for accuracy. Riessman (1993) points out that immersion in the transcription process allows the researcher to become familiar with the data. Data were read and re-read, and initial ideas were noted down. These initial ideas were discussed during supervision.

The transcribed data files were then uploaded onto the NVivo software program. NVivo was beneficial in generating initial codes relevant to the research questions. This coding approach links with Braun and Clarke (2013), who emphasise that codes should be applicable, concise, and carefully thought-out. The software made the identification of codes easier and speeded up the coding process and organisation of data. The codes were

combined, examined and ultimately collapsed to form themes. These themes were reviewed in order to ensure they provided a clear narrative representing the findings as expressed through the data. The final stages of analysis involved defining and refining themes and attaching the significance to each theme. Once the final themes were reviewed, the last step was to produce the report.

#### **2.4.6 Trustworthiness**

While it is impossible to eliminate all forms of bias, efforts were made to maximise the quality and trustworthiness of study findings. Following the six steps of the systematic analysis approach described by Braun and Clarke (2013) contributes to dependability, as each step is consistent and traceable (Korstjens and Moser, 2018). In addition to the transcribed focus group quotations included in the report, tabulated codes and themes generated during the process, plus a summary table that provided visualisation, collectively allowed transparency of the data analysis process to be represented.

Field notes were recorded during the focus group discussions by the clinical supervisor, which provided further insights into participants' responses. The researcher (SM) is a member of the HIV Service Team. To help set aside any personal views and biases, a focus group interview guide was used and every effort was made to avoid imposing any ideas. This allowed an organic flow of ideas to be generated by participants, thereby achieving greater credibility (Rauf et al., 2014). Transcription accuracy was enabled by production of a clear digital recording of the two focus groups. The recording equipment had been pre-tested and could be replayed and re-visited for accuracy during the transcribing process.

One of the limitations of this study was it involved a single NHS Trust, that comprises of hospitals located in different areas. Members of the teams based at the different hospitals participated. The ability to raise issues that might be culturally specific to the area was made feasible by the presence of teams based in separate locations. Site one was interviewed first, then site two (both are located in different parts of the City, site one captures a more cosmopolitan community based near the city centre while site two is located in a more residential area). Interaction between participants did not appear to be affected as both focus group interviews were interactive, and this was encouraged. Participants expressed

satisfaction with the process, valued being part of the research and had an opportunity to share their views.

#### **2.4.7 Ethical considerations and informed consent**

The proposal was discussed with Trust Research and Development team, and advice about whether approval should be sought from the NHS Health Research Authority was sought. Following completion of the Medical Research Council self-assessment tool for conducting research in NHS organisations (please see Appendix H for completed document), the Trust's Head of Research Governance confirmed by email that the project could go ahead. Hence approval to conduct the study was obtained from the University of Birmingham STEM ethical review panel (Ethical Review approval number **ERN\_20-0112**).

Before taking part, all participants were provided with an opportunity to discuss the study, and given and signed a written informed consent form. Focus Group interviews raise several ethical implications, and strategies were implemented to manage the risk. Ethical implications include participants encountering distress they did not anticipate due to the spontaneous evolution of discussions, and violations of confidentiality, among other implications (Sam and Waterfield, 2019). The briefing before the start of the focus group interview affirmed participants had the right to withdraw up to the point when their data was anonymised and non-attributable and could not be removed from the transcript. All participants were agreeable to this decision. The use of a participant information sheet (PIS) and consent form provided the opportunity for individual staff to discuss their possible involvement in the study.

## **2.5 Results**

### **2.5.1 Participants**

Sixteen individuals participated in two focus group interviews (Table 5). There was a good response and representation from different staff grades and occupations from both hospital sites. Nurses, pharmacists, doctors, and social workers with varying lengths of service within the HIV speciality were recruited. This ensured heterogeneity of the sample. Table 5 reports the participant's demographics. One focus group lasted 1 hour and 20 minutes, whilst the second group lasted 45 minutes.

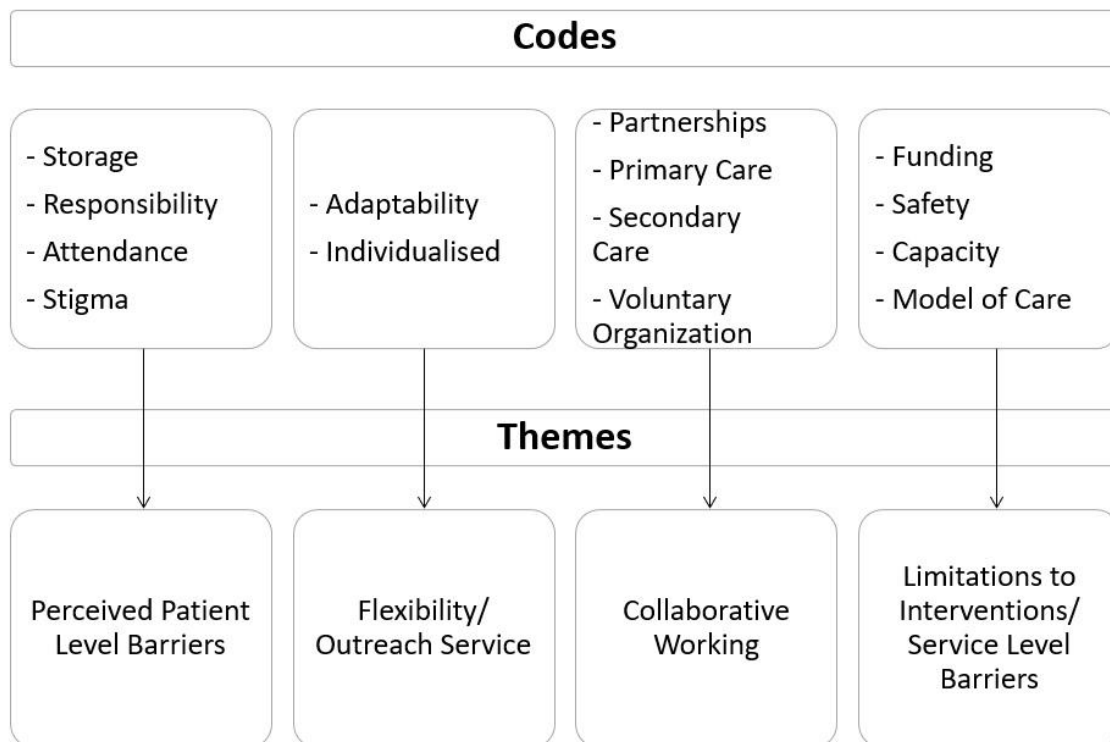
**Table 5: Study Participant Characteristics**

<i>Participant characteristics</i>	<b>Number</b>	<b>Percentage (%)</b>	
	<b>Total:</b>		
	<b>n=16</b>		
<i>Age</i>	20-30	4	25%
	31-40	3	18.7%
	41-50	6	37%
	Over 50	3	18.7%
<i>Position</i>	Registered Nurse	9	56 %
	Healthcare Assistant	1	6.2 %
	Doctor	2	12.5%
	Pharmacist	3	18.7%
	Social Worker	1	6.2%
<i>Length of working in HIV service (Years)</i>	Less than 1 yr	0	0%
	1-2 yrs	1	6.2%
	2-3 yrs	0	0%
	3-5 yrs	1	6.2%
	Over 5yrs	14	87.5%
<i>Employment</i>	NHS	16	100%

## 2.5.2 Themes

Four themes were developed from the analysis. Themes were developed by examining the codes, then grouping them together to help find patterns and insight emerging from the data (Please see Data Analysis section 2.4.5). Codes and themes created are outlined in Figure 2.

**Figure 2**  
**Codes and Themes**



A summary table of the codes, themes and examples of corresponding quotations from the transcripts is provided in **Appendix G, Table 6**.

### 2.5.2.1 Theme 1: Perceived patient-level barriers

Participants were asked to share their experiences delivering care to homeless people living with HIV and the factors that facilitated engagement with services. Various interactions were described ranging from the behaviour of patients during clinic attendances, as well as perceived facilitators and barriers.

Some participants felt that patients prioritised other activities ahead of their health, which was challenging to care delivery. For example;

*“They don’t hang around long; they have some elements of consultation done and then need to be elsewhere.” (FG2)*

Another participant suggested that patients who were both homeless and had HIV often had hectic lifestyles. These lifestyles impacted their attendance at clinic appointments.

*“They are disorganised and lack structure in their lives. There is also substance misuse meaning that they may be intoxicated to remember their appointments on a given day.” (FG1)*

Medication storage was also recognised as a barrier for patients that served as a barrier to medication adherence.

*“Antiretroviral medication can get lost or stolen in the streets as patients don’t have any storage facilities.” (FG.1)*

*“To avoid meds getting stolen in the streets, one of the homeless patients informed us that she obtained a locker in the Bullring city centre mall, where she would keep her medication safely to maintain adherence.” (FG.2)*

Participants also expressed frustration with attempting to be flexible to meet the needs of this population. Participants felt that patients needed to be self-motivated for any change to be successful.

*“It is great putting all these things in place, but if the patient will not engage and come to satellite clinics, hospital, community, etc. If the patient is not in the right frame of mind, you will not get them to these places. They will only turn up when they become unwell.” (FG1)*

In contrast, non-attendance at appointments was identified as an indication of something wrong, such as an underlying mental health issue. So failure to engage with services was a

red flag that should be considered or explored so that service was more flexible to meet patient needs.

*“We must acknowledge that the processes we have in place are not suitable for this population group. We may have to adopt a system where we discuss them separately every month and not through the standard policy for discharging patients that default the service.” (FG.2)*

Participants were also asked to consider their responsibilities as professional carers and consider whether unconscious biases were inherent in their care for this population. Patients have previously reported negative health experiences when accessing health care services (Mills et al, 2015). Participants responded:

*“We must build good relationships with our patients. Open communication and rapport lead to trust and long-term engagement with services.” (FG.2)*

*“We are professionals and bound by the professional code of conduct in the way we deliver care and strive to give excellent, non-judgemental care with our duties.” (FG.1)*

Participants agreed that patients would be better placed to articulate these as far as patient-level barriers were concerned. One suggestion was that staff should work with patients to map their ‘normal’ day to find out if there were any opportunities for interventions that could enhance engagement.

*“We need to find out what patients do from when they wake up, where they go, or services they may attend. This will help us find out at which point we can intervene. For example, if they get methadone from a community pharmacy, that could be an opportunity for ARV medication to be administered to aid adherence with medication.” (FG.1)*

### 2.5.2.2 **Theme 2:** Flexibility/Outreach service

Offering flexible services to meet the needs of homeless people living with HIV was cited by several participants. Participants had mixed views when asked to describe ways the service currently offered flexibility in order to accommodate patients. Some participants felt that they were already flexible:

*“We work hard to clear lists, to make room for this patient group when they make appointments at short notice.” (FG.1)*

However, there was some debate in both FGs but ultimately consensus that providing some flexibility in services was necessary. However it was recognised that some felt that some staff were unwilling to adapt and change:

*“Some staff are resistant to changing their ways of working.” (FG.2)*

Although there was recognition that the COVID-19 pandemic had become a driver for speeding changes and contributed to the introduction of positive interventions and adaptability into new ways of working.

*“We hope that the pandemic has changed people’s ways of thinking and ways of working.” (FG.2)*

Participants also recognized that the COVID-19 pandemic had served as a facilitator for increasing engagement.

*“Patients no longer need to attend appointments in person because of the pandemic. We can now triage them over the phone; if their bloods are all fine and they take their medication, they can be reviewed remotely.” (FG.1)*

Due to appointments shifting to virtual or telephone consultations, staff felt this provided more scope to go out and treat patients of great medical concern where they are.



Participants expressed their concerns unequivocally about redesigning a service that would be suitable for homeless people living with HIV. Participants expressed the need to identify patients' priorities and provide individualised care as patients have differing problems. For example:

*“Methadone is not every single homeless person’s priority. It is not a one box size fits all.” (FG1)*

Offering patients a service that works for patients might facilitate their engagement.

*“We should ask patients which services they access, e.g., addiction, shelter, counselling. What would make it easier for them to attend? The questions and answers may differ for everyone, but they give an insight into what could be implemented in our current service model to meet their needs.” (FG.1)*

Participants also pointed out that patients have expressed that they prefer to come on Thursday afternoons as that is the day they get their unemployment benefits paid into their bank accounts. A solution was proposed during the focus group discussion that a nurse-led clinic could be set up on Thursday afternoons to accommodate this patient preference. As no clinic currently occurred on that day. It has been set aside for discussing and managing complex cases and other duties, including administration. It was decided that the idea would be brought forward for discussion at the next MDT meeting as it raised several issues around its implementation, such as the sentiments below.

*“We also don’t know what state they will turn up in when they attend, as they have complex mental and physical health needs”? (FG.1)*

*“We may need a doctor to be available in the clinic to request chest x-rays or do further assessments depending on how they will present” (FG.1)*

*“We will therefore need to plan this further, regarding the capacity and resources needed for initiating the ad hoc clinic and making sure that we have adequate staffing cover.” (FG.1)*

### 2.5.2.3 **Theme 3:** Collaborative working/Coordination of services

Discussion about how difficult it was to contact patients was raised. The need to help locate these patients by involving other organisations was expressed.

*“I feel that there could be more community groups to interact with, that can locate patients as we are restricted with being in hospital and not being able to get out there to locate them.” (FG.1)*

*“We should have a record on our system, of the agencies patients, access and their contact numbers in case of loss to follow up.” (FG.2)*

Participants highlighted that collaboration within secondary care settings could be achieved when care is well coordinated. Participants were questioned how this was managed and the following example was offered:

*“The Liver nurses often let us know when they have our patient, and we can add on the extra tests that we need for our speciality.” (FG.1)*

*“When booking follow-up appts, we also try and link in with appointments from other services that are showing on the system.” (FG.1)*

These responses suggested that existing systems such as the electronic care record (ECR) enabled collaboration and alert systems when triggered and this could provide opportunities for providing care for this client group.

A factor pointed out across the focus group interviews is that there is a GP service exclusively for homeless people, and full utilisation of this service, where possible, could improve outcomes and reduce the number of appointments patients need to attend in

secondary care. This was a learning opportunity for participants who did not fully understand the scope of this service.

Involving other organisations and departments was seen to contribute to a positive experience for participants. When asked about their successful experiences because of collaboration, responses were positive.

*“We linked up with other clinics successfully, where a patient was due to start Hepatitis C treatment. It was an ad hoc situation, and we managed to make it work by seeing the patient jointly with the Liver team and providing him with his HIV medication.” (FG.1)*

Adopting an approach used in other specialities where patients had co-morbidities was the suggestion a joint clinic should be set up with the specialities such as liver, dermatology and respiratory. Some participants indicated that it must be on a patient preference basis and felt not all would be happy to have a joint consultation. This was suggested because some patients only engage with specific teams, and taking choices away from them could potentially lead to further disengagement.

The benefits of having social workers embedded within the HIV service team were recognised in the discussion about collaboration. Participants stated that it was a successful model in facilitating the engagement of homeless people with HIV. Both focus groups agreed that access to services in primary care, e.g., alcohol addiction services, housing organisations, etc., and the wider community were expedited by the collaboration and involvement of social workers within the team. Social workers were seen to quickly link homeless patients with housing needs to the right teams and provide them with food parcels and further advice on what was available for them to meet their needs.

*“Some patients attend their appointments when they know that that is the day the social worker will be in the clinic. They often obtain their food parcels before leaving the department and get their housing and financial needs addressed during the same appointment.” (FG.1)*

Despite the benefits of collaborative working in some cases, this may not be successful. The following example was offered:

*“The success story from the collaboration with the Liver team may turn out not to be successful because he is now saying that the flat that he has been housed in is a waste of time, with expensive electricity. He said is now contemplating going on back on the street.” (FG.1)*

#### 2.5.2.4 **Theme 4:** Limitations to interventions/Service level barriers

Funding the resources or finances that are provided to facilitate programmes or needs, was raised by a number of participants. Also what might work for certain specialities might not work in healthcare services. One of the suggestions presented in the literature is using patient navigators to help patients with clinic attendance and support them with their healthcare journey and follow-up visits (Metsh et al., 2016; Sarango et al., 2017; Cunningham et al., 2018; Rajabuin et al., 2018). These roles have been seen as effective with patients with liver disease in eradicating the Hepatitis C virus. The ‘help’ in this context can range from supplying transportation, education, advocating for the patient, and acting as the link between healthcare and patient (NHS England, 2016). Participants mentioned the issue of funding as a limitation to patient navigators.

*“The problem is that Liver has an incentive because there is a cure. We do not say bye to our patients, they are with us life-long as there is no cure.” (FG.1)*

Incentives such as vouchers and peer support have been used by care providers and commissioners to assist Hepatitis C infected patients to adhere and complete treatment and attend clinic appointments (NHS, England, 2019).

However, in relation to HIV care at the Trust, a homeless nurse specialist plays a similar role that does not include incentives. The role involves going out to the streets to locate HIV patients, assisting them in booking their routine HIV care appointments, and organising

transportation to attend their hospital visits. Participants felt that as there is only one person currently undertaking this role, in addition to providing the same service to other (non-HIV) homeless people, it was recognised that the post holder was already overstretched; therefore, funding was needed to recruit another clinical nurse specialist to help.

It was also acknowledged that patient navigators could also be unpaid community members, such as clergymen, family, and friends. When asked about the role of social networks in patients' healthcare outcomes, responses were similarly both positive and negative. Participants shared that;

*"Some patients attend with pastors from church and maintain good adherence with medication (ART) during the duration of that relationship, and also others are brought in by friends." (FG.1)*

But dependency on others can also be problematic:

*"When family relationships break down or a partner stop attending, there is a tendency that they will not influence each other positively and end up getting lost to follow up." (FG.2)*

A recurring narrative in the focus groups was the need to go out and treat patients in the streets to avoid the problem of people not attending hospital appointments. Treating patients would involve taking blood samples, administering medication, and providing an overall health assessment of the patient's medical condition. Some participants raised issues about personal safety concerns and the need for indemnity cover if going out to treat patients where they are.

*"Risk assessments need to be undertaken and documented, before going out." (FG.2)*

A debate ensued about the financial viability of hospital-based staff outreaching into the community to deliver care while maintaining adequate service levels. The cost-effectiveness of one highly paid staff member going out to the community to provide care to a single homeless patient versus when they could staffing a clinic seeing more than ten patients in the same amount of time was questioned.

One of the suggestions was that ART medication could be given to patients when they attended community pharmacies for daily methadone treatment. Another suggestion was that late-night community pharmacies could also participate, meaning more extended hours for patients to be treated. It was expanded that this would be useful for patients that struggle with adherence and storage of the medication.

Some respondents within the focus groups recognised that this was not a quick fix because the funding model in the UK was complex. One of the respondents elaborated on this point:

*“The only issue is the barriers that exist. There are different contracts and does and don’ts from NHS England. For example, methadone prescriptions are normally done by a general practitioner (GP) or someone who is a specialist in the drug services. They send that prescription to the pharmacy and the pharmacy dispenses it as normal, but in our situation, the medication must be dispensed in a specialist hospital to get paid.” (FG.2)*

Other participants highlighted that the primary care setting was commissioned to deliver care to this population group and suggested that efforts should be placed on a radical protocol change across some HIV service processes.

## **2.6 Discussion**

This study explored barriers and facilitators to service engagement and ways of re-designing the HIV service to meet the needs of homeless people living with HIV from the viewpoint of healthcare professionals. The results of this study set a starting point for healthcare providers for improving service engagement with the added potential to bring the associated health benefits to this study population. Factors identified as essential to achieving improve current practice and processes include adopting an individualised person-centred approach to patient care, working collaboratively with other healthcare services and charities and agencies working with the homeless, providing a more flexible service, and understanding the limitations and consequences of implementing some of the identified

strategies and their potential cost, particularly when expanding the breadth of current services.

The study raised awareness of the need to focus on the person with HIV experiencing homelessness as an individual and tailor their care to their needs. The study surfaced the notion that through knowing the person, by obtaining information directly from the patient, and jointly working to identify best strategies to facilitate their engagement and adherence based on the information, was important. According to the Health Education England, (2017) adopting a patient-centred care approach means making clinical decisions based on people's preferences, needs, and values, and providing a service that works for them. Being person-centred entails considering what makes each individual special and making every effort to prioritise their needs (Nursing and Midwifery Council, 2020). The importance of communication, relationship building, and trust, are at the fore of this approach (Health Education England, 2017).

It should be acknowledged that this may not be an easy concept to accommodate fully due to standard practices within the NHS. For example, the current discharge policy for patients who have defaulted is triggered when a patient does not attend an appointment within six months to a year depending their treatment schedule, they are discharged from the service. The participants recognized that this patient population required greater flexibility due to the mental and physical health and social complexities that frame their lives and present unique challenges. This notion of unique characteristics requiring special treatment (or outreach policy) is supported by previous studies, (Johnsen et al., 2020; Flanagan and Hancock, 2010). These authors recognized services could increase engagement through offering flexible services that included user-friendly 'opening hours' and outreach services, among others.

Greater flexibility will require healthcare staff to balance institutional limits and boundaries and want to accommodate needs of a population that do not neatly comply with rules. Staffing and safety considerations may limit some flexibility needed if care is truly individualized to increase service engagement and adherence to ART.

On the other hand, although service provider flexibility is crucial, patients' need to take some personal responsibility to facilitate their own health outcomes. This study surfaced some of frustrations felt by healthcare staff when implementing what were perceived as individualized interventions but failing to achieve the required engagement from the patient.

The study also highlighted that staff valued and were committed to partnership working. It was seen as a particularly beneficial way of working for patients and healthcare professionals. Improving information exchange and participant support was recognised as helping efficiency and quality of service delivery.

The study participants recognised the benefits of services working together such as social services and/or other relevant healthcare specialities. Working together, enhanced patient outcomes and facilitated better engagement with services. Social work intervention with this population serves as prevention of further deterioration as it prevents patients faced with homelessness from poorer outcomes by facilitating access to housing, directing patients to community services and organisations.

While various solutions were offered by participants to facilitate engagement and adherence to ART, implementation may be hampered by barriers at a service level. The focus groups generated much debate around different ways of working as a strategy to use of resources more effectively. This included issues such as which healthcare professionals would be allocated to undertake outreach work, and associated salary and financial implications with a changed service model. Arguably on ethical grounds in a resource-limited situation decisions need to be fair balanced with greater good.

The complexity of funding in care delivery featured across the discussions. Some of the solutions are not tenable as legislation restrictions would hinder implementation such as community pharmacy ART dispensation. The analysis illuminated the complexities of systems and challenges navigating working between primary and secondary care and responsibilities to a client group who face multiple and various challenges in managing their health conditions. This population invariably loses out because they cannot always engage in their care as well as other patients.



### **2.6.1 Comparisons/Relevance to the existing literature**

There was considerable variation in how different countries and regions address service engagement and adherence with ART in homeless people living with HIV population. Yet the published evidence (Ko et al 2013) was limited with few studies involving homeless people living with HIV. Findings from this study support many of the issues identified in the existing literature.

### **2.6.2 Strengths/Limitations of the study**

Despite the rich data gathered from sixteen 'expert' participants, this study had a number of limitations. These include participants were recruited from the same NHS Trust, which may affect the transferability of findings to other settings. It is acknowledged that different results may be generated if participants are recruited from other NHS trusts or geographical areas. However, the strength of this work lies in the depth of perspectives captured from healthcare professionals working in two hospital sites in a large West Midlands NHS Trust. The Birmingham area has seen a rise in homelessness and is ranked fourth highest in the UK, for numbers of rough sleepers (Birmingham City Council, 2019). Therefore, tailoring a service model to the local context and devising better working systems contributes to a wider mission across the integrated care system for effective multi-agency working for improved health outcomes for homeless people living with HIV. Nevertheless, including perspectives of healthcare professionals from other services in different geographical areas would provide a more comprehensive insight into understanding and experiences and possibly more ideas and solutions.

Another limitation was those study participants were not recruited from clinical specialties whose services cater to the needs of this population. It would have been valuable to interview community-based staff, and members of the liver team involved in outreach work with this study population. This might lead to an increased understanding of the community context, insight into the strategies that have been a success and provide a diversity of views

on their implementation. However, as the study was carried out during the COVID-19 pandemic, there were public health restrictions regarding mixing workers from different areas.

An additional limitation is that the analysis was undertaken solely by the researcher . In larger studies, analysis is often undertaken by the team to avoid imposition of personal biases, such as failing to recognize other themes or unintentionally looking to validate particular themes. However, the codes and themes generated were discussed and checked with the supervision team. Furthermore, becoming immersed in the data and uncovering codes and themes during analysis resulted in a better understanding and hopefully richness of the findings.

### **2.6.3 Recommendations for practical implementation or further research.**

Further studies need to be undertaken with people living with HIV to better understand facilitators and barriers to service engagement to identify ways of making engagement easier for them. Mapping patients' usual day life to identify opportunities for intervention could be part of any future inquiry.

There is also a need for further research with other healthcare professionals in different parts of the UK to widen the evidence. Future studies should seek to capture the views of community professionals and stakeholders to understand how services could be better integrated cost-effectively to improve health outcomes for people living with HIV. The perceptions of other specialist areas such as liver and respiratory medicine should also be explored in future research, as they respectively encounter this client group. People with HIV who are homeless can acquire co-infections with Hepatitis C and/or TB at some stage. The results have identified the development of a Thursday clinic to facilitate appointment attendance and engagement with services might be of benefit and the service is exploring this. Future studies will be needed to audit and evaluate the clinic and its benefits post-implementation. Also, report on any improved outcomes or patient experience from this innovation on attendance and adherence to antiretroviral medication

#### **2.6.4 Implications for policy and practice**

Findings from this study have demonstrated that consulting staff to elicit their views and experiences in order to contribute to service improvement, and redesign is valuable. Participants provided their experience, knowledge, constructive criticism, and problem-solving making their contributions so rich.

The study will identify an area of need that warrants further consideration by commissioners and policymakers. The argument for an integrated care system to address the health of homeless people living with HIV has been highlighted in these findings.

Furthermore, this study has laid the foundation for exploring possible elements to contribute to a best practice model to optimise healthcare professionals' engagement with homeless people living with HIV. Results from the study will also be used locally to influence changes in the current service model and potentially through dissemination to other similar organisations.

Public engagement will be done through disseminating findings to HIV patients and research participants at the Genitourinary Medicine Annual Patient Forum, University Hospitals Birmingham NHS Foundation Trust Annual Research Showcase, and through homeless representatives and organisations. There will also be potential publication in peer-reviewed journals to ensure wider practice reach and impact.

## Chapter 3: REFLECTIVE REPORT

---

### **Overall reflection on the thesis process**

This reflective report focuses on my thesis project, **“Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers.”** Justification for the decisions made during the process of researching, conducting research, and writing, will be provided to give a different understanding of the thesis process from my perspective. To help structure this report, I have used the reflective practice framework proposed by Bain et al. (2002). The reporting and responding components may interlink in some areas of the report; however, the critical elements of the model will be utilised. The model remains a practical approach that enables reflections to be put into categories that promote deeper thinking and learning through the reconstruction and evaluation of events (Bain et al., 2002).

#### **Reflection on the research process and the roles I undertook:**

The experience of undertaking this thesis project taught me about the Health Research Authority’s (HRA) position in protecting participants and researchers in health and social care research. The Research Governance departments from both the University of Birmingham and the National Health Service (NHS) were also paramount in providing me with insight into the regulatory bodies that ensure good clinical research practice. The steps I took, from writing the protocol for the study to getting it reviewed anonymously by course peers, who provided feedback on how to improve and iron out any issues encompassed my experience. I also undertook the Medical Research Council self-assessment, before submitting a summary application to the University of Birmingham ethical review panel. Once an approval opinion was issued, I sought permission from the NHS to conduct the study. Throughout these steps, I discussed with my project supervisors for direction and guidance.

As a researcher for this study, I had to take on many roles in addition to the approval administration duties. Amongst the additional roles and responsibilities, I undertook the part of the facilitator. I facilitated the focus group discussions. It involved tasks such as timekeeping and ensuring that data was captured within the hour that was stipulated in the information leaflet. The protection of participants was also paramount through answering questions during the consent process and after the discussions. I also kept participants engaged and led the discussions. I tried to give prompts and ask questions without interfering and projecting my views since I had worked closely with some participants. Throughout the separate roles in conducting the research, I made sure that I consulted with my supervisors for advice.

While I had the experience of coordinating studies and ensuring the safety of patients as part of my job role as a research nurse, which also involves assisting, setting up studies, recruitment, and data collection for researchers. However, in this instance, it was unique as my position was the role of the postgraduate researcher. I realised that I needed to step up to manage my time better and plan effectively. Creating a Gantt Chart was helpful in goal setting and ensuring timely submissions to the Ethics team and other regulatory bodies as required. I understood that I had to enrol in courses in addition to the modules I was undertaking as part of my studies. I registered for the Scriptoria writing class and the Research to Publication BMJ courses to strengthen my knowledge for a better experience. Monthly reflections through supervision meetings with my course supervisors also equipped me with the skills and expertise to tackle the tasks on hand, resulting in self-growth and new learning.

The most significant aspect of this experience was the importance of ethical review as an essential element when undertaking studies. Ethical considerations such as confidentiality and informed consent were the cornerstone of protecting participants during the research. According to Kumar (2014), ethical considerations such as breach of privacy and inappropriate use of information should be carefully considered when conducting research. The participant information leaflet helped outline the issues to be discussed, information the researcher wished to collect, and what participation would involve. The consent form addressed what the participant agreed to as part of their participation. This was done to

ensure that participants understood their involvement in the study. The provision of detailed written and verbal information also clarified, detailed, and gave the participants knowledge on what to expect and assurances as appropriate (HRA, 2022).

The ethical implications that arise from the use of focus groups were also considered, and strategies to mitigate risk. According to Sim and Waterfield (2019), the withdrawal of consent in focus groups after participation has taken place affects the analysis of the data collected and the integrity of the study. The consent form and briefing before the start of the focus group discussion made it clear that while the participant had the right to withdraw, their data would not be removed from the transcript on analysis as this would cause difficulties with interpreting the data or result in loss of meaning altogether.

Another ethical consideration was anticipating that participants would be mindful of exploring aspects of their role or may find it distressing or challenging to be part of a focus group discussion. However, this was minimised by conducting conversations and discussions in a friendly manner and providing assurances throughout the debate to ensure comfortable participation (Sim and Waterfield, 2019; Kruegar, 2002). In addition, my background as a qualified nurse with many years of experience in the NHS on research and the clinical role and bound by the NMC code of professional conduct, which emphasises confidentiality as a core aspect, accounted for the mitigation of risk.

The critical aspect of my role and responsibilities during the process meant I was deeply involved. Additionally, being passionate about my chosen topic fuelled the successful execution of the study from start to finish. When the researcher is more involved, they can probe for meanings and interpretations and discover why participants feel the way they do in response to a question (Bell et al., 2019).

The experience provided me with more understanding, reflection, and appreciation for the research process, timelines, and health researchers' experiences as they seek approvals for studies. I also learnt effective time management and how to conduct and author research articles. As the research was conducted during the COVID-19 pandemic, I realised my ability

to be flexible and adapt to the fast-changing government guidance. As part of my clinical role, I had to take a year off soon after obtaining ethical approval to respond to the crisis. In future conduct of a qualitative study, when reflecting on my role as facilitator, I could have done it differently by having my supervisors as timekeepers or assisting in the questions for a wider breadth and saturation of data. However, this was not possible because there was strict national guidance about gathering numbers and social distance rules.

Additionally, I now understand better the importance of protecting participants and how stringent ethical considerations and mitigating risks are in research practice. My research practice and experience have evolved because of the regulatory processes and roles I undertook, and I plan to take this forward throughout my academic and clinical research career.

### **Reflection on the choice of data collection method**

Focus groups were used to collect data for the study. The study recruited sixteen participants, six in one group and ten in the other. According to Krueger (1994), a focus group should be composed of a small number of people that allows everyone in the group to share insights and still be large enough to offer a variety of views. The optimum number to achieve this is between six to ten participants in each group (Krueger, 1994). To recruit the optimum number, approximately 20 healthcare workers were invited. This decision was made because 30-40 staff work in the HIV service.

As the focus group was composed of people who worked together, there was the element of not being able to know beforehand any surprises that may occur during the discussion, such as over-disclosure of information or names. To minimise this risk, participants were asked at the beginning of the focus group discussion not to mention specific patient names and to maintain confidentiality and professionalism for the duration of the discussion. The general ground rules were outlined in the focus group discussion guide and communicated verbally to study participants to ensure a safe environment was created.

On reflection, an alternative data collection method that would have been used for the study would have been to conduct eight to twelve one-to-one semi-structured interviews with healthcare workers. The benefit of using this data collection method is that it allows the researcher to interpret and observe the participants closely for better understanding, prompts and hidden meaning (Ryan et al., 2009.) However, Newcomer et al., (2015) observed that there are considerable disadvantages of using one-to-one interviews, such as time consumption, as hours of transcripts and notes must be analysed. The decision to use a focus group proved worthwhile, as evident from the wealth of perspectives collected in a short time on two different days. The focus groups effectively built and brought together multi-disciplinary team members for a longstanding problem of concern. They resulted in sharing ideas and brainstorming barriers and facilitators to service engagement and adherence to ART. The whole process was invaluable to staff and patients alike as service improvements would be implemented. There was excitement over the forthcoming implementation of the Thursday nurse-led clinic, which would be evaluated at the monthly meetings for its effectiveness in engaging homeless people living with HIV. Staff felt valued in being part of the contribution.

In conclusion, I have drawn a lot of learning that has influenced my practice and growth as an individual. One of the most important lessons I learnt for future academic research is time management and the importance of planning and preparation for the implementation of research. I also learnt the importance of choosing suitable research methods according to the research question one wants to answer. I believe that reflecting on the thesis process has been a revelation with some lessons and future action points to consider.



## List of References

---

*Abstracts* (2019). Presses universitaires du Septentrion. Presses universitaires du Septentrion. Available at: <http://books.openedition.org/septentrion/44886>.

Arksey, H., & O'Malley, L. (2005). *Scoping studies: Towards a methodological*  
Ashleigh Butler, MNurs, BNurs, RN • Helen Hall, PhD, MMid, RN, ND •

Arum C, Fraser H, Artenie AA, Bivegete S, Trickey A, Alary M, Astemborski J, Iversen J, Lim AG, MacGregor L, Morris M, Ong JJ, Platt L, Sack-Davis R, van Santen DK, Solomon SS, Sypsa V, Valencia J, Van Den Boom W, Walker JG, Ward Z, Stone J, Vickerman P; (2021). *Homelessness, HIV, and HCV Review Collaborative Group. Homelessness, unstable housing, and risk of HIV and hepatitis C virus acquisition among people who inject drugs: a systematic review and meta-analysis*. *Lancet Public Health*. 2021 May;6(5):e309-e323. doi: 10.1016/S2468-2667(21)00013-X. Epub 2021 Mar 26. PMID: 33780656; PMCID: PMC8097637.

Bain, J. D., Ballantyne, R., Mills, C., & Lester, N. C. (2002). *Reflecting on Practice: Student Teachers' Perspectives*. Flaxton: Post Pressed.

Beverley Copnell, Ph.D., RNA (2016) *Guide to Writing a Qualitative Systematic Review Protocol to Enhance Evidence-Based Practice in Nursing and Health Care*

BHIVA ( 2016) ***British HIV Association guidelines for the treatment of HIV-1-positive adults with antiretroviral therapy 2016***. Available at:  
<https://www.bhiva.org/file/RVYKzFwyxpgil/treatment-guidelines-2016-interim-update.pdf>  
(Accessed: 10 May 2019).

Birmingham City Council (2015) ***Homeless Health Overview and Scrutiny Report July 2015***  
Birmingham: Birmingham City Council. Available at:

[https://www.birmingham.gov.uk/downloads/file/411/homeless\\_health\\_overview\\_and\\_scrutiny\\_report\\_july\\_2015](https://www.birmingham.gov.uk/downloads/file/411/homeless_health_overview_and_scrutiny_report_july_2015) (Accessed: 03 June 2019).

Borne, D., Tryon, J., Rajabiun, S., et al. (2018) *Mobile Multidisciplinary HIV Medical Care for Hard-to-Reach Individuals Experiencing Homelessness in San Francisco.*, 108 (S7): S528–S530. doi:10.2105/AJPH.2018.304732.

Bradshaw C, Atkinson S, Doody O. *Employing a Qualitative Description Approach in Health Care Research.* Glob Qual Nurs Res. 2017 Nov 24;4:2333393617742282. doi: 10.1177/2333393617742282. PMID: 29204457; PMCID: PMC5703087.

Braun, Virginia and Clarke, Victoria (2013) *Successful Qualitative research: A practical guide for beginners.* 1st edn. London: Sage Publications.

Broadus, M.R., Owczarzak, J., Schumann, C., et al. (2017) *Fostering a “Feeling of Worth” Among Vulnerable HIV Populations: The Role of Linkage to Care Specialists.*, 31 (10): 438–446. doi:10.1089/apc.2017.0048.

Brown AE, Kirwan PD, Chau C, Khawam J, Gill ON, Delpech VC. (2017) *Towards elimination of HIV transmission, AIDS and HIV-related deaths in the UK – 2017 report.* November 2017, Public Health England, London

Buchanan, D., Kee, R., Sadowski, L.S., et al. (2009) *The Health Impact of Supportive Housing for HIV-Positive Homeless Patients: A Randomized Controlled Trial.*, 99 (S3): S675–S680. doi:10.2105/ajph.2008.137810.

Cacchione PZ. *The Evolving Methodology of Scoping Reviews.* Clin Nurs Res. 2016 Apr;25(2):115-9. doi: 10.1177/1054773816637493. PMID: 26976609.

Cameron, A., Lloyd, L., Turner, W., et al. (2009) *Working across boundaries to improve health outcomes: a case study of a housing support and outreach service for homeless people living with HIV.*, 17 (4): 388–395. doi:10.1111/j.1365-2524.2008.00837. x.

Carrieri, M. P., & Shepard, D. (2010). ***Treatment and care for injecting drug users with HIV infection: A review of barriers and ways forward.*** The Lancet, 376 (9738), 355–366. doi:10.1016/S0140-6736(10)60832-X

Clemenzi-Allen, A.A., Hickey, M., Conte, M., et al. (2020) *Improving Care Outcomes for PLWH Experiencing Homelessness and Unstable Housing: A Synthetic Review of Clinic-Based Strategies.*, 17 (3): 259–267. doi:10.1007/s11904-020-00488-0.

Clossick, E. and Ohlsen, R. (2015). ***A critical analysis of the impact of Inclusion Health policy on homeless people.*** British Journal of Mental Health Nursing, 4, 77-82

Cooper, S., Cant, R., Kelly, M., Levett-Jones, T., McKenna, L., Seaton, P., & Bogossian, F. (2019). An Evidence-Based Checklist for Improving Scoping Review Quality. Clinical Nursing Research. <https://doi.org/10.1177/1054773819846024>

Cunningham, W.E., Weiss, R.E., Nakazono, T., et al. (2018) *Effectiveness of a Peer Navigation Intervention to Sustain Viral Suppression Among HIV-Positive Men and Transgender Women Released from Jail: The LINK LA Randomized Clinical Trial.*, 178 (4): 542–553. doi:10.1001/jamainternmed.2018.0150.

Davila, J.A., Cabral, H.J., Maskay, M.H., et al. (2018) *Risk factors associated with multi-dimensional stigma among people living with HIV/AIDS who are homeless/unstably housed.*, 30 (10): 1335–1340. doi:10.1080/09540121.2018.1484069 [doi]. doi:10.1080/1364557032000119616

Dombrowski, J.C., Galagan, S.R., Ramchandani, M., et al. (2019) *HIV Care for Patients with Complex Needs: A Controlled Evaluation of a Walk-In, Incentivized Care Model.*, 6 (7): ofz294. doi:10.1093/ofid/ofz294.

Dombrowski, J.C., Ramchandani, M., Dhanireddy, S., et al. (2018) *The Max Clinic: Medical Care Designed to Engage the Hardest-to-Reach Persons Living with HIV in Seattle and King County, Washington.*, 32 (4): 149–156. doi:10.1089/apc.2017.0313.

Dombrowski, J.C., Simoni, J.M., Katz, D.A., et al. (2015) *Barriers to HIV Care and Treatment Among Participants in a Public Health HIV Care Relinkage Program.*, 29 (5): 279–287. doi:10.1089/apc.2014.0346.

Dombrowski, K., Sittner, K., Crawford, D., et al. (2011) *Network Approaches to Substance Use and HIV/Hepatitis C Risk among Homeless Youth and Adult Women in the United States: A Review.*, 8 (12): 1143–1165. doi:10.4236/health.2016.812119.

Douaihy, A.B., Stowell, K.R., Bui, T., et al. (2005a) *HIV/AIDS and homelessness, Part 1: background and barriers to care.*, 15 (10): 516–20, 527.

Douaihy, A.B., Stowell, K.R., Bui, T., et al. (2005b) *HIV/AIDS and homelessness, Part 2: treatment issues.*, 15 (11): 604–6, 611–3, 618.

Flanagan, S.M. and Hancock, B. (2010) *“Reaching the hard to reach” - lessons learned from the VCS (voluntary and community sector). A qualitative study.*, 10 (1): 92. doi:10.1186/1472-6963-10-92.

Flash, M.J.E., Garland, W.H., Martey, E.B., et al. (2019) *Cost-effectiveness of a Medical Care Coordination Program for People with HIV in Los Angeles County.*, 6 (12): ofz537. doi:10.1093/ofid/ofz537.framework. *International Journal of Social Research Methodology*, 8, 19-32.

Fraser, K, Perez; R; Latour C. (2018) *CMSA's Integrated Case Management*. 1st edn. Springer Publishing Company. Available at: <https://www.perlego.com/book/1447609/cmsas-integrated-case-management-pdf> (Accessed: 25 September 2021).

Fuster, D. and Gelberg, L. (2019) *Community Screening, Identification, and Referral to Primary Care, for Hepatitis C, B, and HIV Among Homeless Persons in Los Angeles.*, 44 (6): 1044–1054. doi:10.1007/s10900-019-00679-w.

Ghose, T., Ali, S., Shubert, V., et al. (2019a) *"It's my Room and my Life": Housing's Influence on Medication Adherence for HIV-positive Women Released from Incarceration.*, 30 (1): 182–201. doi:10.1353/hpu.2019.0015.

Ghose, T., Shubert, V., Poitevien, V., et al. (2019b) *Effectiveness of a Viral Load Suppression Intervention for Highly Vulnerable People Living with HIV.*, 23 (9): 2443–2452. doi:10.1007/s10461-019-02509-5.

Gomez, L.M., Paniagua-Saldarriaga, L.A., Richert, Q., et al. (2019) *Homelessness and HIV: A Combination Predictive of Poor Tuberculosis Treatment Outcomes and in Need of Innovative Strategies to Improve Treatment Completion.*, 100 (4): 932–939. doi:10.4269/ajtmh.18-0305 [doi].

Gomih, A., Banks, B., McKeithan, L., et al. (2018) *NC-REACH: A Rural Patient-Centered Medical Home for People Living with HIV Who Experience Unstable Housing.*, 108 (S7): S525–S527. doi:10.2105/AJPH.2018.304793.

Green, J. and Thorogood, N. (2014) ***Qualitative Methods for health research***. 3rd edn. London: SAGE Publications Ltd.

Grimsrud, A., Bygrave, H., Doherty, M., et al. (2016) *Reimagining HIV service delivery: the role of differentiated care from prevention to suppression.*, 19 (1): 21484-n/a. doi:10.7448/ias.19.1.21484.

Hall, G., Singh, T. and Lim, S. woo (2019) *Supportive Housing Promotes AIDS-Free Survival for Chronically Homeless HIV Positive Persons with Behavioral Health Conditions.*, 23 (3): 776–783. doi:10.1007/s10461-019-02398-8.

Hawk, M. and Davis, D. (2012) *The effects of a harm reduction housing program on the viral loads of homeless individuals living with HIV/AIDS.*, 24 (5): 577–582.  
doi:10.1080/09540121.2011.630352.

Health Education England (2017) Available at: [Person-Centred-Approaches-Framework.pdf \(skillsforhealth.org.uk\)](#) (Accessed on 26 September 2022)

Health Research Authority (2022) Available at :[Informing participants and seeking consent - Health Research Authority \(hra.nhs.uk\)](#) (Accessed on 10 June 2022)

Hessol, N.A., Eng, M., Vu, A., et al. (2019) *A longitudinal study assessing differences in causes of death among housed and homeless people diagnosed with HIV in San Francisco.*, 19 (1): 1440-019-7817–7. doi:10.1186/s12889-019-7817-7 [doi].

*HIV Glasgow 2018, 28–31 October 2018, Glasgow, UK* (2018)., 21 (Suppl Suppl 8): e25187-n/a. doi:10.1002/jia2.25187.

Homeless Reduction Act (2017) Available at :[Homelessness Reduction Act 2017 \(legislation.gov.uk\)](#) (Accessed 1 July 2020)

Irene Korstjens & Albine Moser (2018) Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing, *European Journal of General Practice*, 24:1, 120-124, DOI: [10.1080/13814788.2017.1375092](#)

Irvine, M.K., Chamberlin, S.A., Robbins, R.S., et al. (2016) *Come as You Are: Improving Care Engagement and Viral Load Suppression Among HIV Care Coordination Clients with Lower Mental Health Functioning, Unstable Housing, and Hard Drug Use.*, 21 (6): 1572–1579.  
doi:10.1007/s10461-016-1460-4.

Kidder, D., Wolitski, R., Royal, S., et al. (2007a) *Access to Housing as a Structural Intervention for Homeless and Unstably Housed People Living with HIV: Rationale, Methods, and Implementation of the Housing and Health Study.*, 11 (S2): 149–161. doi:10.1007/s10461-007-9249-0.

Kidder, D., Wolitski, R., Royal, S., et al. (2007b) *Access to Housing as a Structural Intervention for Homeless and Unstably Housed People Living with HIV: Rationale, Methods, and Implementation of the Housing and Health Study.*, 11 (S2): 149–161. doi:10.1007/s10461-007-9249-0.

Ko, N.-Y., Liu, H.-Y., Lai, Y.-Y., et al. (2013) *Case Management Interventions for HIV-Infected Individuals.*, 10 (4): 390–397. doi:10.1007/s11904-013-0183-7.

Krueger, RA.(1994) ***Focus Groups: A practical guide for Applied Research.*** 2<sup>nd</sup> edn. London: Sage Publications Ltd.

Kumar, R. (2014). *Research Methodology: A step-by-step guide for beginners.* 4<sup>th</sup> ed. London: Sage

Kushel, M.B., Colfax, G., Ragland, K., et al. (2006) *Case Management Is Associated with Improved Antiretroviral Adherence and CD4<sup>+</sup> Cell Counts in Homeless and Marginally Housed Individuals with HIV Infection.*, 43 (2): 234–242. doi:10.1086/505212.

Land, E. (2018) ***Homelessness linked to HIV infection and low rates of viral suppression.*** Available at: <https://www.sfaf.org/collections/beta/homelessness-linked-to-hiv-infection-and-low-rates-of-viral-suppression/> (Accessed: November 2019).

Lim, S., Nash, D., Hollod, L., et al. (2015) *Influence of Jail Incarceration and Homelessness Patterns on Engagement in HIV Care and HIV Viral Suppression among New York City Adults Living with HIV/AIDS.*, 10 (11): e0141912. doi: 10.1371/journal.pone.0141912 [doi].

Loh, J., Kennedy, M.C., Wood, E., Kerr, Marshal, T.B., Parashar, S., Montaner, J. & Milloy, M.J. (2016) ***Longer duration of homelessness is associated with a lower likelihood of non-detectable plasma HIV-1 RNA viral load among people who use illicit drugs in a Canadian setting***, *AIDS Care*, 28:11, 1448-1454, DOI: 10.1080/09540121.2016.1189498

Maguire, M and Delahunt, B. (2017) ***Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars***. \*Moira Maguire & Brid Delahunt. Dundalk Institute of Technology.

Mandsager, P., Marier, A., Cohen, S., et al. (2018) *Reducing HIV-Related Health Disparities in the Health Resources and Services Administration's Ryan White HIV/AIDS Program.*, 108 (S4): S246–S250. doi:10.2105/ajph.2018.304689.

McNeil, R., Guirguis-Younger, M., Dilley, L.B., et al. (2012) *Harm reduction services as a point-of-entry to and source of end-of-life care and support for homeless and marginally housed persons who use alcohol and/or illicit drugs: a qualitative analysis.*, 12 (1): 312. doi:10.1186/1471-2458-12-312.

Metcalfe, R., Ragonnet-Cronin, M., Bradley-Stewart, A., et al. (2020a) *From Hospital to the Community: Redesigning the Human Immunodeficiency Virus (HIV) Clinical Service Model to Respond to an Outbreak of HIV Among People Who Inject Drugs.*, 222 (Supplement\_5): S410–S419. doi:10.1093/infdis/jiaa336.

Metcalfe, R., Ragonnet-Cronin, M., Bradley-Stewart, A., et al. (2020b) *From Hospital to the Community: Redesigning the Human Immunodeficiency Virus (HIV) Clinical Service Model to Respond to an Outbreak of HIV Among People Who Inject Drugs.*, 222 (Supplement\_5): S410–S419. doi:10.1093/infdis/jiaa336.

Metsch, L.R., Feaster, D.J., Gooden, L., et al. (2016) *Effect of Patient Navigation With or Without Financial Incentives on Viral Suppression Among Hospitalized Patients with HIV Infection and Substance Use: A Randomized Clinical Trial.*, 316 (2): 156–170. doi:10.1001/jama.2016.8914.



Mills, D.E., Burton, C.D., Matheson, C. *Engaging the citizenship of the homeless—a qualitative study of specialist primary care providers*, *Family Practice*, Volume 32, Issue 4, August 2015, Pages 462–467, <https://doi.org/10.1093/fampra/cmz036>

Ministry of Housing, Communities and local government, (2018). Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/781567/Rough\\_Sleeping\\_Statistics\\_2018\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/781567/Rough_Sleeping_Statistics_2018_release.pdf) (Accessed: 06 July 2019)

Moher D, Liberati A, Tetzlaff J, Altman DG, **The PRISMA Group** (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7): e1000097. doi:10.1371/journal.pmed1000097.

Natale-Pereira A, Enard KR, Nevarez L, Jones LA. The role of patient navigators in eliminating health disparities. *Cancer*. 2011 Aug;117(15 Suppl):3543-52. doi: 10.1002/cncr.26264. PMID: 21780089; PMCID: PMC4121958.

National Institute for Health and Care Excellence, NICE (2022), Available at [:Recommendations | Integrated health and social care for people experiencing homelessness | Guidance | NICE](#) (Accessed on 20 September 2022)

Nursing and Midwifery Council (2020) Available at: [Person-centred care - The Nursing and Midwifery Council \(nmc.org.uk\)](#) (Accessed on 26 September 2022)

Palar, K. (2014) Kushel, M., Edward A., Frongillo Riley, E, R., Grede, N., Bangsberg, D., Weiser, S, D. ***Food Insecurity is Longitudinally Associated with Depressive Symptoms Among Homeless and Marginally-Housed Individuals Living with HIV*** *AIDS Behav* (2015) 19:1527–1534 DOI 10.1007/s10461-014-0922-9

Parahoo, K. (2014) ***Nursing Research Principles, process and issues***. Third edn. Hampshire, UK: Palgrave Macmillan.

Pardasani, M.P. (2005) *Supportive Housing for the Chronically Homeless with HIV/AIDS.*, 4 (1): 23–38. doi:10.1300/J187v04n01\_03.

Public Health England (2018) *Homelessness: Applying all our health.* Available at: <https://www.gov.uk/government/publications/homelessness-applying-all-our-health/homelessness-applying-all-our-health> (Accessed: 27 December 2018).

Public Health England (31 October, 2019) ***HIV surveillance, data and management.*** Available at: <https://www.gov.uk/government/collections/hiv-surveillance-data-and-management> (Accessed: 11 December 2019).

Public Health England (2020) ***HIV surveillance, data and management.*** Available at: <https://www.gov.uk/government/collections/hiv-surveillance-data-and-management> (Accessed: 01 June 2020).

Rajabiun, S., Tryon, J., Feaster, M., et al. (2018a) *The Influence of Housing Status on the HIV Continuum of Care: Results from a Multisite Study of Patient Navigation Models to Build a Medical Home for People Living with HIV Experiencing Homelessness.*, 108 (S7): S539–S545. doi:10.2105/ajph.2018.304736.

Rajabiun, S., Tryon, J., Feaster, M., et al. (2018b) *The Influence of Housing Status on the HIV Continuum of Care: Results from a Multisite Study of Patient Navigation Models to Build a Medical Home for People Living with HIV Experiencing Homelessness.*, 108 (S7): S539–S545. doi:10.2105/ajph.2018.304736.

Rodger, A., Cambiano, V., Brunn, T., Vernazza, P., Collins, S., Degen, O. and et al (2019) ***'Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study'***, 393(10189). doi: [https://doi.org/10.1016/S0140-6736\(19\)30418-0](https://doi.org/10.1016/S0140-6736(19)30418-0).

Ross, S., Curry, N., Goodwin (2011) Case Management. Available at :[Case management: What it is and how it can best be implemented, The King's Fund Paper, November 2011 \(kingsfund.org.uk\)](#) (Accessed on 07 July 2020)

Royal, S.W., Kidder, D., Patrabansh, S., Wolitski, R.J., Holtgrave, D., R., Aidala, A. and Pals, S.&S., R. (2009) '**Factors associated with adherence to highly active antiretroviral therapy in homeless or unstably housed adults living with HIV**', *AIDS Care*, 21(4), pp. 448-455. doi: 10.1080/09540120802270250.

Sarango, M., de Groot, A., Hirschi, M., et al. (2017) *The Role of Patient Navigators in Building a Medical Home for Multiply Diagnosed HIV-Positive Homeless Populations.*, 23 (3): 276–282. doi:10.1097/PHH.0000000000000512.

Sim, J., Waterfield, J. **Focus group methodology: some ethical challenges.** *Qual Quant* **53**, 3003–3022 (2019). <https://doi.org/10.1007/s11135-019-00914-5>

Thomas, B. (2011) **Homelessness: A silent killer - A research briefing on mortality amongst homeless people.** London

Tsai AC, Bangsberg DR, Frongillo EA, Hunt PW, Muzoora C, Martin JN, et al. **Food insecurity, depression and the modifying role of social support among people living with HIV/AIDS in rural Uganda.** *Soc Sci Med.* 2012;74(12):2012–9.

Waldrop-Valverde, D., & Valverde, E. (2005). **Homelessness and psychological distress as contributors to antiretroviral nonadherence in HIV-positive drug users.** *AIDS Patient Care and STDs*, 19(5), 326~334.

Wikipedia (2022) Available at: [Funding - Wikipedia](#) (Accessed: 06 July 2022).

Wise-Harris, D., Pauly, D., Kahan, D. et al. **“Hospital was the Only Option”: Experiences of Frequent Emergency Department Users in Mental Health.** *Adm Policy Ment Health* **44**, 405–412 (2017). <https://doi.org/10.1007/s10488-016-0728-3>

Weiser, S.D, Riley,E,D., Ragland,K.,Hammer,G., Clark,R.,Bangsberg, D,R.MD,(2016) **Factors Associated with Depression Among Homeless and Marginally Housed HIV-Infected Men in San Francisc.** Center for AIDS Prevention Studies, University of California, San Francisco (UCSF), CA, USA: Center for AIDS Prevention Studies, University of California.

Wohl, A., Ludwig-Barron, N., Dierst-Davies, R., et al. (2017) *Project Engage: Snowball Sampling and Direct Recruitment to Identify and Link Hard-to-Reach HIV-Infected Persons Who Are Out of Care.*, 75 (2): 190–197. doi:10.1097/QAI.0000000000001312.

Wood, E., Montaner, J.S., Yip, B., Tyndall, M.W., Schechter, M.T., O’Shaughnessy, M.V., et al. (2003). **Adherence and plasma HIV RNA responses to highly active antiretroviral therapy among HIV-1 infected injection drug users.** Canadian Medical Association Journal, 169(7), 656~661.

World Health Organization (2018). **HIV/AIDS**, Available at: <http://www.who.int/en/news-room/fact-sheets/detail/hiv-aids> (Accessed: 31 October 2018).

## Appendix A: Search Strategy Results

---

### Appendix A: Search Strategy and Results

#	Database	Search term	Results
1	Medline	(HIV).ti,ab	299792
2	Medline	exp HIV/	97126
3	Medline	("Human Immunodeficiency Virus").ti,ab	84526
4	Medline	(1 OR 2 OR 3)	325900
5	Medline	(Homeless*).ti,ab	10055
6	Medline	(Homeless*ADJ2 people).ti,ab	0
7	Medline	(Homeless* ADJ2 people).ti,ab	1486
8	Medline	*"HOMELESS PERSONS"/	5811
9	Medline	(5 OR 7 OR 8)	10963
10	Medline	("antiretroviral therap*").ti,ab	41083
11	Medline	(4 AND 9 AND 10)	107
12	Medline	(barriers).ti,ab	127182
13	Medline	(facilitators).ti,ab	14003
14	Medline	(challenges).ti,ab	265433
15	Medline	(12 OR 13 OR 14)	385054
16	Medline	(11 AND 15)	21
17	Medline	(ART).ti,ab	99351
18	Medline	(10 OR 17)	128339

19	Medline	(4 AND 9 AND 15 AND 18)	24
20	Medline	(ANTIRETROVIRAL TREATMENT).ti,ab	27642
21	Medline	(10 OR 17 OR 20)	136167
22	Medline	(4 AND 9 AND 15 AND 21)	31
23	Medline	(AIDS).ti,ab	139032
24	Medline	(4 OR 23)	395848
25	Medline	(9 AND 15 AND 21 AND 24)	32
26	Medline	(service engagement).ti,ab	4176
27	Medline	(care).ti,ab	1335989
28	Medline	(26 OR 27)	1338059
29	Medline	(9 AND 21 AND 24 AND 28)	81
30	EMBASE	(Homeless*).ti,ab	12339
31	EMBASE	(Homeless* ADJ2 people).ti,ab	1555
32	EMBASE	*"HOMELESS PERSONS"/	542
33	EMBASE	(30 OR 31 OR 32)	12397
34	EMBASE	("antiretroviral therap*").ti,ab	52840
35	EMBASE	(ART).ti,ab	125816
36	EMBASE	(ANTIRETROVIRAL TREATMENT).ti,ab	10321
37	EMBASE	(34 OR 35 OR 36)	167071
38	EMBASE	(HIV).ti,ab	387751
39	EMBASE	exp HIV/	192319

40	EMBASE	("Human Immunodeficiency Virus").ti,ab	92599
41	EMBASE	(38 OR 39 OR 40)	430003
42	EMBASE	(AIDS).ti,ab	169640
43	EMBASE	(41 OR 42)	513548
44	EMBASE	(service engagement).ti,ab	210
45	EMBASE	(care).ti,ab	1846448
46	EMBASE	(44 OR 45)	1846570
47	EMBASE	(33 AND 37 AND 43 AND 46)	119
48	EMBASE	"ANTIRETROVIRAL THERAPY"/	12870
49	EMBASE	(37 OR 48)	170460
50	EMBASE	(33 AND 43 AND 46 AND 49)	122
51	CINAHL	(Homeless*).ti,ab	7798
52	CINAHL	(Homeless* ADJ2 people).ti,ab	1233
53	CINAHL	*"HOMELESS PERSONS"/	3836
54	CINAHL	(51 OR 52 OR 53)	8481
55	CINAHL	(HIV).ti,ab	84175
56	CINAHL	exp HIV/	0
57	CINAHL	("Human Immunodeficiency Virus").ti,ab	13240
58	CINAHL	(55 OR 56 OR 57)	85425
59	CINAHL	(AIDS).ti,ab	40448
60	CINAHL	(58 OR 59)	105242

61	CINAHL	(service engagement).ti,ab	6012
62	CINAHL	(care).ti,ab	754674
63	CINAHL	(61 OR 62)	757644
64	CINAHL	("antiretroviral therap*").ti,ab	11345
65	CINAHL	(ART).ti,ab	27173
66	CINAHL	(ANTIRETROVIRAL TREATMENT).ti,ab	7365
67	CINAHL	(64 OR 65 OR 66)	36667
68	CINAHL	"ANTIRETROVIRAL THERAPY"/	0
69	CINAHL	(67 OR 68)	36667
70	CINAHL	(54 AND 60 AND 63 AND 69)	44
71	PsycINFO	(HIV).ti,ab	50711
72	PsycINFO	exp HIV/	42490
73	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
74	PsycINFO	(HIV).ti,ab	50711
75	PsycINFO	exp HIV/	42490
76	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
77	PsycINFO	(74 OR 75 OR 76)	0
78	PsycINFO	(Homeless*).ti,ab	10417
79	PsycINFO	(Homeless*ADJ2 people).ti,ab	0
80	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
81	PsycINFO	*"HOMELESS PERSONS"/	2653



82	PsycINFO	(Homeless*).ti,ab	10417
83	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
84	PsycINFO	*"HOMELESS PERSONS"/	2653
85	PsycINFO	(82 OR 83 OR 84)	0
86	PsycINFO	("antiretroviral therap*").ti,ab	4533
87	PsycINFO	(HIV).ti,ab	50711
88	PsycINFO	exp HIV/	42490
89	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
90	PsycINFO	(87 OR 88 OR 89)	0
91	PsycINFO	(Homeless*).ti,ab	10417
92	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
93	PsycINFO	*"HOMELESS PERSONS"/	2653
94	PsycINFO	(91 OR 92 OR 93)	0
95	PsycINFO	("antiretroviral therap*").ti,ab	4533
96	PsycINFO	(90 AND 94 AND 95)	0
97	PsycINFO	(barriers).ti,ab	54838
98	PsycINFO	(facilitators).ti,ab	8624
99	PsycINFO	(challenges).ti,ab	121305
100	PsycINFO	(barriers).ti,ab	54838
101	PsycINFO	(facilitators).ti,ab	8624
102	PsycINFO	(challenges).ti,ab	121305

103	PsycINFO	(100 OR 101 OR 102)	173761
104	PsycINFO	(HIV).ti,ab	50711
105	PsycINFO	exp HIV/	42490
106	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
107	PsycINFO	(104 OR 105 OR 106)	55359
108	PsycINFO	(Homeless*).ti,ab	10417
109	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
110	PsycINFO	*"HOMELESS PERSONS"/	2653
111	PsycINFO	(108 OR 109 OR 110)	10764
112	PsycINFO	("antiretroviral therap*").ti,ab	4533
113	PsycINFO	(107 AND 111 AND 112)	51
114	PsycINFO	(barriers).ti,ab	54838
115	PsycINFO	(facilitators).ti,ab	8624
116	PsycINFO	(challenges).ti,ab	121305
117	PsycINFO	(114 OR 115 OR 116)	173761
118	PsycINFO	(113 AND 117)	8
119	PsycINFO	(ART).ti,ab	41349
120	PsycINFO	("antiretroviral therap*").ti,ab	4533
121	PsycINFO	(ART).ti,ab	41349
122	PsycINFO	(120 OR 121)	44207
123	PsycINFO	(HIV).ti,ab	50711

124	PsycINFO	exp HIV/	42490
125	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
126	PsycINFO	(123 OR 124 OR 125)	55359
127	PsycINFO	(Homeless*).ti,ab	10417
128	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
129	PsycINFO	*"HOMELESS PERSONS"/	2653
130	PsycINFO	(127 OR 128 OR 129)	10764
131	PsycINFO	(barriers).ti,ab	54838
132	PsycINFO	(facilitators).ti,ab	8624
133	PsycINFO	(challenges).ti,ab	121305
134	PsycINFO	(131 OR 132 OR 133)	173761
135	PsycINFO	("antiretroviral therap*").ti,ab	4533
136	PsycINFO	(ART).ti,ab	41349
137	PsycINFO	(135 OR 136)	44207
138	PsycINFO	(126 AND 130 AND 134 AND 12 137)	
139	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
140	PsycINFO	("antiretroviral therap*").ti,ab	4533
141	PsycINFO	(ART).ti,ab	41349
142	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
143	PsycINFO	(140 OR 141 OR 142)	45100

144	PsycINFO	(HIV).ti,ab	50711
145	PsycINFO	exp HIV/	42490
146	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
147	PsycINFO	(144 OR 145 OR 146)	55359
148	PsycINFO	(Homeless*).ti,ab	10417
149	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
150	PsycINFO	*"HOMELESS PERSONS"/	2653
151	PsycINFO	(148 OR 149 OR 150)	10764
152	PsycINFO	(barriers).ti,ab	54838
153	PsycINFO	(facilitators).ti,ab	8624
154	PsycINFO	(challenges).ti,ab	121305
155	PsycINFO	(152 OR 153 OR 154)	173761
156	PsycINFO	("antiretroviral therap*").ti,ab	4533
157	PsycINFO	(ART).ti,ab	41349
158	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
159	PsycINFO	(156 OR 157 OR 158)	45100
160	PsycINFO	(147 AND 151 AND 155 AND 159)	15
161	PsycINFO	(AIDS).ti,ab	34822
162	PsycINFO	(HIV).ti,ab	50711
163	PsycINFO	exp HIV/	42490
164	PsycINFO	("Human Immunodeficiency	5697

Virus").ti,ab

165	PsycINFO	(162 OR 163 OR 164)	0
166	PsycINFO	(AIDS).ti,ab	34822
167	PsycINFO	(165 OR 166)	0
168	PsycINFO	(Homeless*).ti,ab	10417
169	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
170	PsycINFO	*"HOMELESS PERSONS"/	2653
171	PsycINFO	(168 OR 169 OR 170)	0
172	PsycINFO	(barriers).ti,ab	54838
173	PsycINFO	(facilitators).ti,ab	8624
174	PsycINFO	(challenges).ti,ab	121305
175	PsycINFO	(172 OR 173 OR 174)	173761
176	PsycINFO	("antiretroviral therap*").ti,ab	4533
177	PsycINFO	(ART).ti,ab	41349
178	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
179	PsycINFO	(176 OR 177 OR 178)	45100
180	PsycINFO	(HIV).ti,ab	50711
181	PsycINFO	exp HIV/	42490
182	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
183	PsycINFO	(180 OR 181 OR 182)	0
184	PsycINFO	(AIDS).ti,ab	34822

185	PsycINFO	(183 OR 184)	0
186	PsycINFO	(171 AND 175 AND 179 AND 185)	0
187	PsycINFO	(service engagement).ti,ab	4483
188	PsycINFO	(care).ti,ab	322369
189	PsycINFO	(service engagement).ti,ab	4483
190	PsycINFO	(care).ti,ab	322369
191	PsycINFO	(189 OR 190)	325631
192	PsycINFO	(Homeless*).ti,ab	10417
193	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
194	PsycINFO	*"HOMELESS PERSONS"/	2653
195	PsycINFO	(192 OR 193 OR 194)	10764
196	PsycINFO	("antiretroviral therap*").ti,ab	4533
197	PsycINFO	(ART).ti,ab	41349
198	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
199	PsycINFO	(196 OR 197 OR 198)	45100
200	PsycINFO	(HIV).ti,ab	50711
201	PsycINFO	exp HIV/	42490
202	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
203	PsycINFO	(200 OR 201 OR 202)	55359
204	PsycINFO	(AIDS).ti,ab	34822
205	PsycINFO	(203 OR 204)	67688

206	PsycINFO	(service engagement).ti,ab	4483
207	PsycINFO	(care).ti,ab	322369
208	PsycINFO	(206 OR 207)	325631
209	PsycINFO	(195 AND 199 AND 205 AND 38 208)	
210	PsycINFO	(Homeless*).ti,ab	10417
211	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
212	PsycINFO	*"HOMELESS PERSONS"/	2653
213	PsycINFO	(Homeless*).ti,ab	10417
214	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
215	PsycINFO	*"HOMELESS PERSONS"/	2653
216	PsycINFO	(213 OR 214 OR 215)	0
217	PsycINFO	("antiretroviral therap*").ti,ab	4533
218	PsycINFO	(ART).ti,ab	41349
219	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
220	PsycINFO	("antiretroviral therap*").ti,ab	4533
221	PsycINFO	(ART).ti,ab	41349
222	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
223	PsycINFO	(220 OR 221 OR 222)	45100
224	PsycINFO	(HIV).ti,ab	50711
225	PsycINFO	exp HIV/	42490
226	PsycINFO	("Human Immunodeficiency	5697

Virus").ti,ab

227	PsycINFO	(HIV).ti,ab	50711
228	PsycINFO	exp HIV/	42490
229	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
230	PsycINFO	(227 OR 228 OR 229)	0
231	PsycINFO	(AIDS).ti,ab	34822
232	PsycINFO	(HIV).ti,ab	50711
233	PsycINFO	exp HIV/	42490
234	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
235	PsycINFO	(232 OR 233 OR 234)	0
236	PsycINFO	(AIDS).ti,ab	34822
237	PsycINFO	(235 OR 236)	67688
238	PsycINFO	(service engagement).ti,ab	4483
239	PsycINFO	(care).ti,ab	322369
240	PsycINFO	(service engagement).ti,ab	4483
241	PsycINFO	(care).ti,ab	322369
242	PsycINFO	(240 OR 241)	325631
243	PsycINFO	(Homeless*).ti,ab	10417
244	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
245	PsycINFO	*"HOMELESS PERSONS"/	2653
246	PsycINFO	(243 OR 244 OR 245)	0



247	PsycINFO	("antiretroviral therap*").ti,ab	4533
248	PsycINFO	(ART).ti,ab	41349
249	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
250	PsycINFO	(247 OR 248 OR 249)	45100
251	PsycINFO	(HIV).ti,ab	50711
252	PsycINFO	exp HIV/	42490
253	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
254	PsycINFO	(251 OR 252 OR 253)	0
255	PsycINFO	(AIDS).ti,ab	34822
256	PsycINFO	(254 OR 255)	67688
257	PsycINFO	(service engagement).ti,ab	4483
258	PsycINFO	(care).ti,ab	322369
259	PsycINFO	(257 OR 258)	325631
260	PsycINFO	(246 AND 250 AND 256 AND 259)	0
261	PsycINFO	"ANTIRETROVIRAL THERAPY"/	0
262	PsycINFO	("antiretroviral therap*").ti,ab	4533
263	PsycINFO	(ART).ti,ab	41349
264	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
265	PsycINFO	(262 OR 263 OR 264)	45100
266	PsycINFO	"ANTIRETROVIRAL THERAPY"/	0

267	PsyclINFO	(265 OR 266)	45100
268	PsyclINFO	(Homeless*).ti,ab	10417
269	PsyclINFO	(Homeless* ADJ2 people).ti,ab	1345
270	PsyclINFO	*"HOMELESS PERSONS"/	2653
271	PsyclINFO	(268 OR 269 OR 270)	0
272	PsyclINFO	(HIV).ti,ab	50711
273	PsyclINFO	exp HIV/	42490
274	PsyclINFO	("Human Immunodeficiency Virus").ti,ab	5697
275	PsyclINFO	(272 OR 273 OR 274)	55359
276	PsyclINFO	(AIDS).ti,ab	34822
277	PsyclINFO	(275 OR 276)	67688
278	PsyclINFO	(service engagement).ti,ab	4483
279	PsyclINFO	(care).ti,ab	322369
280	PsyclINFO	(278 OR 279)	325631
281	PsyclINFO	("antiretroviral therap*").ti,ab	4533
282	PsyclINFO	(ART).ti,ab	41349
283	PsyclINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
284	PsyclINFO	(281 OR 282 OR 283)	45100
285	PsyclINFO	"ANTIRETROVIRAL THERAPY"/	0
286	PsyclINFO	(284 OR 285)	0
287	PsyclINFO	(271 AND 277 AND 280 AND 286)	38

288	PsycINFO	(Homeless*).ti,ab	10417
289	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
290	PsycINFO	*"HOMELESS PERSONS"/	2653
291	PsycINFO	(Homeless*).ti,ab	10417
292	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345
293	PsycINFO	*"HOMELESS PERSONS"/	2653
294	PsycINFO	(291 OR 292 OR 293)	0
295	PsycINFO	(HIV).ti,ab	50711
296	PsycINFO	exp HIV/	42490
297	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
298	PsycINFO	(HIV).ti,ab	50711
299	PsycINFO	exp HIV/	42490
300	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
301	PsycINFO	(298 OR 299 OR 300)	0
302	PsycINFO	(AIDS).ti,ab	34822
303	PsycINFO	(HIV).ti,ab	50711
304	PsycINFO	exp HIV/	42490
305	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
306	PsycINFO	(303 OR 304 OR 305)	0
307	PsycINFO	(AIDS).ti,ab	34822
308	PsycINFO	(306 OR 307)	0

309	PsycINFO	(service engagement).ti,ab	4483
310	PsycINFO	(care).ti,ab	322369
311	PsycINFO	(service engagement).ti,ab	4483
312	PsycINFO	(care).ti,ab	322369
313	PsycINFO	(311 OR 312)	325631
314	PsycINFO	("antiretroviral therap*").ti,ab	4533
315	PsycINFO	(ART).ti,ab	41349
316	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
317	PsycINFO	("antiretroviral therap*").ti,ab	4533
318	PsycINFO	(ART).ti,ab	41349
319	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
320	PsycINFO	(317 OR 318 OR 319)	45100
321	PsycINFO	"ANTIRETROVIRAL THERAPY"/	0
322	PsycINFO	("antiretroviral therap*").ti,ab	4533
323	PsycINFO	(ART).ti,ab	41349
324	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
325	PsycINFO	(322 OR 323 OR 324)	45100
326	PsycINFO	"ANTIRETROVIRAL THERAPY"/	0
327	PsycINFO	(325 OR 326)	0
328	PsycINFO	(Homeless*).ti,ab	10417
329	PsycINFO	(Homeless* ADJ2 people).ti,ab	1345

330	PsycINFO	*"HOMELESS PERSONS"/	2653
331	PsycINFO	(328 OR 329 OR 330)	0
332	PsycINFO	(HIV).ti,ab	50711
333	PsycINFO	exp HIV/	42490
334	PsycINFO	("Human Immunodeficiency Virus").ti,ab	5697
335	PsycINFO	(332 OR 333 OR 334)	0
336	PsycINFO	(AIDS).ti,ab	34822
337	PsycINFO	(335 OR 336)	0
338	PsycINFO	(service engagement).ti,ab	4483
339	PsycINFO	(care).ti,ab	322369
340	PsycINFO	(338 OR 339)	325631
341	PsycINFO	("antiretroviral therap*").ti,ab	4533
342	PsycINFO	(ART).ti,ab	41349
343	PsycINFO	(ANTIRETROVIRAL TREATMENT).ti,ab	3264
344	PsycINFO	(341 OR 342 OR 343)	45100
345	PsycINFO	"ANTIRETROVIRAL THERAPY"/	0
346	PsycINFO	(344 OR 345)	0
347	PsycINFO	(331 AND 337 AND 340 AND 346)	0
348	PubMed	(Homeless*).ti,ab	12722
349	PubMed	(Homeless* ADJ2 people).ti,ab	11419
350	PubMed	*"HOMELESS PERSONS"/	0

351	PubMed	(348 OR 349 OR 350)	0
352	PubMed	("antiretroviral therap*").ti,ab	0
353	PubMed	(ART).ti,ab	137149
354	PubMed	(ANTIRETROVIRAL TREATMENT).ti,ab	0
355	PubMed	(352 OR 353 OR 354)	142590
356	PubMed	(HIV).ti,ab	359209
357	PubMed	exp HIV/	0
358	PubMed	("Human Immunodeficiency Virus").ti,ab	96446
359	PubMed	(356 OR 357 OR 358)	369016
360	PubMed	(AIDS).ti,ab	278576
361	PubMed	(359 OR 360)	476494
362	PubMed	(service engagement).ti,ab	165
363	PubMed	(care).ti,ab	2504832
364	PubMed	(362 OR 363)	2504907
365	PubMed	(351 AND 355 AND 361 AND 364)	54

## Appendix B: Literature Review Matrix Table

---

**Table 3.**

Literature Review Matrix.

Author/ Date	Purpose	Methodology	Sample	Setting	Analysis & Results	Conclusions	Limitations	Implications for Future research and practice
Kushel et al 2006 United States	To determine whether <b>Case Management</b> was associated with reduced medical care use and improved biological outcomes.	Prospective observational cohort study.  Interviews 3 self-reported health measures and 2 biological measures-CD4 and Viral load.	280 patients	Community 1 City Urban	Multivariate models.  An association was found between the use of CM services and improved adherence to ART and improved biological markers of HIV disease.	Case management may be a successful method to improve adherence and biological HIV disease outcomes.	Reliance on self-reported measures. -under-reported inaccurate reporting possible.  No randomization. No exploration of other models of CM or comparison to other interventions.	Randomized control trial of this intervention.

Ko et al, 2013 Taiwan	The establish effectiveness and impacts of <b>case management</b> intervention.	Systematic Review	28 were studies reviewed.	Researchers in Taiwan	Systematic Review of the literature.	CM may improve patient mortality and may affect retention on survival. CM increased entry, linkage, and retention in HIV medical care and substance use treatment, services for unmet needs.	Not stated by the authors.	There was no consistency as to whether CM reduced risky behaviors in the review population-area of exploration.
Nixon and Mundowa, 2019 United Kingdom	To review the application of a <b>named nurse</b> model	Retrospective case review. Questionnaires for feedback.	103 patients	HIV outpatient clinic	Excel	Named Nurse model can be applied to an HIV Op clinic and be used to support review population.	None identified.	Future evaluation of patient experience for the named nurse model in this setting.



Sarango et al, 2017 United States	To describe the duties and obligations of patient navigators to help create a medical home for homeless PLWH.	Qualitative. In-depth interviews and 2 focus groups	81 interviews with clinic staff and 2 focus groups with patient navigators.	Community health centers, and large university-based systems.	Content analysis	The roles of patient navigators may contribute to the implementation of the patient centered medical home model.	Potential sampling bias. Limited generalizability. Navigator tasks were not analyzed by educational background or experience.	Potential to decrease transmission rates and improve health outcomes. Future research to examine the differential effects of type and amount of navigator encounters on patient outcomes.
Cunningham et al, 2018 United States	To evaluate the impact on viral suppression in rehabilitated inmates' peer navigation intervention compared with standard transitional <b>case management</b> controls.	Randomized control trial.	356 Men or transgender women leaving jail; on antiretroviral therapy.	Jail		The peer navigation intervention was successful at preventing declines in viral suppression compared with standard transitional case management.		Future research examines ways to strengthen the intervention to increase viral suppression above baseline levels.

<p>Metsch et al, 2016 United States</p>	<p>Effect of patient navigation on viral suppression, with or without financial incentives.</p>	<p>Randomized control trial.</p>	<p>801 patients with HIV and substance use and unstable housing.</p>	<p>Acute Hospital</p>	<p>Statistical analysis in the supplement.</p>	<p>Patient navigation with or without financial incentives, among hospitalized patients with HIV, did not have a beneficial effect on HIV viral suppression.</p>	<p>The typical number of sessions that participants complete in the navigation plus incentives groups was much higher than for the navigation only group. The independent effect of financial incentives was not examined. Secondary outcomes were based on self-report and there was no confirmation on medical notes.</p>	<p>Interventions in this setting were not supported by the findings.</p>
---	---	----------------------------------	--	-----------------------	--	--	---	--

<p>Rajabiun et al, 2018 United States</p>	<p>To investigate the impact of patient navigation models on HIV outcomes and shifts in housing status.</p>	<p>A prospective, nonrandomized study</p>	<p>700 homeless PLWH. Convenience sample</p>	<p>9 sites, 8 urban, 1 rural</p>	<p>Univariate and bivariate statistical analysis. A propensity score-based analysis was conducted.</p>	<p>Patient navigators created a network of services for the study population and improved housing stability leading to improvements in HIV related outcomes.</p>	<p>The absence of a control group prevented the authors to assess the direct causal relationship between changes in housing status, HIV health outcomes and other interventions. Time dependent variables were not included when developing the analysis. The measure of housing status was self-reported. Differences in environmental context and their impact on client outcomes were not assessed.</p>	<p>Future studies to examine the role of environmental factors e.g. (housing affordability and the availability of rent and income burden) to better understand their impact on health outcomes.</p>
---	---	---	--	----------------------------------	--	--	--	--

<p>Pardasani, 2005 United States</p>	<p>To examine the supportive housing model as an effective model for the chronically homeless living with HIV.</p>	<p>2 case summaries</p>	<p>2 chronically homeless patients living with HIV.</p>	<p>Community</p>	<p>Report and illustration of service model</p>	<p>The model was found to be a comprehensive approach to addressing multiple issues faced by patients. It was also found to be cost effective.</p>	<p>None identified.</p>	<p>Provides a service framework for practitioners.  Evaluation of similar programs combined with consistent tracking of patient progress to measure the efficacy of the model in comparison to others.</p>
--------------------------------------	--	-------------------------	---	------------------	---	--	-------------------------	--

Cameron et al, 2009 United Kingdom	An evaluation of housing support and outreach service for homeless people living with HIV.	Case study. Project evaluation reports. Semi-structured interviews	Professionals and people who use services.	Community	Thematic analysis of interviews. Project evaluation reports recorded progress against aims linked to health targets.	Improvements were seen for service users. Professionals placed value in local joint working, involving the voluntary sector and support workers. Service users placed the importance of the support worker role to be more flexible.	There were delays in the commissioning process and recruiting staff which led to only 15 months of data reflected upon instead of 2years as planned.	It offers an opportunity for a model of how supporting People services can help with wider health strategies for people in a vulnerable health status position.
---------------------------------------	--	--	--	-----------	--	--	--	---

<p>Buchanan et al, 2009 United States</p>	<p>To assess the health impact of supportive housing for HIV positive homeless patients.</p>	<p>Randomized Controlled Trial. Participants were Randomized to usual care or permanent housing combined with intensive case management.</p>	<p>Inpatients 105 homeless PLWH</p>	<p>Acute hospital</p>	<p>Analyzed data with SPSS. Tests performed-Mann-Whitney U test; Independent T-test, and x2 test.</p>	<p>The health of homeless PLWHIV was improved by housing intervention. Homelessness presents a challenge to managing HIV medically.</p>	<p>1. There was no blinding of the intervention. 2. Baseline CD4 and viral loads were not measured at baseline. 3. Six percent of participants did not have any laboratory tests completed after enrollment as they could not be located. 4. Viral load results used were from two different assays, casting doubt about the accuracy of the results.</p>	<p>Future work to examine how this intervention affects health service use and costs. Future studies to explore whether the paper's findings are seen in other chronic diseases and housing and case management models.</p>
---	--	--	---	-----------------------	---	---	---	---

<p>Ghose et al, 2019 Unites States</p>	<p>To examine the pathways through which housing shapes adherence to antiretroviral therapy for HIV positive women released from incarceration.</p>	<p>Qualitative study. In-depth semi-structured interviews.</p>	<p>43 women living with HIV released were from incarceration.</p>	<p>Community Housing supportive transitional programme.</p>	<p>Grounded Theory</p>	<p>A modified theory of planned behavior and its benefits on adherence has been demonstrated by exploring its subjective and material facets.</p>	<p>1.Research conducted in one housing intervention. 2.Small sample size-it did not allow for exploring differences in communities and following up with residents after housing.</p>	<p>Future research must investigate differences amongst communities and their post housing effects.</p>
--	---	--	---	---	------------------------	---	---	---

<p>Hawk and Davis, 2012 United States</p>	<p>They examine the effects of a harm reduction housing program on viral loads of homeless PLWH.</p>	<p>Mixed methods. Routine clinical care and interviews with residents.</p>	<p>27 Chronically homeless people living with HIV.</p>	<p>Community The Open Door is a non-profit organization that uses a harm reduction model.</p>	<p>Paired sample t-test to compare viral load measures at baseline and follow-up.</p>	<p>The findings supported the feasibility of the model and how it impacts reducing HIV transmission and mortality.</p>	<p>1.Sample size limits the generalizability of the study.  2.Sustainability of the program is uncertain as the program is less than 5 years old.  3.Data relating to the scope of services delivered to individuals in the program was not collected.  4.Costs relating to clinical care were not analyzed.</p>	<p>Future studies use clinical outcomes to assess the housing impact on this population.  Randomized Controlled trials to be undertaken to understand how housing impacts homeless PLWHIV.  Studies that assess the long-term sustainability of this housing program and its effects.  Cost-effective studies are to be undertaken to evaluate the costs associated with better clinical outcomes.</p>
---	--	--	--	---	---	--	--	--



Hall, et al 2019 United States	To assess the influence of supportive housing, incarceration, and health service use on markers of HIV infection.	Qualitative. Quasi-experimental design	696 were placed in New York City supportive housing. 333 were placed in other supportive housing. 268 applicants were not placed in supportive housing.	Community	Propensity score analysis. Regression analysis.	There were fewer deaths and AIDS diagnoses at the end of the study amongst homeless people living with HIV who accessed supportive housing.	Applicants were not randomized to housing treatment. 2.Variation in testing frequency. 3.Lack of prescription information to evaluate housing and ART. 4.Information about the cause of death for participants that died, was not available.	Studies examine interventions that address all causes of mortalities.
Wohl et al, 2017 United States	To identify and link hard-to-reach HIV-infected persons out of care.	Mixed methods Snowball sampling and direct recruitment	112	All settings, Acute; social services.	Univariate analyses	Feasibility and efficacy were demonstrated by a mixed methods approach to identify patients and link them to care.	Convenience sample.	Emphasized the value of HIV surveillance data.

<p>Dombrowski et al, 2019 United States</p>	<p>To evaluate a walk-in, incentivized care model</p>	<p>Quantitative methods.</p>	<p>150 patients 50 enrolled in Max walk-in clinic. 100 Randomly selected in Madison Clinic control.</p>	<p>Walk-in Clinic and primary care clinic.</p>	<p>Chi-square test. Generalized estimating equations.</p>	<p>Viral load suppression was improved in both groups.</p>	<p>Performed in one geographical area. Some data did not collect data on diagnosis. Some variables may have been underestimated. The study was not randomized.</p>	<p>Future studies should consider how the HIV medical system can be modified to meet the needs of patients that are difficult to treat.</p>
---	---	------------------------------	---	--	---	--	--	---

Fuster, 2019 United States	To link patients to primary care through community screening, identification, and referral	Quantitative. 2 stage sampling design	137	Community. Shelters and meal programs.	Descriptive statistics, Bivariate analyses; chi-square test, logistic regression models. SPSS software was used.	The model offers an approach that seeks to test, counsel, and refer to treatment. Living in sheltered accommodation may be a principal factor for the homeless to obtain primary care.	1.Researchers do not know whether patients that did not have the follow-up interview proceeded to obtain healthcare for other infections-leading to overestimation. 2.Short follow-up 1 month-long term outcomes not assessed. 3.Outcome and predictors are from self-reports.	Future studies to test this community-based outreach model in other settings.
-------------------------------	--	---------------------------------------	-----	--	--	--	--	---

Broaddus et al, 2017	The address barriers to engagement in healthcare; the role of linkage to care specialists.	Qualitative. Interviews with specialists	30 specialists	Combined services /systems.	Directed qualitative content analysis. MAXQDA software was used.	A tailored approach to everyone led to increased engagement as they were client centered instead of a structured approach.	1. There is a possibility that highly engaged and motivated participants agreed to participate. 2. Long-term effects not explored.	Future studies to explore other non-HIV-related providers and include other health outcomes apart from viral load. Cross-site evaluation of the program is needed.
Sarango et al, 2018 United States	Strategies to build a patient centered medical home for multiply diagnosed PLWH who are experiencing homelessness or unstable housing.	Qualitative-In-depth interviews.	83 staff members	Primary care	Core services. Use of networks. Rapport and trust building. Use of assessment tools and care planning. Meeting patients where they are.	The model revealed that there was scope for improving health outcomes amongst people with chronic diseases.	Not stated	Future research to investigate an evidence-based approach regarding the efficacy of the model.

Gomih et al, 2018 United States	A rural patient centered medical home for PLWH who experience unstable housing.	Editorial report.	80 HIV confirmed positive clients.	Out of care lists, internal referrals, housing, and other social services referrals from six counties.	Statistical analysis	After a year, most participants were retained in HIV care as well as improved viral load suppression.	Not stated	Findings have implications for improving clinical outcomes. The model can help with the collaboration of patients and healthcare providers the and community. Integration of care advances HIV care delivery.
Flash et al, 2019 United States	To evaluate the cost effectiveness of a medical care coordination program for PLWH in Los Angeles County	Quantitative: Stratified Cohort	Unclear	35 clinics participated.	Sensitivity analysis and other statistical analysis. Healthcare system costs. HIV transmission rates. Intervention costs.	The program improved survival and was cost effective.	Quality of life weights was not adjusted to take into consideration other comorbidities.	Additional programs and partnerships are needed in achieving viral load targets.

<p>Metcalfe et al, 2020 United Kingdom</p>	<p>Redesigning the HIV clinical service model to respond to an outbreak of HIV in people who inject drugs.</p>	<p>Observational Retrospective Cohort study.</p>	<p>156 cases were evaluated over 5 years.</p>	<p>Specialist Virology Centre.</p>	<p>Fishers test for associations. Mann-Whitney test to compare time from diagnosis of HIV to initiating ART.</p>	<p>Traditional HIV care models require modification for a population that is complex.</p>	<p>1. Self reporting from patients. 2. Viral load suppression levels were not compared because the cohort could move from community dispensed ART to hospital dispensed ART. 3. Convenience sample</p>	<p>The model can be replicated in other locations; the appropriate investments and response will be required.</p>
--	--	--	---	------------------------------------	--	---	--	---

<p>Borne et al, 2018. United States</p>	<p>Mobile Multidisciplinary HIV medical care model for hard-to-reach individuals in San Francisco experiencing homelessness.</p>	<p>Longitudinal study</p>	<p>106 clients from 2014-to 2017</p>	<p>Mobile MDT (multidisciplinary team) team</p>	<p>Descriptive statistics to evaluate the program.</p>	<p>The model was successful in retaining and engaging patients in HIV care. Many achieved viral suppression and transitioned to stable housing. The program demonstrated the need for more intensive outpatient care that needs the needs of complex patients.</p>	<p>1.Small sample size to generalize findings. 2.Clients with severe substance use and mental disorders were unable to consent. 3.A control group or long term follow up could not be used.</p>	<p>Future research to ascertain the effectiveness of mobile HIV care interventions in regions that have limited resources.</p>
---	--	---------------------------	--------------------------------------	---	--	--	---	--

## Appendix C: Focus group discussion guide

---

### **Facilitator's welcome, introduction, and instructions to participants**

Welcome and thank you for volunteering to participate in this focus group. You have been asked to participate because your opinion is valuable. I understand you are busy, and I value your time.

**Introduction:** This focus group discussion is designed to assess your current thoughts and feelings about the facilitators and barriers to service engagement for homeless people living with HIV and how we can improve the service we provide. The discussion in the focus group will not exceed one hour.

**Anonymity:** Even though the conversation will be recorded, I assure you that it will be completely confidential. The digital recorder is password protected and will be kept safely in a locked drawer until the recording is transcribed word for word, then it will be destroyed. There will be no information in the transcribed notes from the focus group that would allow individual individuals to be linked to statements. You should attempt to be as accurate and truthful as possible when answering and commenting. You are not obligated to answer or participate in any questions or discussions that you do not like to; nevertheless, please attempt to answer and participate as much as possible.

### **Ground rules**

- The main rule is that only one person can speak at a time.



- There are no correct or incorrect responses.
- You are not required to speak in any order.
- Please speak up when you have something to say.
- I need to hear from each one of you.
- You are not required to agree with the other members of the group.
- Is there anyone who has any questions?
- Let us begin!

### **Introductory question**

I will give you a few moments to think about your experience of providing care for homeless people living with HIV. Is anyone willing to share their experience?

### **Guiding questions**

#### **Barriers**

What do you consider as the reason for poor clinic attendance amongst the homeless PLWHIV? What are the key issues with engagement in this patient group? Are they attending other services (comorbidities)? If so, what could be the motivator or attraction in the provision on an individual and structural level, if any? Could we adapt to other provision models?

Do various study findings suggest that stigma and discrimination (patient-perceived) can hinder service engagement? As a vulnerable population experiencing economic, and personal hardships and poor health outcomes, what processes or awareness/consciousness do you feel will aid engagement?

## **Facilitators**

Some patients do improve clinic attendance periodically.

What are your thoughts on what enables them to attend?

Could social networks be a driver? Transport, partners, family, and friends support -do they play a role?

What changes if any are required to improve practice?

## **Adherence to ART**

What are the current adherence strategies in place for optimal adherence to ART?

How successful are the measures we have in place for ART adherence in our homeless population?

## **Collaborative partnerships**

With the integration of the UHB services, how can we jointly improve the care of homeless people living with HIV?

Teamwork, efficiency, and communication. Would a shared database or alert system help?

Are there any other agencies, or services that are known to this client group that we can link up with or notify of attendance? If so, how effective are they in your opinion?

## **Service modifications to meet the needs of homeless**

The flexibility of service-how flexible are we as a service?

What about communication? Can our channels be improved?

When a patient visits for the first time, are we asking the right questions to identify the housing status of new and existing patients? Could we be missing patients that do not disclose, because of the questions we ask?

Do you think an assessment tool on admission or visits for this group would be beneficial? In addition to the generic ones currently used.

Is there anything further that could be done to make things better?

### **Concluding question**

- Of all the things we have discussed today, what would you say are the most critical issues for the best practice model to improve adherence to ART and service engagement of homeless people living with HIV?

### **Conclusion**

- Thank you for participating. This has been a remarkably successful discussion.
- Your opinions will be beneficial to the study.
- We hope the discussion was interesting to you

University Hospitals  
Birmingham  
NHS Foundation Trust



UNIVERSITY OF  
BIRMINGHAM

### **PARTICIPANT INFORMATION LEAFLET**

#### **IMPROVING SERVICE ENGAGEMENT AND ADHERENCE TO ANTIRETROVIRAL THERAPY FOR HOMELESS PEOPLE LIVING WITH HIV: A QUALITATIVE FOCUS GROUP STUDY WITH HEALTHCARE WORKERS.**

**Version and date: v1, 23 January 2020**

We would like to invite you to take part in this postgraduate research project. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Thank you for reading this.

#### **Summary of study**

You are being invited to take part in a group interview (called a 'focus group') to explore the barriers and facilitators to service engagement and adherence for homeless people living

with HIV. We would also like to identify the factors that enable service engagement and make recommendations for any changes to practice.

### **What is the purpose of the study?**

The negative impact of homelessness on health is widely acknowledged. Poor health and wellbeing are reported amongst this population compared to the general population. According to the annual statistical data in England (AUTUMN 2010-2018), the Birmingham region has seen a rise in homelessness, particularly rough sleepers. There is also growing evidence that homeless people living with HIV have difficulties with taking antiretroviral therapy as prescribed. Poor levels of engagement, nonattendance at appointments and loss to follow up are common challenges amongst homeless people living with HIV. Working with partners to design service delivery for vulnerable communities is crucial for improved health outcomes.

The purpose of the project is to share and discuss ideas from the perspective of healthcare workers about the factors that influence adherence and service engagement for homeless people living with HIV. Secondly it will involve developing recommendations for improving the service. An in-depth discussion will be generated by asking open ended questions and presenting scenarios.

### **Why have I been invited?**

You have been selected because you are a healthcare worker involved in the care of homeless people living with HIV. We intend to hold two group interviews. Each group will consist of six to ten participants.

### **Do I have to participate?**

Participation in the research is, entirely voluntary. You must feel free to end your participation at any time and without needing to give any reason; this applies even if the focus group has already started. If for any reason you feel uncomfortable, you can leave. If

you do decide to participate you will be given this information sheet to keep and a copy of the signed consent form.

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

Your participation will be extremely helpful. The focus group will take place in a meeting room at the University Hospitals Birmingham NHS Foundation Trust, Queen Elizabeth Hospital site at a time that best suits most potential participants. We plan to hold two focus groups. Each group will consist of six to ten healthcare workers and it will last approximately an hour, including a short break for refreshments.

The project team will lead the discussion in each focus group and will guide you through the various issues we want to explore. You will be given a scenario and asked some questions that will generate discussions on improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV. There are no right or wrong answers in a discussion of this kind; we are purely interested in your opinions. You will only be required to attend for the research once. There are no plans for a follow up interview. Data collected from the focus group will be analysed by the researcher.

### **Will the focus group be recorded and how will these recordings be used?**

The focus group to be audio recorded using a password protected digital recorder. The recording will only be available to members of the project team (academic supervisors, clinical supervisors and researcher) it will only be used to allow the preparation of typed notes. The electronic recordings will be destroyed after they are written down and anonymised. Care will be taken to protect your identity. This will be done by keeping all responses anonymous and allowing you to request that certain responses not be included in the final project.

### **What about confidentiality?**

All information you provide will be treated in the strictest confidence in accordance with the UK Data Protection Act 1998. The focus groups will be recorded and transcribed. However, you will not be identified in the recordings. After transcribing, the recorder will be destroyed. We will also not name you in any of our reports or publications. In our reports and publications, quotes from the focus groups will be used to help illustrate the points that are being made. Some of these quotes may come from you but will be unidentifiable. Your data will be held confidentially, with access restricted to researcher, academic and clinical supervisors.

### **What are the benefits and disadvantages of taking part?**

We hope that you will find the process beneficial as an opportunity to reflect on your experiences of working with homeless people living with HIV and a chance to take part in a project in which you can share ideas on how we can collectively improve service engagement for improved health outcomes for a vulnerable population. The main commitment is your time if you chose to take part.

### **Where can you find out more about how your information is used?**

You can find out more about how we use your information

- by asking one of the research team
- by sending an email to [dataprotection@contacts.bham.ac.uk](mailto:dataprotection@contacts.bham.ac.uk)

If there is any aspect of the project, or your participation that you would like to discuss further, or feel you may need support with, please do not hesitate to get in touch with one of the key contacts listed below.

### **Time scale**

The research is planned to take place between February 2020 and April 2020. We would be very happy to keep you informed about how the project progresses and the conclusions that

are reached. If you wish to receive information, please get in touch with one of the key contacts listed below.

Thank you for your support

### **Key Contacts**

Researcher

Name: Sindiso Masuka

Job title: Clinical Research Sister

MRes Clinical Health Research Postgraduate Student

Email: [REDACTED]

Research Supervisor

Name: Professor Annie Topping Email: [REDACTED]

Job title: Professor in Nursing

Email: [REDACTED]

Clinical Supervisor

Name: Dr Kaveh Manavi

Job title: Clinical Service Lead HIV/GUM

Email: [REDACTED]



## Appendix E: Consent Form

### IMPROVING SERVICE ENGAGEMENT AND ADHERENCE TO ANTIRETROVIRAL THERAPY FOR HOMELESS PEOPLE LIVING WITH HIV: A QUALITATIVE FOCUS GROUP WITH HEALTHCARE WORKERS.

University Hospitals  
Birmingham  
NHS Foundation Trust



UNIVERSITY OF  
BIRMINGHAM

#### Healthcare workers Consent Form

Name of Researcher: Sindiso Masuka

		Participant: Please initial each section	Researcher: Please initial each section
1.	I confirm that I have <b>read</b> and <b>understood</b> the information leaflet (version 1 dated 23/Jan/2020) for the above study and have had the opportunity to ask questions and have had these answered to my satisfaction.		
2a.	I understand that my <b>participation is voluntary</b> and that I am free to withdraw at any time without giving a reason.		
2b.	I understand that if I <b>withdraw</b> following the focus group information already collected about me before I withdraw will be included in the analysis and report after being anonymised.		
3.	I understand that the information collected will be used for <b>research</b> and that I <b>will not be identified in any way</b> in the analysis and reporting of the results.		
4.	I <b>agree to take part</b> in the above study and consent to participate in a discussion group.		
5.	I understand that what I say will be kept <b>confidential</b> in accordance with the Data Protection Act 2018.		
6.	I agree to the discussion group being <b>audio-recorded</b> and understand that the recordings will be safely stored in line with University of Birmingham data protection policy and practice.		
7.	I give permission for <b>authorised individuals</b> (from the University of Birmingham-academic supervisors and clinical supervisor at University Hospitals Birmingham NHS Trust) to have access to data collected during this research.		
8.	I <b>agree that my quotes</b> from the discussion can be used <b>anonymously</b> in any publication of the research findings.		

Name of person giving consent (Participant)	Signature	Date

<b>Name of person taking consent (Researcher)</b>	Signature	Date

*When completed one copy for participant, one copy for research site file*

Homeless PLWHIV  
Focus Group Consent Form  
V1. 23 January 2020

## Appendix F: Participant Invitation Email

---

## Participant invitation email

**Subject:** Invitation to participate in a research project on homelessness and service engagement.

Dear Sir or Madam,

My name is Sindiso Masuka; I am a clinical research nurse working for the University Hospitals Birmingham NHS Foundation Trust within the GUM/HIV department. I am currently undertaking a Masters degree (MRes) in Clinical Health Research at the University of Birmingham. As part of my studies I am required to complete a research project. I am working on the research project under the supervision of Professor Annie Topping.

I am writing to invite you to take part in a study entitled “(Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers)”. The main purpose of the study is to explore healthcare workers’ perceptions, knowledge and attitudes towards; the barriers and facilitators to service engagement and adherence to antiretroviral therapy for homeless people living with HIV.

Your participation will involve one 60minute group interview in which we will have a conversation about how best to support homeless people living with HIV for improved health outcomes. The study will take place at a meeting room within the UHB premises. With your consent, interviews will be audio-recorded. Once the recording has been transcribed, the audio-recording will be destroyed.

While this project does involve some professional and emotional risks, care will be taken to protect your identity. This will be done by keeping all responses anonymous and allowing you to request that certain responses not be included in the final project.

Please find attached, a Participant Information Sheet and Consent Form which explains the aims of the project in detail and what the study entails. Should you have any questions or concerns, please find below the contact details of my Supervisor.

Name: Professor Annie Topping

Position held: Professor in Nursing

University of Birmingham in partnership with University Hospitals Birmingham NHS Trust.



## Appendix G: Summary Table of Codes, Themes and Example Quotations.

**Table 6:**

Transcribed Text Examples	Codes	Themes
<p>"They don't hang around long, they have some elements of consultation done and then need to be elsewhere."</p>	responsibility, Attendance,	<b>Theme 1:</b> <b>Perceived patient-level barriers</b>
<p>"Antiretroviral medication can get lost or stolen in the streets as patients don't have any storage facilities."</p>	storage	
<p>"You don't know what people could be going through. The stigma of storing meds and other things going on."</p>	stigma	
<p>"We work hard to clear lists, to make room for this patient group when they make appointments at short notice."</p>	Adaptability	<b>Theme 2:</b> <b>Flexibility /Outreach service</b>
<p>"Methadone is not every single homeless person's priority. It is not a one box size fits all. "</p>	Individualised	
<p>"A patient directed enquiry is very important. The answer may be different for everyone. Ask them, which services you like and why?"</p>	Individualised	
<p>"We need a community liaison person. Two people from the team can go and provide care, like meds and bloods. Then they need to start recruiting more staff for these roles and putting more funding into it and have people willing to take on those roles."</p>	Adaptability	
<p>"I feel that there could be more community groups to interact with, that can locate patients as we are restricted with being in hospital and not being able to get</p>	Partnerships, primary care, voluntary organisation, communication	<b>Theme 3:</b> <b>Collaborative working/Coordination of services</b>

out there to locate them”.		
“The Liver nurses often let us know when they have our patient, and we can add on the extra tests that we need for our specialty.”	secondary care speciality’s interacting	
“Joint consultation with other specialties. TB services- cross-disciplinary to cover both ailments. Adherence meeting platform to identify problems and improve assessments. Having a social worker in every clinic. We could also have a drop-in /walk-in access service.”	Partnerships Secondary care	
“The problem is that Liver has an incentive because there is a cure. We do not say bye to our patients, they are with us life long as there is no cure.”	Funding,	<b>Theme 4:</b> <b>Limitations to interventions/Service level barriers</b>
“Risk assessments need to be undertaken and documented, before going out.”	safety	
“There are different contracts and does and don’ts from NHS England.”	capacity	
“I suppose you won’t have the budget of getting a taxi for them but you could be an advocate. Its zooming in to them.”	funding	

# Appendix H: Medical Research Council self-assessment decision tool



HRA-NHS decision tool (2).pdf

03/02/2020 Result - NOT Research

Go straight to content.

MRC

Medical  
Research  
Council

**Health Research Authority**

Is my study research?

**i** To print your result with title and IRAS Project ID please enter your details below:

Title of your research:

Improving service engagement and adherence to antiretroviral therapy for homeless people living with HIV: A qualitative focus group study with healthcare workers.

IRAS Project ID (if available):

You selected:

- **'No'** - Are the participants in your study randomised to different groups?
- **'No'** - Does your study protocol demand changing treatment/ patient care from accepted standards for any of the patients involved?
- **'No'** - Are your findings going to be generalisable?

**Your study would NOT be considered Research by the NHS.**

You may still need other approvals.

Researchers requiring further advice (e.g. those not confident with the outcome of this tool) should contact their R&D office or sponsor in the first instance, or the HRA to discuss your study. If contacting the HRA for advice, do this by sending an outline of the project (maximum one page), summarising its purpose, methodology, type of participant and planned location as well as a copy of this results page and a summary of the aspects of the decision(s) that you need further advice on to the HRA Queries Line at [HRA.Queries@nhs.net](mailto:HRA.Queries@nhs.net).

For more information please visit the [Defining Research](#) table.

Follow this link to start again.

Print This Page

NOTE: If using Internet Explorer please use browser print function.

[About this tool](#)   [Feedback](#)   [Contact](#)   [Glossary](#)

www.hra-decisiontools.org.uk/research/result7.html 1/1





