Understanding the Implementation of Integrated Care for People Living with HIV

Vickie A. Lynn

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Understanding the Implementation of Integrated Care for People Living with HIV

by

Vickie A. Lynn

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a concentration in Behavioral Health Department of Community and Family College of Public Health University of South Florida

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This dissertation is dedicated to the millions of people living with HIV and the public health professionals and allies dedicated to improving health outcomes and quality of life for this population. Your resilience, courage, and passion inform my work.
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Abstract

Introduction: The integration of physical and behavioral health services is an innovative method of delivering health care services for persons dual or triply diagnosed with HIV, mental health and/or substance use disorders. Reducing the fragmented delivery of health services by integrating services into one setting is essential to providing holistic patient-centered care and address the complex health needs of this population. Although research shows integrated care improves health outcomes, little is known about the implementation of integrated care in real-world settings because the perspectives and experiences of those delivering and receiving integrated health and social services are underrepresented in the literature.

Objectives: To accomplish the study aims, a mixed-methods case study was used: Aim 1: Describe the degree of integrated care in a community-based organization that provides physical and behavioral health services, as well as social services to people living with HIV in the geographical area. Aim 2: Identify and document the experience and perceptions of staff and service users in a newly integrated care setting. Aim 3: Describe the implementation of Integrated Care using the Consolidated Framework for Implementation Research (CFIR) as a lens to organize and integrate the survey and interview data.

Setting: This study took place in a community-based non-profit organization in West Central Florida that recently integrated HIV medical care, primary care, and psychiatric medication management, and on-site pharmacy services for their service users.
**Design:** Using a mixed-methods case study design, this research was completed in two phases. In phase 1, the organization’s staff completed a survey aimed to understand at what level of service integration they achieved. Staff ($n = 17$) and service users ($n = 48$) completed a survey to document their perspectives and experiences. In phase 2, semi-structured interviews with staff ($n = 10$) and service users ($n = 13$) were used to complement and expand the phase 1 data, describe and compare staff and service users’ experiences, and explore the complex issues associated with integrated care health service delivery for people living with HIV. Using template analysis, interview data were analyzed deductively, using the consolidated framework for implementation research, and inductively, allowing themes to emerge from the data.

**Results:** The key findings of this study show that overall, the organization was functioning at level four of the six levels of integration. The Level of Integration Measures (LIM) and interview data showed that staff and service users shared similar perspectives about the level of integrated care provided, with both groups perceiving a high level of service integration. Staff and service users valued the advantages of providing and receiving health and social services in one setting. Findings suggest service users were satisfied with the quality of services and the competency of providers in their healthcare setting. Facilitators of integrated care included structural characteristics such as proximity of provider offices within the community-based organization’s locations and specific services offered, such as transportation for service users to and from clinical appointments. Challenges to higher levels of integration included lack of staff education and training in interdisciplinary care and lack of a centralized electronic health system for recording and sharing service user data. Additional research is needed to explore levels of integration and their association with health outcomes and quality of life for people living with HIV.
## Acronyms

<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>BHS</td>
<td>Behavioral Health Specialist</td>
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<tr>
<td>CBO</td>
<td>Community-Based Organization</td>
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<tr>
<td>CFIR</td>
<td>Consolidated Framework for Implementation Research</td>
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<tr>
<td>EHR</td>
<td>Electronic Health Records</td>
</tr>
<tr>
<td>FQHC</td>
<td>Federally Qualified Health Center</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>IC</td>
<td>Integrated Care</td>
</tr>
<tr>
<td>PCBH</td>
<td>Primary Care Behavioral Health</td>
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<tr>
<td>PCMH</td>
<td>Patient-Centered Medical Home</td>
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Chapter One: Introduction

Since the first recognized case in 1981, the Human Immunodeficiency Virus (HIV) has killed more than 35 million people worldwide, and estimates show that 36.9 million people are currently living with HIV (UNAIDS, 2018). Over the past few decades, there have been significant advances in HIV care, treatment, and prevention efforts; however, HIV remains a serious public health and social service challenge with approximately 5,000 new cases each day worldwide (UNAIDS, 2018). HIV is now considered a chronic and manageable disease; some models of the disease suggest people living with HIV, who are in care and treatment, can expect a lifespan comparable to those living without HIV (Miller, Halkitis, & Durvasula, 2019; Smith, Delpech, Brown, & Rice, 2010). However, major public health challenges remain because as the population of persons living with HIV age, and they are at higher risk for complex comorbid behavioral health disorders such as depression, anxiety, and substance abuse conditions (Hughes, Bassi, Gilbody, Bland, & Martin, 2016).

The population of people living with HIV is in high need of biopsychosocial services to address their needs and reduce the transmission of HIV. Researchers estimated that 30% of people living with HIV in the US are dually diagnosed with a behavioral health disorder and many are also triply diagnosed with HIV, mental health, and substance abuse (Chibanda, Benjamin, Weiss, & Abas, 2014). Furthermore, about 9% lack stable housing, and a majority need additional social supports (Department of Health and Human Service, 2018; Monroe et al.,
2019). The current health care system is fragmented and inadequate and fails to meet the complex biopsychosocial needs of people living with HIV.

The biomedical treatment of HIV includes daily treatment with antiretroviral medication, which helps to control the progression of HIV and reduces the HIV viral load to undetectable levels. People diagnosed with HIV, who are in care and treatment, and reach and maintain an undetectable viral load, have no risk of sexually transmitting the virus to others. However, millions of people living with HIV are not receiving the care and treatment they need to control the virus. Fifty-four percent of people living with HIV are not receiving antiretroviral therapy and are at higher risk of transmitting the virus to their sexual partners. Evidence supports that people living with HIV who are not in treatment account for 90% of all new HIV transmissions (Centers for Disease Control and Prevention, 2015a).

Transforming fragmented systems of care, where providers work independently, into a fully integrated system using interdisciplinary care teams is complex. A transformation of this nature not only changes the culture of an organization, but it also changes how staff and providers function within the care system and how service users engage in care. Researchers have examined the integration of HIV and behavioral health service; however, most of these researchers were focused on integrating behavioral health services within existing HIV medical or primary care settings. There are fewer studies focused on integrating HIV medical care into existing mental health or substance abuse agencies (Chuah et al., 2017).

The National HIV/AIDS Strategy: 2020 Goals (White House Office of National AIDS Policy, 2015) focuses on four primary goals: 1) reduce new HIV infections, 2) increase access to care and optimize health outcomes for people living with HIV, 3) reduce HIV-related Health disparities and health inequities, and 4) achieve a more coordinated national response to the HIV
epidemic by increasing the coordination of HIV programs across the Federal government and between Federal agencies and State, territorial, Tribal, and local government. Much of the work on the national strategy has focused on the first three goals, but more work is needed toward the fourth goal, i.e., to achieving a more coordinated response to the HIV epidemic, specifically by focusing on the coordination of HIV programs and services.

**Epidemiology of HIV in the United States**

To understand the epidemiology of HIV and the current approaches to caring for people living with HIV, Gardner et al. (2011) developed what is known as the *HIV care continuum* (sometimes referred to as the *HIV treatment cascade*). The HIV care continuum describes the stages of HIV biomedical care from initial diagnosis through HIV viral suppression, which is the goal of treatment and prevention efforts (CDC, 2014; Gardner, McLees, Steiner, del Rio, & Burman, 2011; Mugavero, 2013; Kay, Batey, & Mugavero, 2016). Data from the HIV care continuum show that one in seven people living with HIV in the United States is unaware of their HIV status. People who are not in care and treatment are at high risk of sexually transmitting the virus to others.

Of the 1.1 million people living with HIV in the United States, 85% are aware of their status, and about half (49%) are virally suppressed (CDC, 2017). In other words, 7 out of 10 people living with HIV in the United States are not getting the treatment they need to achieve viral suppression, which leaves them at an elevated risk of developing Acquired Immunodeficiency Syndrome (AIDS) and transmitting the virus to others (CDC, 2017; Gardner et al., 2011). People living with HIV who are undiagnosed, not in care, or who have high viral loads account for the majority (91.5%) of HIV transmission in the United States (Skarbinski et
The health care system should be more effective at diagnosing people, connecting them to medical care, and retaining them in care and treatment.

Behavioral health conditions and social determinants of health are significant barriers to retention in HIV care and treatment (Tobias et al., 2007; Yehia et al., 2015). Treating HIV without treating behavioral health and social service needs is not enough to meet the complex health needs of this population. Innovative care models addressing physical and behavioral health issues as well as the social and financial barriers are vital to improving engagement in care, health outcomes, and quality of life for this population (Yehia et al., 2015). Furthermore, as the number of people living with HIV increases and health budgets decrease, retaining people in care, controlling the transmission rates, improving physical as well as behavioral health outcomes, and reducing health care costs become even more urgent and challenging.

**The System of Care for Persons Diagnosed with HIV**

Historically, the medical model has been the approach used for treating persons living with HIV (i.e., separating the treatment of physical and behavioral health). In the 1980s, the public health approach to treating persons living with HIV was reactive because little was known about the disease, and no treatment was available. The approach to HIV involved relieving symptoms for those diagnosed, caring for the dying, and burying the dead.

Between 1981 and 2000, more than 440,000 people died from Stage 3 HIV or end-stage HIV (i.e., AIDS) related complications (CDC, 2001). In the mid-1990s, scientific breakthroughs led to a reduction in AIDS diagnosis, a reduction in AIDS related deaths, and an increase in the number of people living with HIV. However, people diagnosed with HIV had to seek care from multiple providers to address their complex health needs, and there was little to no collaboration or communication among clinics or providers.
More recently, HIV is considered a chronic health condition, and holistic care is appropriate and needed for this population. However, achieving holistic care may mean reshaping the physical and behavioral health care system to meet the needs of people living with HIV and removing the fragmented health care delivery services that are currently in place (Croft & Parish, 2013; Mugavero, Norton, & Saag, 2011; Sherer, 2012). In this fractured system of healthcare delivery, the behavioral health needs of people often go unmet. Fragmented physical and behavioral health services often lead to a lack of continuity of care and less than optimal health outcomes. The National HIV/AIDS Strategy for the United States: Updated to 2020 (2015) calls for the development of innovative models of care that holistically address the complex health care needs of people living with HIV using interdisciplinary teams of providers (e.g., primary care providers, behavioral health specialists (BHS), social workers, and case managers working together).

**Statement of the Problem**

Public health care systems face the challenge of developing new models of healthcare delivery to meet the diverse needs of populations with complex health conditions. Recent health care reforms, specifically the Patient Protection and Affordable Care Act of 2010 and the Mental Health Parity Act (U.S. General Accounting Office, 2000), have set the foundation for implementing new models of care and redesigning the health care system (Rosenbaum, 2011). The ACA includes insurance reform, coverage expansion, delivery system redesign, and payment reforms. However, more is needed to understand the transformation of health system and the experiences of stakeholders in newly IC settings.

Although the idea of integrating physical health and behavioral health services is not new, health systems have only recently begun to transform into IC settings. In a recent review,
Chau et al. (2017) found that there is much diversity in the models used to integrate HIV medical care and behavioral health services. These researchers identified three models of integration: single-site integration, multi-facility integration, and coordinated care by a care manager. Most of these models propose integrating at the micro level and across multiple facilities and there is limited research on IC in community-based organizations (Chau et al., 2017). Research on IC models has focused primarily on health outcomes rather than the process of implementation (Chuah et al., 2017; Hoang et al., 2009; Soto, Bell, & Pillen, 2004). Providing IC health services for people living with HIV has the potential to optimize health outcomes and reduce transmission of HIV while controlling health costs (Parry, Blank, & Pithey, 2007; Soto et al., 2004).

Despite the evidence showing that IC is a promising approach, there is no single accepted IC model because models of IC are often tailored specifically to the organization and needs of the populations served. There are gaps in the research on how IC models are implemented in real-world settings (Goldman, Spaeth-Rublee, & Pincus, 2015; Ion, Sunderji, Jansz, & Ghavam-Rassoul, 2017; Kroenke & Unutzer, 2017; Sunderji, Ion, Ghavam-Rassoul, & Abate, 2017). Little is known about integrating HIV medical care into a community-based organization (CBO). Moreover, the perspectives and experiences of those delivering the care (providers) and using the IC health services (service users) are absent from the literature (Ion et al., 2017). Therefore, there is a need to understand and describe healthcare systems and how they are implemented in community settings. This research aimed to fill this gap through a rigorous understanding of the factors that affect the level of integration and the delivery of healthcare services in a CBO.

The level of integration and the processes involved in implementing IC are not easily measured because the design of IC systems depend on the community and organization in which they are implemented. Transforming a system of care and implementing broad changes to its
delivery are complicated and require multiple perspectives to gain a holistic understanding of the process. Provider and service user perspectives are underrepresented in the literature but are vital to understanding IC implementation and the delivery of health services (Ion et al., 2017; Poot, Caljouw, de Waard, Wind, & Gussekloo, 2016). Provider and service perspectives are necessary to provide “insight into the aspects of care that matter to clients” (Sunderji et al., 2017, p. 5). Therefore, the long-term goal of this study is to identify strategies to improve health care delivery for people diagnosed with complex health conditions such as HIV.

**Purpose**

At the time of this study, there were no available results demonstrating the level of integration for a CBO providing health and social services for people living with HIV. This study was intended to add to the current body of knowledge of integrated care for the population of people diagnosed with HIV. The researcher used the consolidated framework for implementation research (CFIR) to inform both phases of data collection and to organize the findings. The CFIR is a broad conceptual framework used to systematically assess and describe barriers and facilitators for implementing innovations in health care settings.

The purpose of this mixed methods case study was to examine the level of IC at a CBO and identify the factors that facilitate or impede the implementation of IC. The gap in the literature was addressed by collecting survey data and interviewing staff, and service users who work or receive health and social services in a recently integrated CBO. The consolidated framework of implementation research (CFIR) was used to inform data collection and organize the findings for this mixed methods case study.
Specific Aims and Research Questions

AIM 1: Describe the degree of IC in a community-based organization that provides physical and behavioral health services, as well as social services to people living with HIV in the geographical area.

1. How do staff and service users define the concept of IC?
2. What organizational characteristics are associated with the degree of integration?
3. What factors facilitate or impede the implementation of IC?

AIM 2: Identify and document the experience and perceptions of staff and service users in a newly integrated care setting.

4. How do the experiences of the staff and service users compare with each other?
5. Is there similarities and differences with the survey and interview data between staff and service users, and if so, what are the implications?
6. What suggestions do stakeholders have for optimizing the care process?

AIM 3: Describe the implementation of IC using the Consolidated Framework for Implementation Research (CFIR) as a lens to organize and integrate the data.

7. How can the survey and interview data be interpreted through the lens of the CFIR to account for the implementation of IC?

Significance of the Study

Many researchers (e.g., Harris, Toledo, Dunbar, Aquino, & Nesheim, 2014; and Lombard, Proescholdbell, Cooper, Musselwhite, & Quinlivan, 2009) have identified IC as an efficient and promising approach to address the biopsychosocial needs of people living with HIV. A growing number of studies concern integrating primary medical care into behavioral health settings and integrating behavioral health care into primary care settings (Davis et al.,
However, there is limited investigation on the level of IC service delivery in a CBO which serves the physical and behavioral health and social service needs of people living with HIV. Furthermore, more information is needed regarding the factors affecting IC service delivery in this setting. Exploring the factors affecting the implementation of IC using qualitative and quantitative methods could produce a broader understanding of IC and improve the implementation of this care model in agency and operational processes. Also, the results of this study could help stakeholders move forward with strategies to deliver the best care possible for people living with HIV.

A goal of the study was to increase the scientific understanding of implementing IC in a CBO that serves the physical, behavioral, and social service needs of people living with HIV in the geographical area. This goal included documenting and describing stakeholders’ perspectives about the implementation of IC. The knowledge gained in this research can be immediately applied to improving health care delivery for the population of people living with HIV. Furthermore, it could be used to develop specific training programs for providers who work in interdisciplinary teams and IC settings. Findings may inform strategies for other organizations, and clinics that strive to integrate behavioral and physical health services fully. This new knowledge can offer meaningful improvements in the quality and coordination of care services, improve continuity of care, and increase service users’ access to health care services while improving health outcomes, reducing the transmission of HIV, and controlling costs. Health care professionals are calling for researchers to identify predictors of integration, determine what parts and processes of IC affect outcomes, and develop strategies to increase the level of integration in health care settings (Gilmer, Henwood, Goode Sarkin, & Innes_Gomberg, 2016).
Definitions

**Acquired immune deficiency syndrome (AIDS).** The CDC defines AIDS (Stage 3 HIV or End Stage HIV) as a condition in which the CD4 count of a people living with HIV falls below 200 cells/mm$^3$ or the CD4 percentage is less than 14%, and includes certain cases when the people living with HIV present with an opportunistic disease, condition, or symptom. Once a person receives a clinical diagnosis of AIDS, they are henceforth categorized with living with AIDS as a diagnosis, even if their CD4 count rises above 200 cells/mm$^3$.

**Behavioral health care.** Peek (2013) stated that behavioral health care is a broad category often used as an umbrella term for care that addresses behavioral problems bearing on health, including service user health behaviors, mental health, and substance use conditions. Behavioral health care within an HIV care clinic involves mental health, substance use and abuse, medication adherence, disclosure issues, safer sex practices, as well as assistance with health behavior change, life stressors, stress-related physical, mental health symptoms, and other behaviors that are affecting the service users’ health and risk of transmission of HIV to others.

**Biopsychosocial model.** The biopsychosocial model is a “philosophy of clinical care and a practical clinical care guide” (Borrell-Carrió, Suchman, & Epstein, 2004, p. 576). The biopsychosocial-oriented clinical practice is an approach to health care that considers the biological, psychological, and social factors and the complex interactions of these factors that affect health, illness, and healthcare delivery (Borrell-Carrió et al., 2004; Engel, 1980).

**Collaboration.** Collaboration is a key element of IC and refers to the interactions between health care providers but does not necessarily include the providers are co-located (Peek, 2013). Collaboration enables health care professionals to use their knowledge and skills to “synergistically influence the patient care being provided” (Weiss & Davis, 1995, p. 299).
Context. According to Nilsen (2015), “Context lacks a unifying definition in implementation science but is generally understood as the conditions or surroundings in which something exists or occurs” (p. 60). The context in health and social science research as well as in implementation research is an essential concept in understanding how and when changes occur. These conditions and surroundings include the immediate environment, community and local resources, and state and federal policies and funding. Context is critical to the understanding and implementation of innovations in healthcare settings.

HIV. HIV is a virus that attacks the body’s immune system. Three stages categorize HIV infection. Stage 1 (acute infection or primary HIV infection) occurs within initial contraction of HIV (2-4 weeks); Stage 2 (clinical latency stage) is the period when the service users have no or limited symptoms. The virus is active during this time, and this period can last up to 10 years without treatment and without progressing to an AIDS diagnosis. However, there are some people whose viral infection may progress faster. The final stage of HIV, stage 3, is what has historically been known as AIDS. Moreover, without treatment, people diagnosed at this stage have a life expectancy from one to three years (CDC, 2015). Testing the CD4 count and viral load of people living with HIV in care and treatment measures the progression of HIV and helps to determine treatment approaches. A CD4 test measures the number of CD4 T lymphocytes (CD4 cells) in a sample of blood; the test yields an indication of immune function and is the strong predictor of HIV progression. A higher CD4 count indicates a stronger immune system. A viral load test measures the amount of HIV's genetic material in a blood sample (Hogg et al., 2001).

Innovation in health service delivery. The term innovation is defined differently depending on the discipline, organization, and context in which it is used. Innovation in health
care refers to “new medicines, diagnostics, health technologies, new ideas, practices, objects or institutional arrangements perceived as novel by an individual or a unit of adoption” (Atun, 2012; p. iv5). The term innovation is broad and includes evidence-based treatments, practice guidelines, and empirically supported interventions focusing on prevention and treatment (Powell et al., 2012). In this study, the innovation is IC health service delivery.

**Implementation.** Implementation refers to the actions and efforts undertaken to spread innovation within an organization (Greenhalgh et al., 2004a). Damschroder et al., (2009) describe Implementation as “the means by which an intervention is assimilated into an organization” (p. 52), while implementation research is “the scientific inquiry into questions concerning implementation” and takes place in real-world rather than controlled research settings (Peters, Adam, Alonge, Agyepong, & Tran, 2013; p. 347). Studying the implementation of IC care service delivery can help identify gaps in knowledge and aid organizations in developing specific implementation strategies towards full implementation of IC service delivery benchmarks.

**Interdisciplinary.** Interdisciplinary team-based care is at the core of IC, and team members come from several different disciplines and work together to address service users’ needs. Team members have specific roles and responsibilities; however, they share protocols, practice guidelines, and care plans to standardize care across health care services (Armitage, Suter, Oelke, & Adair, 2009; Suter, Oelke, Adair, & Armitage, 2009). For example, interdisciplinary teams in an HIV care setting often include the HIV care specialists, behavioral health providers, case managers, nurses, pharmacists, nutritionists, and other specialty care providers to coordinate care for service users. The difference between interdisciplinary care and
multidisciplinary care is the use of a shared treatment plan. Interdisciplinary team members share treatment plans while multidisciplinary team members each use their treatment plan.

**Integrated HIV care.** IC is an innovative method of delivering health care services because it reduces fragmentation and offers a comprehensive approach to the delivery of health care services (Heath, Wise, & Reynolds, 2013). The literature includes various definitions of IC, with some specific to the population served, however, for this research, IC is defined as,

the care that results from a practice team of primary care and behavioral health clinicians, working together with service users and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization. (Peek, 2013, p. 2).

**Patient-centered care.** Providing patient-centered care is one of the basic approaches to improving health care delivery and quality of care. The Institute of Medicine (IOM) (2001) defines patient-centered care as the,

healthcare that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions reflect patients’ wants, needs, and preferences and that patients have the education and support they need to make decisions and participate in their care (p. 7).

Patient-centered care in an integral part of a fully IC model, and it is crucial to understand both the providers and service users’ perspectives. Providers may perceive that they are delivering patient-centered care; however, service users are the ones who define whether they experience patient-centered care (Epstein & Street, 2011).
**Satisfaction with care.** Satisfaction with health care services is defined as a person’s perception, experience, and attitude towards health care services. It includes service users’ perception of the quality of care, access to services, communication with providers and administrative staff, and the success of treatment (Al-Abri & Al-Balushi, 2014).

**Health system/system of care.** Roemer (1993) defined a health system as the combination “of resources, organization, financing, and management that culminates in the delivery of health services to the population” (p. 695). An IC health delivery system includes not only the various parts or components of the system but also includes the relationships among and between the components. It is the interconnections and relationship of the parts that come together holistically to address the health needs of a population; in this case, the population of people living with HIV.

**Viral load/suppressed viral load.** A viral load is a term used to describe the amount of HIV-1 Ribonucleic acid (RNA) levels in a person’s blood sample at the time of testing. This measure is a strong predictor of the rate of decrease in the CD4 count and the progression to an AIDS diagnosis. The test is a standard practice in HIV care in the United States (Mellors et al., 1997). An HIV viral load is considered undetectable when there are less than 200 copies/mL detected in a blood sample. One of the goals of HIV treatment is to lower the viral load to undetectable levels (i.e., less than 50 copies/mL), which reduces the likelihood of transmission of HIV by 96%.
Chapter Two: Review of the Literature

The study purpose and research questions are the foundations that drive the choices for conceptualizing and designing a research project (Onwuegbuzie & Leech, 2006). Research questions provide a framework for the research and dictate the type of research design that is appropriate for a study (Onwuegbuzie & Leech, 2006). Aim 1 of the proposed research includes two closed-ended questions that quantitative methods can best address. Analysis of the quantitative data can provide results needed to detail factors associated with the level of IC. However, these analyses do not yield a description of the meanings peoples ascribe to their experiences when working in an organization and receiving services. The quantitative data only offer a partial view of IC and gives less insight into the quality and experience of giving and receiving care. Qualitative methods allow a deeper exploration of the experiences of participants, such as agency staff and service user, and complete the overall picture of IC in a CBO. The research questions in Aim 2 are open-ended and are “what” and “how” questions, which require qualitative data collection methods. The proposed research purpose and research questions call for the use of a mixed-methods case study design to first describe factors affecting IC, and then explain those factors and explore participants’ perceptions.

Case Study

For this study, the use of a mixed-methods case study framework provided an in-depth analysis of IC in its natural, real-life context. Yin (2014) describes a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially
when the boundaries between phenomenon and context are not clearly evident” (p. 16) and points out that case studies are used to explain, describe or explore events in the context they occur. Case studies have been used in many fields of research and are particularly useful when trying to understand complex social issues (Yin, 2014) such as IC. Case study research is useful in understanding the context of the phenomenon (Baker, 2011). Experimental designs are used to test hypotheses, while in contrast, case study approaches are aimed answer how, what, and why questions (Crowe, Cresswell, Robertson, Huby, Avery, & Sheikah, 2011). Using a case study approach in this research offered insights into the gaps in IC delivery specifically for people living with HIV.

Case study research is well suited for using a mixed-methods approach when the goal is to gain in-depth insight into an issue under investigation (Creswell, Klassen, Plano-Clark, & Smith, 2011; Creswell & Plano-Clark, 2011). To fully understand the complexities of mixed-methods research and explain the process of conducting a mixed-methods study, Creswell and Plano-Clark (2011) offer a definition of the “core characteristics of mixed methods research” (p. 5), including

- collects and analyzes persuasively and rigorously both qualitative and quantitative day (based on research questions);
- mixes (or integrated or links) the two forms of data concurrently by combing them (or merging them) sequentially by having one build on the other, or embedding one within the other;
- gives priority to one or to both forms of data (in terms of what the research emphasizes);
- uses these procedures in a single study or multiple phases of a program of study;
frames these procedures within philosophical worldviews and theoretical lenses; and
combines the procedures into specific research designs that direct the plan for conducting the study (p. 5).

Using a mixed-methods case study framework can help to build a comprehensive understanding of the case by providing a rich description of the issues (Fetters, Curry, & Creswell, 2013). Baker (2011) explains that case study design is widely used in organization research, and although it is less common in health services research, the approach can provide valuable insight into the adoption and implementation of innovation in health care settings. Case study research contributes to understanding and knowledge of phenomena (Yin, 2014). The rationale for using a single case design includes instances where the case represents “an extreme or unusual case” (Yin 2014, p. 52). The case in a case study is often a bounded system and in this study, the bounded system is an HIV clinic within a CBO that provides IC services to people living with HIV. The case is bounded in that it is one program within an organization, and there is a limited number of people available for interviews (Merriam et al., 2015). This study was focused on stakeholders in an organization who are directly connected to HIV health services (e.g., staff, providers, service users).

The case for this research was appropriate because of the organization’s recent decision to adopt and implement physical, psychiatric, and pharmaceutical services in one agency. The agency has historically served the outpatient behavioral health, case management, and social services needs of people living with HIV. This organization has now created “a one-stop shop” for people living with HIV where service users can receive a variety of health, wellness, and social services as well as educational and social support groups.
There are disadvantages, challenges, and limitations to using mixed-methods case study research that should be addressed. Mixed-methods research is complex and often takes longer to complete; more resources may be needed than when using a single method, and there may be issues that arise during data analysis and interpretation of the data. Findings from the quantitative and qualitative data may be conflicting, and researchers must be prepared to accept these contradictions (Creswell et al., 2011; Johnson & Onwuegbuzie, 2004; Wisdom, Cavalieri, Onwuegbuzie, & Green, 2012).

**Worldview**

A paradigm is a worldview, a way of understanding and interpreting the world; it is a set of assumptions about how things work (Creswell & Plano Clark, 2007). Individuals’ worldviews are based on their personal histories and experiences in the real world; it is not monolithic and can change over time. In research, a paradigm is “a way of examining social phenomenon from which particular understanding of these phenomena can be gained, and explanations attempted.” (Saunders, Lewis, & Thornhill, 2009, p. 112). Understanding and choosing a paradigm for research can be challenging, as Shannon-Baker (2015) stated, “there is not enough guidance, particularly for novice researchers, on specifically how these perspectives can be used” (p. 320). Although few researchers are explicit about their paradigm use, the use of paradigms can help researchers align their perspectives with the study goals and provide readers with a better understanding of findings (Shannon-Baker, 2015).

Maxwell and Mittapallie (2010) stated the realist position is an integration of the realist ontology (there is a real world that exists independently of human perceptions, theories, and constructions). Constructivist epistemology (human understanding of this world is inevitably a construction from an individual’s perspectives, and there is no possibility of attaining a God’s
eye point of view that is independent of any particular viewpoint). Maxwell and Mittapallie argue that realism is a viable alternative to the traditional philosophical approaches, supporting both qualitative and quantitative methodologies and facilitating a dialogue between the quantitative and qualitative approaches. By using both methods in a single study, a researcher can be both objective and subjective, rather than a pure positivists’ approach (Creswell et al., 2011; Tashakkori & Teddlie, 2010). However, a realist takes it a step further and holds a much different position.

Increasingly, researchers are using critical realism when complex innovations in health care systems (Murdoch, 2016). Critical realism emphasizes the researcher’s relationship with the research and posits that complete objectivity is never possible (Maxwell & Mittapalli, 2010). Critical realism allows for in-depth causal explanations of phenomena that take contextual factors into account (Murdoch, 2016; Wynn & Williams, 2012) while placing high importance on perspective (Shannon-Baker, 2015). Personal perceptions depend on internal predispositions and life experiences. Critical realism is the overarching broad term that includes all forms of realism and offers a philosophical stance “compatible with both qualitative and quantitative research” (Maxwell & Mittapalli, 2010, p. 148). For example, Douglas, Gran, and van Teijlingen (2010) used realism to examine a context in which a smoking cessation intervention was implemented; through this approach, they stressed the importance of contextual factors affecting the process. In this study, critical realism was used to examine IC.

**Review of the Literature**

This researcher conducted a literature review by searching online academic databases, including PubMed, Web of Science, Psych Info, and Google Scholar, to identify scholarly and professional thought regarding the concepts of implementation science, IC, and HIV health
service delivery. Search terms for implementation included implementation, implementation science, and IC. Search terms for IC included integrated care, behavioral health integration, integrated care models, and HIV or AIDS. Although the researcher found many articles on IC and behavioral health integration, articles specific to HIV care and IC were scarce. The goal of this review is to critically examine the literature in the areas of implementation science, IC, models used in IC, and the implementation of IC for people living with HIV. The following pages describe the information relevant for the purposes of this study.

**Transforming Systems: Implementing Integrated Care**

Implementation science bridges the gap between interventions known to work in clinical trials (e.g., evidence-based practice, evidence-based interventions) and their use in real-world settings. Thus, implementation science connects the silos of academia, research, and practice (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). IC aims to bridge the silos in health care delivery between physical health, mental health, and social services. Eccles et al. (2006) define implementation research as “the scientific methods to promote the systematic uptake of research findings and other evidence-based practice, and, hence, to improve the quality and effectiveness of health services. It includes the study of influences on healthcare professional and organizational behavior” (p. 1).

Empirically rigorous research isolates the phenomenon from the context, while implementation research explores how the context affects the phenomenon. Through implementation research, an investigator works to understand the uptake of evidence-informed interventions and practices into clinical and community settings (Fixsen & Ogden, 2014). Knowing what needs to be done is a good start, but knowing how is critical (Fixsen et al., 2005).
Health care organizations are complex adaptive systems, and the transformation of health care delivery is “expensive, complex, difficult to implement, and challenging to evaluate” (Greenhalgh et al., 2012, p. 517). IC is an innovative but complex method of delivering health care because it merges the skill sets of various health care professionals, changes the delivery of health care, and changes how people engage in care (Kirchner et al., 2010). The components of IC are highly variable depending on the context in which it is implemented. Therefore, studying this highly contextual process requires a broad conceptual framework for analyzing and organizing the results (Minkman, 2012).

Implementation Frameworks

Following Greenhalgh et al. (2004b) groundbreaking literature review on implementation studies, many theories and frameworks have been used to examine the implementation of various programs and practices (Fixsen et al., 2005; Greenhalgh et al., 2004; Meyers, Durlak, & Wandersman, 2012; Moulin, Sabater-Hernández, Fernandez-Llimos, & Benrimoj, 2015; Nilsen, 2015; Tabak, Khoong, Chambers, & Brownson, 2012). Implementation frameworks are designed for a variety of settings, various stages of implementation, and diverse populations, and programs (Moullin et al., 2015; Tabak et al., 2012).

Nilsen (2015) identified three “overarching aims” (p. 4) for implementation theories including a) describing and guiding the process of translating research into practice, b) understanding and explaining what influences implementation outcomes, and c) evaluating implementation. Nilsen (2015) also categorized theoretical approaches into five distinct but overlapping categories: a) process models, b) determinant frameworks, c) classic theories, d) implementation theories, and e) evaluation frameworks.
Researchers could use several implementation frameworks or theories to consider IC implementation in clinical and community settings (Moullin et al., 2015). Some of the more commonly used frameworks include Greenhalgh et al.’s (2004b) framework of diffusion in service organizations, the CFIR (Damschroder et al., 2009), and normalization process theory (NPT; May et al., 2007; May et al., 2009; Moullin et al., 2015). The CFIR and Greenhalgh’s frameworks are descriptive, meaning they “describe the properties, characteristics, and qualities of implementation” and are considered explanatory frameworks in that they identify the connection and relationships between concepts while the NPT is predictive (Moullin et al., 2015, p.3). Greenhalgh’s framework and the consolidated framework for implementation research (CFIR) are two widely used broad theoretical frameworks used by researchers to address the complex factors affecting the implementation and sustainability of IC in a CBO; therefore, these are appropriate for this study. Both frameworks provide a broad conceptual lens through which to view the implementation process.

**Consolidated Framework for Implementation Research**

The CFIR was used to inform the research process and organize findings. The array of constructs included in the CFIR allows for systematic and comprehensive identification of factors affecting the implementation of IC. A growing number of studies include the CFIR to evaluate the implementation of evidence-based interventions and practices changes (Abbott, Foster, Marin, & Dykes, 2014; Alexander, & Herald, 2011; Sanchez, Sethi, Santos, & Boockvar, 2014). While other studies have explicitly focused on the facilitators and barriers to implementation (Balas et al., 2013; Lash, Timko, Curran, McKay, & Burden, 2011; Robins et al., 2013).
The CFIR offers the necessary broad conceptual framework needed to examine IC in the context of a realist approach. A realist approach provides a deeper understanding of the implementation process by focusing on “what works for whom, in what circumstances, in what respects, and how” (Peters, Tran, & Adam, p. 51). For example, Damschroder and Lowery (2013) used a realist philosophical approach to evaluate the implementation of the MOVE! program using CFIR in a veteran administration setting. According to Damschroder and Lowery, using a realist approach takes into consideration that the innovation or intervention will “alter the context within and surrounding” (p. 51) the setting (e.g., VA clinic) in which implementation occurs.

CFIR includes five domains and 39 constructs (Appendix A). It was built on the work of Rogers (1995), Greenhalgh et al., (2004), and it includes 19 implementation theories (Damschroder et al., 2009). According to CFIR, it is hypothesized that organizational and clinical factors affect the implementation of innovations in health care settings (Damschroder et al., 2009). The CFIR domains are: 1) intervention characteristics, 2) outer setting, 3) inner setting, 4) characteristics of individuals, and 5) process (Damschroder et al., 2009). Intervention characteristics include users’ perceptions of the relative advantage and the complexity of delivering the innovation. According to Damschroder and Hagedorn (2011), complex innovations, like IC, “often involve multiple roles and levels in an organization (e.g., clinical leaders, individual therapists, clinic administrators) and understand the perspectives of all stakeholders gives a more holistic view of what is happening” (p. 197).

The outer setting refers to the social, economic, and political context within which the clinic operates, and the inner setting includes the structural and cultural context of the clinic. The implementation of the Affordable Care Act and other structural changes with US health care
systems and the tendency toward patient-centered care emphasize the importance of the outer setting and how it impacts inner setting characteristics (Damschroder & Hagedorn, 2011). In most implementation research studies, the inner setting is important but also the most difficult to examine because the inner setting characteristics involves multiple levels of interactions. Characteristics of the individual refer to those individuals directly involved in implementing the innovation. As discussed earlier, individuals involved in the implementation of innovation often include health professionals, staff, and service users, but who is included in the planning and actual depends on the setting and population served. Finally, the process domain refers to understanding the actions or steps taken to implement the innovation. The process includes factors associated with innovation and their effect on implementation. Appendix A provides the domains, constructs, and definition for the CFIR. The researcher focused this study on intervention characteristics, inner setting, and process, and used other domains depending on the findings.

**Strengths and Limitations of using the CFIR.** There are multiple strengths and limitations of using the CFIR for this study. Damschroder et al. (2009) considered a strength of CFIR as a meta-theoretical framework that includes common domains and constructs from published implementation literature. The CFIR can be used to organize implementation research activities and findings by using a common terminology that is compatible with other implementation research projects. Another strength of CFIR is that users can decide which domains and constructs apply to their work (Damschroder et al., 2009). However, because of the array of constructs, researchers may fail to see factors or relationships outside of constructs included in the framework and may ignore essential aspects of the research (Maxwell & Mittapallie, 2010). To avoid this issue, the researcher sought out expert opinion and collaborated
with an experienced qualitative researcher to review data, develop interview questions, develop codes, and draw conclusions. Unlike process models that are used to guide the implementation research into practice, the CFIR is descriptive and not often used to predict implementation because determinants may be too generic to provide enough detail (Nilsen, 2015).

**Integrated Care**

Due to rising health costs and less than optimal health outcomes for people who are dually diagnosed with physical and behavioral health conditions, IC has gained significant movement over the past decade (Curtis & Christian, 2012). IC developed as a comprehensive approach to care using innovative models to deliver patient-centered holistic care. IC is a description of a service delivery model with an overarching goal of addressing the fragmented health care delivery systems currently in place. Models derived from IC have the quadruple aim of 1) improving population health; 2) enhancing service user experience of care; and 3) controlling, and potentially controlling per capita costs of care, and 4) improving the work life of clinicians and staff (Berwick, Nolan, & Whittington, 2008; Bodenheimer & Sinsky, 2014). IC can be used to holistically address the physical and mental health needs of people through coordinated planning by interdisciplinary teams of professions. In an IC environment, providers can attend to the wellness of the population, the service users, and the communities in which they live. IC supports providers and service users to build relationships and clinics to work with people in innovative ways.

The literature on IC includes perspectives from multiple disciplines and professionals; however, the topics are limited mostly to examining health outcomes and not processes (Ferrer & Goodwin, 2014; Minkman, 2012). According to Kuramoto (2014), though first mentioned as early as 1932, IC was not addressed again for 50 years, until the Institute of Medicine (IOM)
produced findings on health services integration describing the fragmentation of health care and gaps in funding and delivery of health services, especially for people with low incomes (IOM, 1982). The IOM report was part of an ongoing effort to reduce fragmentation of health services in health systems in the US by examining “exemplary” integrated health care programs and offering policy recommendations “that could facilitate integration and coordination of health services” (p. 3). This report contained descriptions of a variety of CBO programs, including state and county health departments, which existed before the start of the HIV epidemic.

Although the public health community has supported the development of IC services, there was no significant movement toward IC until the passage of the Patient Protection and Affordability Act (ACA) in 2010, which included provisions for the delivery of IC models, such as payment reforms and health homes for people with chronic disease comorbidities (IOM, 1982; Kuramoto, 2014; Mechanic & Olfson, 2016; Shim et al., 2012). The contemporary literature on IC includes a wide range of definitions, concepts, and models which have emphasis depending on the discipline, population served, health conditions, and geographic location (Ferrer & Goodwin, 2014; Kuramoto, 2014; Minkman, 2012; Minkman, 2016; Shaw, Rosen, & Rumbold, 2011).

IC provides holistic, collaborative person-centered care using interdisciplinary teams to address a person’s health needs. The definition of IC incorporates a biopsychosocial perspective, and which allows stakeholders to acknowledge the biological, psychological, and social factors people experience throughout their lifetimes in the context of disease management. Although healthcare researchers and practitioners often use the phrase collaborative care as synonymous with IC, there are differences between collaborative care and IC, and these should not be used interchangeably (Strosahl, 1998). In collaborative care, behavioral health professionals work
with primary care providers but may not be co-located and do not use the same treatment plan; in contrast, in a fully IC system, behavioral health professionals work as members of the primary care team and work from the same treatment plan. The arrangement promotes normalizing behavioral health services as a routine part of health care and reducing the stigma associated with receiving behavioral health service.

One of the goals of IC is to improve screening and treatment of physical and behavioral health needs and improve the quality of life for people with co-morbid or complex health needs. The AHRQ (2016) noted that, in this definition, the phrase behavioral health includes all aspects of chronic illness care, including associated stress, health behaviors, mental health, and substance abuse conditions. In the case of HIV, behavioral health includes other issues such as disease education and social support (e.g., regarding safer sex, HIV disclosure, and stigma).

**Vertical and Horizontal Integration**

IC settings provide horizontal (non-targeted) and vertical (targeted) population-level health care services, depending on the focus of the health care delivery service and the population served (Blount, 2003; Curtis & Christian, 2012; Desmedt et al., 2016; Strosahl, 1998). Vertical integration concerns on targeted and specialized services; for example, people with a single disease or those with high frequency or high-cost conditions are often targeted with specific clinical care pathways in a single targeted setting, such as support programs for people with cancer (Desmedt et al., 2016; Maruthappu, Hasan, & Zeltner, 2015; Strosahl, 1998). Vertical programs allow for specialized services and streamlining of tasks and are often used for people who need a decreasing intensity of care, such as those who have had a stroke (Armitage et al., 2009). Vertical integration supports the idea that diseases require different levels (i.e.,
vertical) of specialization and involves primary, secondary, and tertiary care services that are intended to improve efficiency (Valentijn, Schepman, Opheij, & Bruijnzeels, 2013).

Strosahl (1998) views horizontal integration as a method of enrolling as many people as possible into brief, general health services by casting a wide net around the population and community. Maruthappu, Hasan, and Zeltner (2015) add that horizontal integration focuses on collaboration between providers, organizations, networks, and groups to support people with complex health and social service needs. Health care delivery models may benefit from including aspects of both horizontal and vertical IC to address the fragmented health care system and meet the various co-morbid physical and behavioral health needs of people living with HIV (Valentijn et al., 2013; Vogel, Kanzler, Aikens, & Goodie, 2016).

**Standard Framework Six Level of Integration**

Based on the work of Doherty, McDaniel, and Baird (1996), Blount (2003), and Peek (2009), SAMHSA (2014) in conjunction with the Center for Integrated Health Solutions, developed the Standard Framework for Level of Integrated Healthcare. The framework illustrates the IC concept as existing on a continuum with little to no collaboration to full collaboration. The continuum is described using six levels of collaboration and integration, organized under three main categories 1) coordinated; 2) co-located, and 3) integrated. Each level includes core descriptions of organizational characteristics and how providers work together under each level. The purpose of this framework is to evaluate the degree of integration and determine what community needs to become more fully integration (Heath et al., 2013). The framework includes core descriptions, clinical delivery, service user experience, key differentiators of practice, the business model, and the advantages and weakness at each level.
**Levels 1 and 2: Coordinated.** Level 1 or minimal collaboration in the continuum describes how health care providers work in separate locations, rarely collaborating on shared service users. The difference in clinical care delivery at this level includes that assessments and screenings are done separately. People living with HIV who are receiving services at level 1 would have separate treatment plans, with each provider. The delivery of care under level 1 is fragmented with little to no continuity of care or collaboration. People often fall through the cracks and fail to get the care they need. Historically, this is how many people living with HIV received their physical, behavioral, and social service care— with all providers and programs having different policies and different eligibility requirements.

Level 2 or basic collaboration at a distance is defined by providers working in separate systems and may engage in communication about service users they share but may never meet in person to discuss their shared service users. The principal of co-located care is that service users benefit because the care facilities are in the same location. At level 2, BHS work as they typically do (e.g., 50-minute hour, no interruptions) and the primary care provider works separately. Communication between providers may include telephone meetings, letters, and emails, but rarely, if ever, in-person engagement. When using health services as offered in Levels 1 and 2, service users experience fragmented and uncoordinated health care. The common element for these two levels is communication, and the difference between levels 1 and 2 is the frequency and type of communication between the physical and behavioral health providers.
**Levels 3 and 4: Co-located.** Level 3, or basic collaboration onsite under co-located care, meaning provider offices may be in the same location and may collaborate often, but work independently using different treatment plans. Providers may have some in-person meetings regarding shared service users, but treatment plans remain separated and the health care team may be ill-defined, missing key professionals. Service user needs are often still treated separately despite providers located in the same building or office space. As in level 1 and 2, funding for services and billing are separate but providers may share some facility related expenses (e.g. utilities).

Level 4 or close collaboration onsite with some system integration describes how providers may have common scheduling for service users and regular in-person interactions to collaborate and coordinate treatment plans for service users with complex health needs. At level 4, providers have a basic understanding of their specific roles within the care team. However providers may not agree on treatment priorities or approaches. The critical element for Levels 3 and 4 is physical proximity which allows for leaders to work collaboratively to address some the barriers service users may face.

**Levels 5 and 6: Integrated Care.** Level 5, close collaboration approaching an integrated practice, describes how providers work in a partially integrated IC system (i.e., same system and same facilities). Practitioners are not only co-located, but there are close collaborations among interdisciplinary providers who work as a team to develop care plans for service users. They have regular team meetings and frequently communicate about shared service users and their treatment plans.

Level 6 is full integration where providers are in the same clinic and use electronic health records (EHR) and shared treatment plans. These providers regularly communicate (e.g.,
huddles, face-to-face interactions) and include the service user in the decision-making process (Heath et al., 2013). Team-based care, which includes case managers, BHS, primary care providers, and psychiatrists, drives the collaboration between providers and service users. In these circumstances, service users can receive coordinated, seamless care. Collaboration in health care is a process of social interaction with the foundation that each is responsible for the group’s success and the achievement of a common goal. Assessments and screening tools are part of routine care, and the integration of clinical physical and behavioral health data supports identifying people at higher risk. In a fully integrated system, there is a focus on population health as well as individual level health. The behavioral health providers not only provide individual counseling and interventions, but they also manage the behavioral health issues of the entire population of the clinic. Behavioral health providers should be prepared for the array of issues with which service users may present. Interdisciplinary teams work together to address all service users’ health and social service needs with shared treatment plans and goals.

There are other IC continuums that use distinct categories and descriptions at each level; however, they all agree that collaboration is a crucial ingredient for IC at the heart of person-centered care (Collins & Fund, 2010; Heath et al., 2013; Miller & Patel, 2011; Peek, 2009; Strosahl, 1998). Collaboration occurs not only at the provider level but also at the service user level. As collaboration increases the level of IC then the capacity to handle people with complex health and social service should also increase (Heath et al., 2013).

At each level of integration along the continuum, there are advantages and weaknesses for service users, providers, and agencies (Heath et al., 2013). For example, at level 1 (minimal collaboration), providers can work autonomously, making decisions about care based on their expertise and experience. However, at level 1, it is difficult for service users to navigate the
multiple providers, locations, and eligibility requirements. Services provided may overlap with conflicting provider instructions increasing the risk of negative health outcomes and the possibility that providers may miss address service users health needs. As the level of IC increases, barriers to care for people decrease, and the once separated health care records are now in a shared database where interdisciplinary providers can access and work as a highly functioning team. However, “organizational integration does not necessarily lead to IC as experienced by the patient” (Wodchis, Williams, & Mery, p. 142).

**Integrated Care Models**

This section focuses on the more recognized concepts of IC discussed in the literature. The most widely recognized models of IC include the chronic care model (CCM), the patient-centered medical home model (PCMH), and the primary care behavioral health model (PCBH; Baird et al., 2014; Robinson & Reiter, 2007; Wagner et al., 2012). These models were successful in improving relationships between service users and providers, increasing access and quality of care, improving physical and behavioral health outcomes, reducing symptoms, and controlling health care costs in a variety of settings and populations (Baird et al., 2014; DeVries et al., 2012; Jackson et al., 2013; Miller, Talen, & Patel, 2013; Robinson & Reiter, 2007; Solberg, Asche, Fontaine, Flottemesch, & Anderson, 2011; Wagner et al., 2012; Woltmann et al., 2012;).

**Chronic Care Model**

To improve care for people with chronic health conditions, Wagner et al. (2012) developed the Chronic Care Model (CCM). The CCM, a system level intervention, is the model most widely used to link a team of health professionals (physical and behavioral) with service users (Thota et al., 2012). Previously, a health professional performed all management by
informing service users what they should do; in contrast, the CCM brings service users and medical professionals together to approach and manage the comprehensive health care needs of individuals. Collaboration is at the core of the CCM model, and the service user is at the center working with a core team of health professionals (e.g., nurses, physicians, and counselors). In recent years, there has been a considerable movement toward employing the CCM for chronic health care and treatment for chronic health conditions, including HIV. In a study in Canada, Tu et al. (2013) examined the implementation of CCM in two community health centers and found improvements in health outcomes (e.g., viral suppression rates, uptake of ART) and in the delivery of health care to people living with HIV. The CCM is an appropriate model of care to address the individual and population health needs of people diagnosed with complex chronic and multi-morbid health conditions. However, implementation of this model varies from agency to agency, with some agencies using social workers as care managers while others use nurses and service user navigators as care managers. The level of integration can also vary from a basic level of collaboration (on-site) to a fully integrated level of practice depending on the population’s health needs and agency resources.

**Patient-Centered Medical Home**

The PCMH is a model of providing IC services that is specifically designed to meet the needs of a population and community using a care team approach, which is ideal for addressing the complex needs of people living with HIV (Pappas et al., 2014). Patient-centered care is a way of empowering beneficiaries to play an active role in improving their health. A PCMH is a way of organizing health care with an emphasis on coordination and communication among providers and service users (Berenson et al., 2008). PCMH certification by the National Committee for Quality Assurance (NCQA, 2014) requires organizations to provide: a)
comprehensive care; b) patient-centered care; c) coordinated care; d) accessible services; and e) a commitment to quality and safety. Health care teams are common in PCMHs, and members of the team vary depending on the patients served and the geographical location of the IC agency (Gurewich, Cabral, & Sefton, 2016). For example, Gurewich, et al. (2016) studied eight clinical sites, five of which were NCQA recognized and three were pending recognition and found that some sites had administrative staff and nurses assigned to specific care teams while others did not. Some, but not all clinics, offer behavioral health services on site, while others referred clients to outside providers for behavioral health care needs.

**Primary Care Behavioral Health Model**

The PCBH make behavioral health services more accessible for populations by providing a foundation for integrating BHS into primary care settings and improves behavioral health diagnosis (Robinson & Reiter, 2007). For example, HIV medical care clinics that do not have a behavioral health professional on staff do not screen for behavioral health issues. In a PCBH model, BHS use a consultant approach and their goal is to assist the primary care provider with the behavioral health needs of the population (Robinson & Reiter, 2007). The term used to describe this new role is behavioral health consultant (BHC), and instead of working autonomously, BHS work with primary care providers and others, taking a team-based approach to patient-centered care (Robinson & Reiter, 2007). Duties of a BHC would include assessing persons’ biopsychosocial needs and follow-up with a treatment plan, brief counseling, and motivational interviewing (Vogel et al., 2016). On the IC continuum, the PCBH model is closer to a fully integrated system of care than the CCM and PCMH models.
**Reverse Integration**

Reverse integration occurs when physical health care services are integrated into behavioral health care settings (e.g., outpatient mental health centers, substance abuse treatment centers). Reverse integration is a means to improve medical care for persons with severe mental illness and substance abuse conditions (Collins & Fund, 2010). It is well known that people with severe mental illness (SMI) are more likely to have co-morbid physical health issues such as diabetes, obesity, and cardiovascular disease and have poorer health outcomes for preventable health issues (Maragakis, Siddharthan, RachBeisel, & Snipes, 2016). Integrating primary care providers in mental health settings provides general health care for people with SMI and has been found to reduce emergency room visits (Maragakis et al., 2016).

**The Four-Quadrant Clinical Integration**

The National Council for Behavioral Health developed a four-quadrant clinical integration model to describe the populations served and the various levels of behavioral health and primary care integration. The four-quadrant model is a planning tool that addresses the bi-directional need for primary care services in behavioral health settings and behavioral health services in primary care settings (Mauer, 2006, 2009; Serano, 2015). The model suggests system elements needed for populations in each of the four quadrants. If the quadrants are thought of as a continuum, an IC setting would have the necessary structure and clinical skills to address people’s health needs no matter where they fit in the four quadrants. For example, people who newly diagnosed with HIV need an array of services before they can understand or control their disease and are in need of level four care. A person recently diagnosed with HIV often presents with a high viral load and in need of a host of services including access to treatment (e.g., health insurance, Ryan White), education and brief counseling (e.g., HIV basics, transmission risk,
medication, adherence, disclosure, stigma), and assessments (e.g., mental health, substance abuse, social service needs).

Behavioral health treatment in an IC setting would be brief, targeted, solution focused, and intermittent throughout a person’s life (O'Donahue, Cummings, Cucciare, Runyan, & Cummings, 2006). Those persons with mental health or substance abuse conditions would need additional services or referrals. The goal of treatment is to move people from a state with high physical health needs and high behavioral health needs to one where they can support and stabilize their HIV and other health needs (quadrant one). People living with HIV who are in care and treatment are expected to live a normal lifespan; hence, IC can address the many health and social service needs they face throughout their lives.

Key Characteristics of Full Integration

As noted earlier, empirical results vary widely concerning the key principles and characteristics of IC as well as the efficacy of the models used to delivery IC health services. These distinctions make it difficult to compare outcomes or measure the implementation of IC. For example, Bachrach et al. (2014) listed five key elements of IC, but in the distinct context of a global strategy Ferrer and Goodwin (2014) identified 16 elements. Valentijn et al. (2015) provide the most comprehensive list of with 59 key elements distributed across six integration dimensions (clinical, professional, organizational, system, functional, and normative integration). Their taxonomy provides a common language and definitions of the concepts associated with IC.

To understand full IC in a CBO from stakeholders’ perspectives, the researcher examined the key elements identified by Fauth and Trembley (2011). These concepts include system [clinical] integration, integrated practices, shared decision making, relationships (e.g., among providers and with service users), training, and leadership (Fauth & Trembley, 2011).
Stakeholders’ perceptions about integration vary depending on their role(s) in the clinical settings (Evans & Baker, 2012) understanding both providers and service users’ perspectives of these concepts can give a broader view of IC and contribute to strategies to increase the level of IC, thus, improving the delivery health services.

**System Integration.** Integration of health services can occur at a system, organizational, professional, and clinical level (Valentijn et al., 2015). Clinical integration refers to the day-to-day processes and interactions among providers and includes the coordination of person-centered care in a single health center across time, place, and discipline (Valentijn et al., 2015). An aim of IC is to improve health outcomes through coordination among providers with a foci on case management, co-location of services, use of interdisciplinary teams and a population health approach (Armitage et al., 2009). Koder (2008) described CI as “in a single process across time, place, and discipline” (p. 11). Clinical integration at a single site enhances communication, improves collaborative care, and is essential to providing coordinated health services (Coleman, Blashill, Gandhi, & Freuenreich, 2012).

**Beliefs and Commitment.** Beliefs about an innovation and commitment to implementing an innovation affect its the way in which it is implemented and its sustainability (Damschroder et al., 2009). Staff and providers’ perceptions of IC and the evidence supporting it, impact how they deliver care and how they function within an IC setting. For example, if a provider believes IC infringes on their autonomy and ability to work independently, they may be reluctant to work in interdisciplinary teams.
**Integrated Practices.** Integrated practices refer to the clinical roles and responsibilities of the interdisciplinary team members and the frequency of their collaborations and interactions with each other (Fauth & Tremblay, 2011). For example, physical and behavioral health providers in a using fully IC model routinely review each other’s notes in the service users’ EHR. Physical and behavioral health providers also collaborate in making decisions about care and take part in regular clinic meetings.

**Shared Decision Making**

Evidence supporting the benefits of shared decision-making between providers and service users is growing (Struckmann et al., 2017). Shared decision-making involves joint goal-setting and a participatory approach, and it is vital to providing IC health services. Shared decision-making places people at the center of care, where they collaborate with providers to determine the best course of treatment (Elwyn, Dehlendorf, Epstein, Marrin, White & Frosch, 2014). Shared decision making is defined as “a process in which clinicians and service users work together to clarify treatment, management or self-management support goals, sharing information about options and preferred outcomes with the aim of reaching mutual agreement on the best course of action” (Coulter & Collins, 2011, p. 2). The role of providers in shared decision-making is to educate and inform service users of treatment options, work with them on deciding treatment options, and improve self-management (Joosten et al., 2008; Elwyn et al., 2014).

Allowing service users to have a voice provides them with an opportunity for deciding the best treatment options for them. As Drake et al. (2010) pointed out “shared decision making is founded upon understanding there are two experts present in the medical consultation” (p. 9) and all individuals’ opinions are valued and necessary to make the best treatment decision. The
authors were referencing mental health treatment; however, the idea applies to all health conditions and social services. There are barriers to shared decision making because some providers perceive that people do not want to be part of the decision-making process and are content with the provider making all treatment decisions (Shay & Lafata, 2014). Additionally, providers have noted that time constraints limit even well-trained primary care providers from addressing multiple health and social issues in a 12-15-minute office visit (Gravel, Legare, & Graham, 2006; Unutzer et al., 2006).

**Relationships.** IC changes the relationship among stakeholders and is essential to the implementation of a fully IC system (Fauth, & Tremblay, 2011; Kodner & Kyriacou, 2000). Health care services in a fully IC system are coordinated, co-located, and collaborative; this new way of providing health services changes the essence of how providers function (Blount, 2003; Kodner & Kyriacou, 2000). Collaboration and coordination in an IC system are dependent on personal relationships among providers, service users, administrative leaders, and other staff (Bachrach et al., 2014). Most health care providers received training on how to be an independent, autonomous provider. The physical health profession is traditionally perceived as a hierarchy with physicians at the top. The merging of physical and behavioral health providers in an IC setting is a challenging but vital part of delivering person-centered care (Fauth, & Tremblay, 2011). In a review, Evans and Baker (2012) found that “the importance of relationships, the levels of trust, buy-in, cooperation, and communication within and across health services providers can either facilitate or hinder efforts to integrate care” (p. 714). Understanding the relationships among providers and service users is vital to improving the delivery of health services.
Training. Training in IC health services is essential for providing quality care and improving communication among providers. Providers are trained to work autonomously and have not been trained to work in interdisciplinary teams (Pecukonis et al., 2008; Pershing & Fuchs, 2013). However, research shows a lack of provider and staff training to working in care teams is a substantial barrier to the implementation of IC health service delivery (Fauth, & Tremblay, 2011). Interdisciplinary education and training for medical and behavioral health providers are limited, and providers sometimes do not have the skills needed to effectively provide interdisciplinary care (Blount & Miller, 2009). BHSs lack public health and physical health education and training while physical health specialist lack mental health and substance abuse education and training. With some exceptions, most graduate training programs do not prepare students to work in collaborative interdisciplinary teams, and students are not prepared for “what awaits them in the real world” (Strosahl, 2005 p. 48).

Coverdale et al. (2015) suggested that training for psychiatric providers should include the interdisciplinary skills necessary to improve the coordination of services and provide comprehensive, evidence-based health services across bio-psycho-social population needs. This statement also applies to clinical social workers, licensed mental health professionals, physical health providers, case managers, pharmacists, and other providers in an IC setting.

Leadership. Leadership plays a central role in positively or negatively impacting the interactions amongst individual performance, organizational performance and organizational culture in an IC health system and is vital to collaboration and communication among providers (Armitage et al., 2009; Franx et al., 2013; Sutter et. al., 2009; Struckmann et al., 2017). Although research on leadership in integrated care setting is scare, a recent review found that collective leadership and team leadership styles may be beneficial to supporting implementation
of integrated care transformations, however, more research is needed to understand leadership styles and their impact of the implementation and sustainability of IC models (Nieuwboer, van der Sande, van der Marck, Olde Rikkert, & Perry, 2019).

**Stakeholders Perspectives.** As noted in the introduction, studies on provider and service users’ perspectives are underrepresented in the literature. Their perspectives are vital to understanding IC health services because their views are vital to the development of health and social services. Building systems of care from the ground up ensures the setting provides populations specific services. Researchers studying IC have mostly focused on the perspectives of specific providers in multiple settings rather than an interdisciplinary and service user perspective in one setting. For example, Beehler and O’Wray (2012) explored behavioral health providers’ understanding of their roles in VA clinics providing co-located, collaborative care by interviewing 29 behavioral health providers in 34 VA locations. They found a lack of facilitation behavioral health providers needed support to implement IC health services.

**Barriers to Implementing IC Health Services**

Although practitioners are moving towards IC for a variety of populations in different settings, there are significant barriers to implementing IC. These include differences in perspectives between primary care and behavioral health providers (Burfeind, Seymour, Sillau, Zittleman, & Westfall, 2014). Differences in language and use of terminology can limit communication among providers and service users (Jolanki, Tynkkynen & Sinero, 2017). IC also changes how clinicians and behavioral health providers function and how they are reimbursed for services. Additional service codes and billing practices are needed to strengthen service delivery and inform how programs are set up (Kathol, Butler, McApline, & Kane, 2010). IC affects the culture of an organization and how providers interact, thus, adding to the
challenges of delivering IC health services (Unutzer et al., 2001; Doherty, McDaniel, & Baird, 1996; Mauer, 2009).

Service users’ perspectives are an essential part of understanding IC service delivery. Walker et al. (2013) found that although service users were unclear of the terminology of IC, they were clear on the concept and what it entails. Most recently, Ion et al. (2017) found there was agreement among clients and providers regarding the concepts of IC, but there is still need to “clarify the aims of IC and the key ingredients” (p. 1) to support ongoing implementation.

**Practice, Policy, and Infrastructure Practice and Provider Roles**

Health service delivery for people living with HIV is shifting away from an acute medical model to a chronic care model. At the height of the HIV epidemic, public health services focused on caring and comforting the dying. As new medication became available, the public health approach shifted to helping service users rebuild and maintain their immune function, and more recently, there is an emphasis on helping service users live longer and healthier lives. For people living with HIV who have complex health and social service needs, IC is a single point of entry into the health care system. Comprehensive health care for the population of people living with HIV is essential to improve health outcomes, quality of life, and reduce transmission of HIV. Adequate health services should include integrated behavioral and physical health care services, along with other services into a seamless system of care. Bringing together professionals who have typically worked independently in different settings raises unique issues for providers, service users, and administrators.

The core interdisciplinary team in a fully IC setting works in the same location offering seamless care that removes the administrative and geographic barriers to health services that people living with HIV often face (Gallant et al., 2011). Communication among providers
usually occurs in team huddles, meetings, and face-to-face encounters, which improves providers’ ability to collaborate effectively and address service users’ needs (Theilke, Vannoy, & Unutzer, 2007; Kim, Ades, Pinho, Cournos, & McKinnon, 2014). Ideally, interdisciplinary teams can include an HIV care specialist (e.g., infectious disease physician, nurse practitioner), behavioral health professional (e.g., social worker, psychologist, and counselor), care manager (e.g., case manager, Ryan White case manager), consulting psychiatrist, nutritionist, dentist, peer navigator, pharmacist, and an outreach coordinator. Each provider on the interdisciplinary team plays a crucial role in caring for service users. However, there are provider shortages in the medical and behavioral health professions, which affect the delivery of care for this population. Hall et al. (2015) found significant shortages of trained providers who are qualified to work in IC settings, which makes filling positions in an IC setting a challenging prospect.

Provider roles in an IC system are distinct from those in the traditional medical model where most providers received their training. For example, behavioral health providers, in a traditional medical model, work independently with little to no collaboration with other providers involved in the care of a service user (Oyama, 2016). In the medical model, BHSs work with small client loads and therapy sessions or treatments usually involve the “50-minute hour” (Pomerantz, Corson, & Detzer, 2009, p. 44).

In an IC clinical setting, BHSs often see service users in exam rooms, which does not meet the privacy recommendations for BHSs (Farber et al., 2012) and may be called upon to assess and treat service users throughout the day, leaving little time for recording notes or other administrative responsibilities (Farber et al., 2012). Behavioral health clinicians must be ready to act quickly and the treatment they offer to service users is usually brief and solution focused; they also should be comfortable with interruptions throughout the day, which is not something to
which they are accustomed (Pomerantz et al., 2009). Behavioral health providers may also feel a loss of perceived autonomy in an IC setting, as the care team is often led by the medical physician and not a behavioral health provider (Pomerantz et al., 2009). Providers on clinical teams need policy and documentation of role expectations (Kilbourne, Greenwald, Bauer, Charns, & Yano, 2012).

A BHS working in an IC setting must learn innovative approaches to delivering care and educate team members about their roles and what they can offer service users (Oyama, 2016). Blount, Fauth, Nordstrom, and Pearson (2016) found that the roles specific to behavioral health providers in an IC setting should include:

- prescribing and consulting about psychotropic medications;
- providing psychotherapeutic interventions;
- creating and maintaining service user engagement in care;
- addressing health literacy, adherence, and health barriers; and
- keeping information about the service users’ health needs and health behavior flowing between the service user and the health team (p. 6).

The expected HIV medical provider roles are also changing within a fully IC setting. In traditional settings, these providers have full autonomy to make treatment decisions; however, HIV medical providers in an IC setting work collaboratively with other professionals to find the best treatment decisions for individual service users. Hall et al. (2015) found that medical clinicians tended to rely solely on their abilities and that they needed to use the expertise of team members and recognize the members’ contributions to service user care. Medical providers should also review service user behavioral health screenings and collaborate with behavioral health professionals to identify service users who may need behavioral health or social service
services (Hall et al., 2015). To improve relationships between providers and reduce duplications of services in IC settings, clinical care teams should define provider roles and responsibilities.

The changing roles of medical providers and behavioral health professionals require additional training and practical experience not routinely found in educational settings (Hall et al., 2015; Ojikutu et al., 2014). Hoge et al. (2014) offered a single set of core competencies for both behavioral health providers and primary care practitioners working in an IC setting. Those competencies include: a) interpersonal communication, b) collaboration and teamwork, c) screening and assessment, d) care planning and coordination, e) intervention, f) cultural competence and adaptation, g) systems-oriented practice, h) practice-based learning and quality improvement, and i) informatics (Hoge et al., 2014). Cross training in mental and physical health plus skills in working in interdisciplinary teams are essential in moving to a fully IC system.

**Informatics and Data**

Fully IC organizations can develop a single record or data system which allows easy access for providers to review service user health records including service utilization, medications, clinical notes, outcomes, and provider performance (Walsh, 2004). Use of EHR is critical for providing effective collaborative interdisciplinary care in IC health service delivery models and PCMHs (Detmer, Bloomrosen, Raymond, & Tang, 2008; Gallant et al., 2011; Hoang et al., 2009). Both Kaiser and the VA HIV medical senders use EHR; however, smaller clinics and CBOs may not have the funding or infrastructure to support new technology. These organizations may find developing a single data system to be a challenging task.

Even among providers in the same location, there are confidentiality needs that present barriers to sharing of some service user health information. Federal and state privacy laws,
specifically, Title 42, Part 2 (42 CFR Part 2), restrict the sharing of service user alcohol and substance abuse treatment information without service user consent (Collins & Fund, 2010). Sharing of records and confidentiality issues have been a significant hurdle for administrators and IC service delivery (Schaper, Padwa, Urada, & Shoptaw, 2016). For service users, 42 CFR Part 2 is an added layer of protection on top of the Health Insurance Portability and Accountability Act (HIPPA; Schaper et al., 2016). However, this added protection can complicate health treatment for service users who are dual or triply diagnosed and many medications prescribed to treat medical and psychiatric conditions should not be used together (Schaper et al., 2016). Full access to health records is essential to providing efficient and safe care to service users.

**Reimbursement Issues and Policies**

Behavioral health services reimbursements are a separate health benefit and require different reimbursement codes for insurance companies (Miller et al., 2017). Additionally, social services are funded separately from health services, which makes the delivery of these services in an IC setting challenging. Financial barriers, such as reimbursement to support physical, behavioral, and ancillary services, are some of the more substantial barriers to full integration (Burfeind et al., 2014; Kathol et al., 2010; Kessler et al., 2014;). This is especially true for people living with HIV who may have Medicare, Medicaid, and dual eligibility health insurance. The current fee-for-service model incentivizes clinicians to deliver more care by providing reimbursements for specific billing codes, which “supports volume and not value” (Miller et al., 2017, p. 59) and does not support a full range of health services. Finding innovative ways to integrate health services and reimbursements structures can help in controlling health care costs and improving the delivery of care.
In the fiscal year 2016, federal funding for HIV care exceeded $20 million, with Medicare being the most significant federal funder of HIV care (Kaiser Family Foundation, 2016). Health care and treatment for people living with HIV are funded through Medicare (50%), Medicaid (30%), Ryan White (12%), and other federal programs (8%) (Kaiser Family Foundation, 2016). However, there are insufficiencies in payment rates; for example, Medicaid and Ryan White payment policies vary from state to state (Gallant et al., 2011). States often earmark Medicaid mental health spending for specific within state behavioral health agencies (Miller et al., 2017). The practice can make it difficult for smaller clinics to receive funding and service users to access services. Ryan White funding is vital for uninsured and underinsured service users because it often covers the gaps in coverage and funds health services for people living with HIV (Gallant et al., 2011).

Recent changes in Medicare physicians fee schedule (Centers for Medicare and Medicaid Services [CMS], 2016) include a variety of payment reforms that support IC service delivery and could be beneficial to agencies who serve the health needs of people living with HIV. The changes include:

- primary care and care coordination: Revisions for payments for chronic care management, including new codes for complex chronic care management;
- mental and behavioral health: Revisions for payments for codes that describe specific behavioral health services using a collaborative care model; and
- cognitive impairment care assessment and planning: Revisions for payment to physicians to perform cognitive and functional assessment and care planning for service users with cognitive impairment.
Clinical agencies, including FQHCs, are moving away from fee-for-service payments toward value-based payment arrangements, however, certain roles and tasks performed by providers and agencies to move toward collaborative an IC are no fully reimbursed under the CMS and many organizations seed external grants to support sustainable system changes (Carlo, Unutzer, Ratzliff, & Cerimele, 2018). For example, Medicare payment reform has approved fee-for-service bill codes that allow for collaborative care functions performed outside of face-to-face clinical encounters with service users (Carlo et al., 2018). Medicare can also assist in the uptake payment for non-clinical services such as housing, transportation, and other social services, which influence retention in care and medical treatment adherence.

There are health policies that make it difficult for organizations to function as IC settings. Policies prohibiting billing for medical and behavioral health services on the same day makes scheduling service users challenging and negates the concept of one-stop shopping (Kathol et al., 2010; Manderscheid & Kathol, 2014; B. F Miller et al., 2013; Vogel et al., 2016). To support IC, there should be a transformation of the current financial reimbursement system and the creation of incentives to encourage care teams to work together (Miller et al., 2017).

**Characteristics of the Population of People Living with HIV**

Since the early 1980s, more than 78 million people globally have contracted HIV, and 37 million people have died from acquired immune syndrome (AIDS)-related complications (UNAIDS, 2016b). Despite major advances in HIV care, treatment, and prevention, globally, there are 2.1 million new infections each year, and currently, more than 36 million people are living with an HIV diagnosis (UNAIDS, 2016a). According to the Centers for Disease Control; 2015b), only 37% of the 1.2 million people living with HIV in the US are receiving HIV treatment, and only 30% are viral suppressed (Bradley et al., 2014). In summary, seven out of
ten people living with HIV in the US are not getting optimal treatment, which leaves them at higher risk of transmitting HIV to others and progressing to an AIDS diagnosis (Bradley et al., 2014; CDC, 2015a; Gardner et al., 2011). People living with HIV who are undiagnosed, not in care, or who have high viral loads account for the majority (91.5%) of HIV transmission in the US (Skarbinski et al., 2015). The medical community urgently needs to make improvements in HIV care, treatment, and prevention.

**Co-morbid HIV and Behavioral Health**

HIV is a complex medical problem that does not happen in isolation. People living with HIV often have multiple physical and behavioral health challenges as well as social service needs that may go unmet in the traditional medical model service delivery (Bing et al., 2001; LeGrand et al., 2015; Treisman, Angelino, & Hutton, 2001; Whetten et al., 2006). From initial diagnosis and throughout their lives, people living with HIV are in pressing need of ongoing psychosocial support (Ojikutu et al., 2014). In a recent review, Chander, Himelhoch, and Moore (2006) found the prevalence of co-occurring substance use and mental disorders in people living with HIV as high as 28%. In a group (n=1,362) of people living with HIV in the Southeast United States, Whetten et al. (2005) found that 60% had at least one mental health problem, 32% had substance abuse problems, and 23% were triply diagnosed with HIV, substance abuse, and mental illness. People living with HIV report a disproportional amount of lifetime trauma (e.g., childhood trauma, sexual abuse, intimate partner violence) that is often not addressed in primary care treatment (LeGrand et al., 2015). Mental health, illicit drug use, and unaddressed trauma decrease normal functioning (Shiels et al., 2011), reduce medication adherence, and negatively affect health outcomes, thus, increasing health care and social service costs (Chander et al., 2006; Gardner et al., 2011).
Co-morbid HIV and Physical Health

Individuals who have been living with HIV for many years show an increase in both physical and behavioral health issues associated with aging (Rueda, Law, & Rourke, 2014) including risk of cancers (Deeks, Lewin, & Havlir, 2013; Lee et al., 2016; Shiels et al., 2011). Research shows that aging with HIV increases peoples’ risk of developing non-AIDS conditions, including neurological issues; cardiovascular, bone, liver, kidney disease, osteopenia, osteoporosis, and other clinical non-HIV aging-related issues. Researchers use the concept of accelerated aging or premature aging to describe the issues faced by people aging with HIV (Deeks et al., 2013). As the prevalence of people living with HIV grows and the population of people living with HIV ages, there will be a host of challenges that providers and service users will face. The medical community needs experienced interdisciplinary teams to deliver high-quality care for this population (Rueda et al., 2014).

Recently, researchers have found that people living with HIV who are on effective medical treatment and have undetectable viral loads represent a negligible risk of transmitting HIV (Eshleman et al., 2017; Rodger et al., 2016). For most service users, maintaining an undetectable viral load requires “near perfect” 95% adherence to medication to reduce the likelihood of virologic failure and drug resistance (Harrigan et al., 2005; Machtinger & Bangsberg, 2005). Factors threatening adherence include financial problems, housing instability, mental health, substance use, poor access to support, and negative perceptions of treatment a fully IC system could address these issues and increase adherence among service users (Olem, Sharp, Taylor, & Johnson, 2014).
Integrated Care for People Living With HIV

Biomedical, behavioral, and structural interventions can address the complex issues surrounding HIV (Rotheram-Borus, Swendeman, & Convict, 2009). IC is a useful and practical delivery model of clinical care for people living with HIV; it improves the likelihood that service users will receive the coordinated care they need (Andersen et al., 2003). For example, people living with HIV with co-occurring substance use who receive on-site HIV medical care integrated into a substance abuse treatment program had reduced rates of hospitalization and fewer emergency room visits (Gourevitch, Chatterji, Deb, Schoenbaum, & Turner, 2007). In a similar study, Dillard et al. (2010) found that service users living with HIV in an IC “clinical home” had reduced substance use and increased retention in care and presented cost savings to the state.

Previous research on IC for the people living with HIV includes evaluation of substance abuse treatment integrated in HIV clinical facilities (Carter, Chalouhi, McKenna, & Richardson, 2011; Drainoni et al., 2014), and HIV health care services integrated into substance abuse treatment agencies (Carter et al., 2011; Cooperman, Parsons, Chabon, Berg, & Arnsten, 2007; Sorensen & Kosten, 2011), but information is scarce on integrating HIV medical and primary care in CBOs. For example, Farber et al. (2012) described the challenges and lessons learned from integrating behavioral health services within an HIV medical care setting. Nebelkof and Penagos (2005) described a model of integrated HIV, substance abuse, and mental health services in a cultural context for Native Americans in San Francisco. Mugavero et al. (2011) pointed out there are varying levels of IC among health services for people living with HIV; however, most of the activities are uncoordinated and fragmented making it difficult for service users to navigate the system of care.
The Kaiser Permanente and the U.S. Department of Veterans Affairs are the largest providers of IC for people living with HIV in the United States. These organizations have had enormous success in improving retention in care and health outcomes (Horberg et al., 2011; Horberg et al., 2015; Mugavero et al., 2011). Both the VA and Kaiser use the PCBH and the PCMH models to address the health care needs of people living with HIV (Mugavero et al., 2011). However, only a small percentage of people living with HIV have access to Kaiser or the VA system. Approximately 25% of people living with HIV do not have health insurance and rely solely on Ryan White funds for their health services. Medicaid, Medicare, or both, insure more than 50% of people living with HIV, and private or other types of health insurance cover the remaining 25% (Health Resources and Services Administration, 2015).

In the mid-1990s, the VA began a transformation of its health care system to provide better quality care and comprehensive services, and it now manages the most extensive fully integrated health care system in the nation (Kizer, Demakis, & Feussner, 2000). The VA provides integrated medical care, social support services, and shared electronic health records across all VA facilities (Mugavero et al., 2011). The VA serves the largest population of individuals living with HIV in the United States—more than 25,000 (Yano et al., 2005). To address the needs of service users living with HIV, there is an HIV care coordinator at each VA medical center who coordinates linkage to care for the newly diagnosed (Goetz et al., 2008; Mugavero et al., 2011). The VA offers a wide variety of integrated services for people living with HIV including pharmacy, mental health, substance abuse treatment, dental care, eye examinations, urgent care, and transportation to and from appointments (Fix et al., 2014; Yano et al., 2005; Yano, Bair, Carrasquillo, Krein, & Rubenstein, 2014). Organizations with higher levels of IC reported higher rates of viral load suppression in the populations they serve (Hoang
et al., 2009). In a recent randomized control trial, Pyne et al. (2011) found no significant differences in anti-depressant medication prescription rates when comparing IC and usual care in HIV clinics. However, they found that service users receiving care in a VA IC setting had more depression-free days compared to service users in usual care.

Since the beginning of the HIV epidemic, Kaiser Permanente has provided medical care to over 20,000 people living with HIV and currently provides comprehensive care including pharmacy, medical, and hospital care to over 6,600 people living with HIV in Northern California (Horberg et al., 2011). Eighty-nine percent of people diagnosed with HIV at Kaiser are linked to care within 90 days of testing positive for HIV. Kaiser has a retention rate of 79%, which is substantially higher than the national average of 37% (Horberg et al., 2011). However, as previously stated, many people living with HIV do not have access to Kaiser or VA health services and are limited to the service systems in their geographical area.

Apart from those studies from Kaiser and the VA, there were only two others concerned investigations of the effects of IC on depression in service users who are diagnosed with HIV. Results from both studies showed significant decreases in depression-severity scores between baseline and follow-up after depression treatment services in an integrated care setting (Adams, Pollard, & Sikkema, 2011; Coleman et al., 2012). In addition to improvements in depression scores, Adams et al. also found improvements in viral loads and CD4 counts for those service users treated in the co-located psychiatric consultation setting. Coleman et al. (2012) pointed out that the system they explored was partially integrated, and they suggested researchers need to explore IC further to understand whether an increased level of collaboration improves the efficacy of depression care.
To address all the health and social service needs of people living with HIV, a fully IC system should include evidence-informed care as exemplified by a) medical treatment for HIV and other co-morbid physical health conditions; b) behavioral health services; c) educational interventions and social support (e.g., HIV 101, nutrition, disclosure, safer sex, support groups, reproductive health, stigma); and d) medical and non-medical case management with ancillary services (e.g., food, housing, transportation, emergency assistance, legal services). Additional services could include a pharmacist, a nutritionist, and an OB/GYN. Combining the PCMH with PCBH model would be the optimal one-stop shopping approach to holistically addressing populations’ health and social service needs throughout their lives. Failing to provide these services reduces the potential to end the transmission of HIV and reach optimal health outcomes for this population.

Summary

The relationships between HIV, behavioral health, and social service needs are well documented in the literature. IC has emerged as a new and practical interdisciplinary approach to comprehensive health care delivery for various populations including people living with HIV (Chuah et al., 2017; Fix et al., 2014; Horberg et al., 2011; Mugavero et al, 2011; Yano et al., 2014). Using an IC approach to delivery health and social services has the potential to controls cost, improve health outcomes, and provide holistic health care for populations with complex health needs.

System level changes require multiple inner setting level changes that are difficult to implement and challenging to evaluate (Greenhalgh, Macfarlane, Barton-Sweeney, & Woodard, 2012). Moving from a fragmented system of care to a fully integrated system involves changes in the communication among providers and staff as well as changes in the practices they engage.
in. To ensure sustainable transformation leadership and staff buy-in is essential. However, little is known about the delivery of IC in smaller health organizations that provide health and social services to this population. The purpose of this study was to understand the IC from the perspectives of those it is implementation and from those receiving health and social services in a newly integrated setting.
Chapter Three: Methods

The purpose of this mixed methods case study is to describe the level of IC provided at a CBO for people living with HIV/AIDS. A goal of the study is to identify factors that facilitate or impede the implementation of IC services from the perspective of staff and service users providing and receiving physical, behavioral health, and social services. For this study, both quantitative and qualitative methods were used; data were gathered from three sources (triangulation) to strengthen the single case design and allow for a more holistic understanding of the phenomena (Fetters et al., 2013; Patton, 2002; Yin, 2003, 2014). The research collected survey and interview data from the organization, staff, and service users at a community-based HIV service organization. Case study research has been used in many disciplines and is well suited for providing in-depth insight about complex phenomena (Creswell & Plano-Clark, 2011; Yin, 2003) such as the implementation of IC, as it allows for the exploration of phenomena through the lens of those who experience it and within the context it occurs.

The researcher used the Substance Abuse and Mental Health Services Administration’s (SAMSHA) Standard Framework for Levels of Integrated Healthcare (SFLIH) to identify the level of integration and the functions at each level (Heath, Wise, Romero, & Reynolds, 2013) Data were collected from a selected organization, to understand its service delivery processes, and describe the population they serve. Survey data were also collected from staff who worked for and people who received services at the CBO. The purpose of the survey was to collect data concerning providers’ perceptions of the level of integration and service users’ perceived
satisfaction with services. Quantitative data analysis was also used to complement and inform data collected using semi-structured interviews with staff and service users. The interviews were conducted to explore further participants’ lived experiences and perspectives on implementing IC. Data from all sources were analyzed and assimilated for an overall description of IC at this setting.

Figure 1. Mixed Method Case Study Design

In the remainder of this chapter, the aims and research questions are presented along with an overview of the methods, including recruitment, sampling, respondents, data collection procedures, data analysis, and ethical considerations.

Specific Aims and Research Questions

AIM 1: **Describe** the degree of IC in a community-based organization that provides physical and behavioral health services, as well as social services to people living with HIV in the geographical area.
1. How do staff and service users define the concept of IC?

2. What organizational characteristics are associated with the degree of integration?

3. What factors facilitate or impede the implementation of IC?

**AIM 2:** Identify and document the experience and perceptions of staff and service users in a newly integrated care setting.

4. How do the experiences of the staff and service users compare with each other?

5. Is there similarities and differences with the survey and interview data between staff and service users, and if so, what are the implications?

6. What suggestions do stakeholders have for optimizing the care process?

**AIM 3:** Describe the implementation of IC using the Consolidated Framework for Implementation Research (CFIR) as a lens to organize and integrate the data.

7. How can the survey and interview data be interpreted through the lens of the CFIR to account for the implementation of IC?

**Research Design**

The study design was a case study because this design allows in-depth analysis of IC in its natural, real-life context. Case study research is well suited for exploring complex issues, as it provides an in-depth understanding of a bounded system. Increasingly, more researchers are calling for case study use in studying health care delivery to provide the context needed to understand and improve health care delivery and health outcomes (Bergen & White, 2000; Crowe et al., 2011; Sanfey, 2017). Importantly, the researcher chose a case study design because many of the variables associated with implementing IC are known in some settings but are not known about HIV health services delivery.
This study collected data from three sources in two phases to triangulate the findings. Triangulation was used to strengthen the study by building a more comprehensive understanding of the case. Using multiple data collection methods and data from a variety of sources allowed for an in-depth investigation into social issues and processes occurring in their natural environment. The survey findings in this study were used to identify constructs to explore in follow-up interviews.

The CBO, was chosen because it recently integrated HIV medical services, primary care, psychiatric medication management, and pharmaceutical services for the populations they serve. The researchers reviewed information about the organization and their activities in the community to provide background information and orient the researcher to the case. Although the CBO serves diverse populations, this research was specifically focused on a population who are diagnosed with HIV and the services they received. The researcher collected data from the organization, staff who work in the HIV clinic, and service users who receive health and social services at the CBO.

**Ethics Statement**

Prior to data collection, the University of South Florida Institutional Review Board (IRB) approved this study (Appendix B), and the CBO provided a letter of support (Appendix C). The informed consent documents for the first phase of the research stated that respondents could agree to participate by either clicking on the survey link, completing the
Figure 2. Mixed Methods Case Study
online survey or by signing the consent form for the paper copy. Respondents had the right to refuse to answer any questions and could withdraw from study participation at any time. All respondents were informed that their participation or lack of participation would not affect their employment with the agency or the health and social services they received. Respondents’ names were omitted to maintain confidentiality. Paper surveys were destroyed after electronic data entry and verification. All electronic data, including electronic survey files, interview recordings, and transcripts, were stored on a password-protected computer in the researcher’s locked office. All files will be destroyed five years after the final report is submitted, per USF IRB requirements.

**Research Setting: A Community Based Organization**

The non-profit CBO has provided population targeted case management and social services to people diagnosed with HIV in West Central Florida. Historically, health care for this population has been fragmented; people living with HIV have been accessing multiple providers and locations to receive physical, behavioral, and social service. The CBO’s recent implementation of IC for primary care, HIV medical care, and behavioral health services combines a variety of health and social services in a single setting. This ongoing transformation renders this CBO as a distinctive case and a rich data source for an in-depth understanding of IC implementation.

The community-based organization has four locations in West Central Florida. The community-based organization takes people through the HIV care continuum from HIV testing to treatment focused on key populations at-risk and those already diagnosed with HIV. The CBO provides HIV medical care to people diagnosed with HIV and has on-site primary care
providers, case managers, counselors, and nurses. Other services include pharmacy, psychiatric medication management, HIV education, re-entry linkage, sexually transmitted infections testing, therapeutic support groups, substance misuse counseling, transportation services, and medical education.

In 2018, the CBO provided services to 18,204 individuals directly, and another 8,874 individuals received direct outreach services. The CBO served 2,000 individuals diagnosed with HIV in the HIV primary clinic, 4,000 people were provided with case management services, and 800 received counseling services. Clinic outcomes were positive as evidenced from the 85% of service users diagnosed with HIV who had an undetectable viral load on their last HIV RNA test prior to data collection, and the CBO estimates that at least 85% of their clients are dual or triply diagnosed with HIV, mental health, and/or substance abuse conditions.

During data collection for this project, the CBO was undergoing several organizational and structural changes including a complete rebranding of the organization, with a new name and logo and putting into operation a new EHR system. The CBO’s main facility in St. Petersburg was also undergoing major remodeling, changing office locations and workflow structures. These changes may have impacted the researcher’s recruitment efforts and findings.

**Phase 1: Overview**

**Organizational Data (CFIR: Inner Setting: Structural Characteristics).** The data collected were organizational process and population level service user information. The researcher collected organizational data using internal records, existing documents, and public program documents to describe the characteristics and functions of the organization. Data included: organizational processes, the total number of individuals receiving services in the HIV
clinic, case management, and counseling (past 12 months). The aggregated population data consisted of the key population’s viral load for this agency; percentage of service users dual and triply diagnosed; and specific factors related to IC, such as physical proximity of HIV providers and behavioral health providers, use of interdisciplinary teams, providers use of shared care plans, and use of EHRs.

An administrator at the CBO completed the self-administered Integrated Care Practice Assessment Tool (IPAT) Version 2.0 (Appendix D), which is a quality assessment tool to evaluate agency methods of behavioral health integration as defined by a SFLIH (Heath et al., 2013). The IPAT includes six levels of integration: 1) minimal collaboration, 2) basic collaboration at a distance, 3) basic collaboration onsite, 4) close collaboration onsite with some system integration, 5) close collaboration approaching an integrated practice, and 6) full collaboration in a transformed, merged integrated practice (Waxmonsky, Auxier, Romero, & Heath, 2014). The IPAT is a tool built from the SAMHSA-HRSA SFLIH. It includes a decision tree model using a series of yes or no questions to determine the degree of integration in clinical practice (Waxmonsky et al., 2014). The same administrator also completed an organizational questionnaire focused on understanding population level statistics for their service users (Appendix E).

**Staff Survey Respondents**

Sampling for the survey involved a non-probability convenience sampling method to recruit staff (e.g., administrators, BHSs, and case managers) who work in HIV services at the CBO. Staff recruitment began in March 2018 and was scheduled to remain open for two months; however, due to the small sample size, recruitment was extended through the end of June 2018.
All staff at the CBO over the age of 18 and who worked there longer than six months and who worked in the HIV clinic were eligible to participate. To increase response rates, a “gatekeeper” at the CBO sent a recruitment email to providers and staff. Information in the email included eligibility requirements, a link to the survey, researcher contact information, and an assurance of confidentiality and that participation would not affect their employment with the CBO (Appendix F). The secured URL link in the email directed respondents to a survey software tool, Qualtrics, hosted by the University Of South Florida College Of Public Health. The landing page for the link included informed consent information, and respondents could agree to participate by clicking on a link at the bottom of the page which then directed them to the survey. Respondents could end the web-based survey at any time by closing the web page or their browser.

**Staff Survey Measures**

**Demographic variables.** Staff respondents answered seven demographic questions (i.e., age range, gender, race, education level, the county where they work, position, and length of employment with the CBO).

**Level of integration.** A modified version of the LIM for staff (LIM-HIV-S) was used to assess respondents perception of the integration of health services. Respondents answered 35 Likert scale items rated on a 5-point scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree). Questions focused on seven topics: 1) system integration, 2) beliefs and commitment, 3) integrated practice, 4) shared decision making, 5) relationships, 6) training, and 7) leadership. Higher scores on the survey represented a higher degree of integration. In the initial testing by Fauth et al. (2011) the leadership sub-scale did not reflect sufficient reliability; for the current study, the researcher added two questions to strengthen the
subscale reliability. The modified version of the staff LIM, are found in Appendix G. The subscales in the LIM-HIV-S were mapped to the CFIR domains and constructs to assist in understanding and organizing the data through the lens of the CFIR (Table 1).

### Table 1. CFIR Mapped to Level of Integration Measure (LIM) Domains and Definitions

<table>
<thead>
<tr>
<th>CFIR Domains</th>
<th>CFIR Constructs</th>
<th>LIM Domains</th>
<th>Definitions</th>
<th>LIM Item Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of the individual</td>
<td>Knowledge and beliefs</td>
<td>Beliefs and commitment</td>
<td>Knowledge and attitudes toward Integrated Care</td>
<td>5</td>
</tr>
<tr>
<td>Structural characteristics</td>
<td>Systems integration</td>
<td>Integrated practices Shared decision-making</td>
<td>How the organization is structured (workflow, EHR, use of service user assessments and screening tools)</td>
<td>10</td>
</tr>
<tr>
<td>Networks and communication</td>
<td>Relationships</td>
<td></td>
<td>How services are integrated across disciplines</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>How care teams share information (roles, responsibilities)</td>
<td>3</td>
</tr>
<tr>
<td>Available resources</td>
<td>Training</td>
<td></td>
<td>How providers interact with each other (trust, respect, positive interactions)</td>
<td>4</td>
</tr>
<tr>
<td>Leadership engagement</td>
<td>Leadership</td>
<td></td>
<td>How clinic administrators value and support Integrated Care</td>
<td>4</td>
</tr>
</tbody>
</table>

Although the original LIM survey has been used and validated (Fauth & Trembley, 2011; Beehler, Funderburk, Possemator, & Dollar, 2013; Staab et al., 2018), the modified version had not. Therefore, a draft of the LIM-HIV-S was pilot tested with colleagues (N=10) who had current or previous experience working in an HIV clinical setting. The purpose of the pilot test
was to provide feedback on wording, clarity of the questions, survey flow, and time needed to complete the survey. Only minor word changes were suggested and completed.

**Service User Survey Respondents**

Sampling for the survey involved a non-probability convenience sampling method to recruit service users who had received health and social services from the CBO. Service user recruitment began in March 2018 and was scheduled to remain open for two months; however, due to the small sample size, the researcher extended recruitment through the end of June 2018. Service users were eligible for the study if they were over the age of 18, diagnosed with HIV, and had one or more clinical health visits in the past six months. The researcher placed flyers explaining the study in the waiting areas of three the CBO locations (Appendix H). Information in the flyer included eligibility requirements, a link to the survey, and the researcher’s contact information. The secured URL link directed respondents to a survey software tool, Qualtrics. The landing page for the link included informed consent information, and respondents could agree to participate by clicking on a link at the bottom of the page that took them to the survey. Respondents could end the web-based survey at any time by closing the web page or their browser.

The researcher also provided paper surveys in the waiting areas for those participants who did not have access to the internet or preferred a paper copy. Respondents completing the paper survey were instructed to seal the signed consent form and the completed survey in separate envelopes and place both envelopes in a locked box located in the clinic waiting area. Respondents could end the paper survey at any time by not answering questions. The researcher collected surveys on a bi-weekly basis during the recruitment period. The researcher collected a total of 17 paper surveys and all other surveys (31) were completed online.
Service User Survey Measures

Demographic variables. Service users respondents answered seven demographic questions (i.e., age range, gender identity, race, sexual identity, income, education level, and employment). Service user respondents also answered six clinical questions (i.e., year of HIV diagnosis, latest T-cell count, latest viral load, services received at the CBO, and current and past behavioral health diagnoses.

Level of integration. A modified version of the service user LIM, the LIM-HIV-P (P for patient) (Fauth & Tremblay, 2011), was used to assess respondents perception of the integration of health services. Service user respondents answered 17-Likert scale questions with rated on a 5-point scale (1= strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree). Questions focused on three topics: 1) system integration, 2) beliefs and commitment, and 3) shared decision-making. Higher scores represented higher degrees of integration. The modified version of the LIM, and other survey questions are in Appendix I. The sub-scales in the LIM-HIV-P were mapped to the CFIR domains and constructs to understand and organize the data (page 64).

Service User Satisfaction. The researcher modified the SATIS, which was used to assess satisfaction with services (Tran & Nguyen, 2012). Respondents answered 11 items rated on a 5-point Likert scale from strongly disagree to agree strongly agree. Items focused on three topics: 1) health service quality, 2) availability of services, and 3) competence of health care workers. Higher scores represented higher satisfaction levels. The original instrument has strong internal consistency across sub-scales 0.74; 0.89; and 0.94 respectively (Tran & Nguyen, 2012). Questions were slightly modified to measure service user satisfaction with care in an IC setting.
Phase 2: Overview

Semi-structured interviews with staff and service users were conducted between July and December. One-to-one interviews were used to explore respondents’ perceptions of IC and identify barriers and facilitators for implementing IC services. One-to-one interviews require more resources compared to focus groups but have the potential to provide a deeper understanding of the research topic. One-to-one interviews are also useful in eliciting respondents’ perceptions and experiences about the research topic while protecting their confidentiality and anonymity (Seidman, 2013). HIV and behavioral health are highly stigmatized medical conditions and protecting the service users as well as the staff was a priority in this project.

To leave an audit trail, the researcher recorded detailed descriptions of procedures and decisions made during the process of data collection and analysis. In addition, immediately following each interview, the researcher documented case summaries that included subjective impressions of the interviewees, date, time, and length, and other details of the process (e.g., What was done well and what could be improved).

Interview Respondents

Sample size in qualitative research is debatable, particularly concerning estimations of the minimum number required. Researchers recognize that sample size can depend upon the research purpose, type of data collection (e.g., interviews vs. focus groups; Dworkin, 2012), and analytical ambitions of the researcher (Baker, 2012; Charmaz, 2012). Some research scholars suggest that saturation is the most critical factor in qualitative studies. Saturation is often considered the highest standard for determining the appropriate sample sizes because analysis
relies on the depth and complexity of the information rather than an exact number of respondents (Glaser, Strauss, & Strutzel, 1968).

**Staff:** A total of 10 staff interviews (administrators, directors, and managers, \( n = 4 \); BHS, \( n = 2 \); and case managers, \( n = 4 \)) were completed. Staff interviews were conducted via the telephone with durations of 26 to 47 minutes and an average time of 32 minutes. Respondents provided verbal consent for the interviews to be tape recorded. Staff respondents did not receive compensation for their participation.

**Service Users:** A total of 13 service user respondents participated. Interviews ranged in length from 30 to 60 minute, with an average time of 42 minutes. Most service user interviews were conducted in-person \( (n = 11) \) in a private and quiet location; two of the interviews were conducted via telephone. The demographics of interview respondents different from survey respondents in that the majority 85% were black, and all were over the age of 32 years old (range 32- 61 years old). Respondents for in-person interviews signed consent documents, and the telephone respondents provided verbal consent for the interview to be tape recorded. Service user respondents were provided a $20 Walmart gift card for their participation in this study.

**Interview Guides**

The researcher used structured interview guides for both staff and service users to explore their perceptions of working or receiving care in an integrated setting and to further understand quantitative findings (Appendix L). Structured guides were used to add reliability to the qualitative methodology and support consistency throughout the interview process.

The CFIR domains and online guide, found at https://cfirguide.org/, along with survey findings from the study were used to develop the questions included in the interview guides. These questions were focused on three CFIR domains: 1) characteristics of the individual, 2) inner
setting, and 3) integrated care characteristics. The domain, characteristics of the individuals include several constructs aimed at understanding stakeholders’ attitudes and beliefs about the innovation and their roles within an organization and change process. For example, the initial question for all respondents explored their understanding and attitude toward IC (e.g., When I say Integrated Care, what comes to mind for you?). Both interview guides were pilot tested for readability and flow by experts who had experience working in an HIV setting or living with HIV. Based on the feedback, only minor modifications were necessary.

Data Analysis

This section contains a discussion of the quantitative data analysis procedures used followed by a discussion of qualitative analysis procedures.

Phase 1 Survey Data Analysis

De-identified data were downloaded from Qualtrics, and statistical software analyses were performed in SPSS for Windows, version 22. Before beginning the analysis, the researcher visually examined the data for inconsistencies. Data analysis included descriptive statistics such as frequencies, percentages, and differences in means. An exploratory factor analysis was done on the LIM-P as this measure had not been designed for on tested with service users.

Level of Integration. Overall the LIM-HIV-S and LIM-HIV-P means, and subscale means from staff survey findings were compared to service user findings on three LIM subscales: 1) system integration, 2) beliefs and commitment, and 3) shared decision-making.

Service User Satisfaction. Total SATIS-IC scores and subscale medians were calculated. Mann-Whitney U tests were used to determine if there were differences in median satisfaction scores between groups formed based on gender (male or female), race (white or non-
white), dually diagnosed with a behavioral disorder (BH; yes or no), and years living with HIV (1-10 years or >10 years). The respondents who identified as transgender were included in their current gender identifying category.

**Staff.** A total of 17 staff completed the survey (two medical providers, three behavioral health providers, six administrators, and six case managers). Two staff respondents were excluded from analysis because they did not complete more than 10% of the survey questions. Three staff respondents did not meet the inclusion criteria and did not proceed past the consent questions. One participant was missing a response to an item, and this was replaced by the mean of the sub-scale. In the staff data set, four IP addresses were listed more than once but were not removed from the analysis as respondents may have used the same computer to complete the survey.

**Service users.** A total of 48 service users completed the survey. Overall, LIM-HIV-P and SATIS means and domain scores were calculated. An exploratory factor analysis was done of the LIM-HIV-P as this tool was not originally designed for use with service users. Seven service user respondents were excluded from analysis because they did not complete more than 10% of the survey questions, and two did not move past the consent questions. A total of four IP addresses were listed more than once but were not removed from the analysis. Respondents may have used the same computer to complete the survey. Seven respondents were missing responses to an item, and these were replaced by the mean of the sub-scale (Mertler & Vannatta, 2016).

**Validity and Reliability of Quantitative.** Minor changes were made to the LIM for use with staff. These changes were cosmetic and most likely, did not affect the validity of the two survey instruments. Although the two samples sizes were small, there was strong internal
consistency for the full LIM-HIV-P (17 items), and SATIS-IC (11 items). As mentioned previously an exploratory factor analysis was completed for the LIM-HIV-P.

Internal consistency for the LIM-HIV-S could not be assessed because reliability analysis should not be attempted for samples sizes less than 30 (Samuels, 2015). The SATIS-IC had an overall Cronbach’s alpha of 0.87 and adequate internal consistency for the three subscales: 1) quality (five items, $\alpha = .72$); 2) availability (three items, $\alpha = 0.75$); and 3) competence (three items, $\alpha = 0.86$).

**Phase 2 Interview Data Analysis**

Template Analysis (TA) was the style of thematic analysis chosen to analyze the qualitative data in this project because it allows for the use of a priori codes as well as inductive codes (Brooks, McCluskey, Turley & King, 2015; Crabtree & Miller, 1992; King, 2012). The a priori codes were defined using the CFIR domains and constructs, which were used as first, second, and third level codes. The CFIR provided a foundation to systematically describe and organize staff and service users’ perceptions and experiences.

Audio recordings of the interviews were transcribed verbatim using a computer-based transcription service (Temi). The researcher checked these transcripts for accuracy, corrected errors, and noted unintelligible audio. The researcher saved each transcribed interview in a password protected file and labeled each interview with the respondent group, staff or service user, and an alphanumeric pseudonym for each participant (e.g., staff 1, service user 1, etc.). Following TA guidelines, the researcher continued to become familiar with the data by reading the transcripts multiple times before beginning the data analysis (Brooks et al., 2015). To add reliability and minimize the risk of researcher bias, the researcher and another coder (AWB) independently coded four randomly chosen transcripts (two staff and two service user
transcripts). Researcher two was qualified as an additional coder because they had previous training in qualitative research at the doctoral level and understanding of the CFIR. Moreover, researcher two’s life experiences potentially added a different perspective to the coding process. Both coders met to discuss the process and compare codes.

The initial coding template included the CFIR domains as first level codes and the constructs within each domain served as second and sometimes third level codes. Additional codes were matched to the appropriate construct and domain as these emerged from the data. For example, the CFIR domain inner setting served as a first level code, structural characteristics were noted as a second level code, and the proximity of offices was considered as a third level code. The coding process continued for all the interviews. Both coders concluded early in the process that although all domains were represented in the coding process, not all constructs within those domains were relevant to the data. The constructs deemed as irrelevant were removed from the template. In addition, other themes emerged and were added to the template. For example, although stigma was not a focus of this research, it was evident in the data sets and was added to the template as an integrative theme present through much of the data. Although some respondents’ answers to interview questions were similar, saturation did not occur on all questions. The researcher concluded that interviews with additional staff (e.g., medical providers) and service users from different backgrounds could have elicited additional information. Due to recruitment challenges and time and resource limitations, the results did not reflect full data saturation.

The inter-rater reliability substantially agrees with the accepted value of more than .75 for each of the four transcripts (staff transcript 5 = .75; staff transcript 8 = .81; service user transcript 4 = .72, and service users transcript 11 = .76) with an overall inter-rater reliability of .76 (Landis &
Koch, 1977). After a discussion of differences between their results, the two coders came to a consensus on the final template, using CFIR as first, second, and third level codes (Table 2).

After consensus was reached on the template, the remaining transcripts were imported into NVivo Pro software (v12) to organize, manage, and code the data. The CFIR domains and constructs were used as the first, second, and third level codes to structure data analysis and organize the findings. The researcher worked systematically through both data sets (staff and service users) identifying sections of text and marking them with one or more codes from the template. Fifty-one unique codes were identified (Table 2).

**Table 2. Interview Data Coding Template**

<table>
<thead>
<tr>
<th>First Level Code: CFIR Domains</th>
<th>Second Level Code: CFIR Constructs</th>
<th>Third Level Codes</th>
<th>Barriers and Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Inner Setting</td>
<td>Structural Characteristics</td>
<td></td>
<td>Building size limit (B, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provider office location (F, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Transportation assistance (in house driver; Uber Health; Medicaid cab) (F, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Organization reflective of the community (F, S)</td>
</tr>
<tr>
<td>Networks &amp; Communication</td>
<td>LIM: Relationships</td>
<td></td>
<td>Different data systems (discipline dependent) (B, S)</td>
</tr>
<tr>
<td>s</td>
<td></td>
<td></td>
<td>Monthly interdisciplinary team meetings (F, S)</td>
</tr>
<tr>
<td>Implementation Climate</td>
<td>Tension for Change</td>
<td></td>
<td>Communication between providers (F, S)</td>
</tr>
<tr>
<td>Change</td>
<td>Relative Priority</td>
<td></td>
<td>In-house referral process (F, S)</td>
</tr>
<tr>
<td>Goals and Feedback</td>
<td></td>
<td></td>
<td>Service users’ communication with providers (F, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Changing service user needs (F, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leadership’s commitment to IC (F, S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Agency Goal: FQHC accreditation (F, S)</td>
</tr>
<tr>
<td>First Level Code: CFIR Domains</td>
<td>Second Level Code: CFIR Constructs</td>
<td>Third Level Codes</td>
<td>Barriers and Facilitators</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Available Resources</td>
<td>LIM: Training</td>
<td>Fragmented EHR (B, S)</td>
<td></td>
</tr>
<tr>
<td>Access to Knowledge &amp; Information</td>
<td>On-going staff training (F, S)</td>
<td>Lack of interdisciplinary training (B, S)</td>
<td></td>
</tr>
</tbody>
</table>

II. Intervention Characteristics

<table>
<thead>
<tr>
<th>Evidence Strength &amp; Quality</th>
<th>Relative Advantage (compared to the medical model)</th>
<th>LIM: System Integration; Integrated Practices; Shared Decision Making</th>
<th>Evidence Strength &amp; Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIM: System Integration</td>
<td>Increased time with providers (F, S, P)</td>
<td>Service user convenience (F, S, P)</td>
<td></td>
</tr>
<tr>
<td>Integrated Practices</td>
<td>Empowers service users and staff (F, S, P)</td>
<td>Improves collaboration between providers (F, S)</td>
<td></td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>Improves collaboration with service users (F, P)</td>
<td>Care coordination (F, S, P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“One-stop shopping” (F, S, P)</td>
<td>“One-stop shopping” (F, S, P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linkage to providers seamlessly (F, S)</td>
<td>Service Users frustration with past system (B, P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Users frustration with past system (B, P)</td>
<td>Relationships (F, S, P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to triage physical and behavioral health (F, S)</td>
<td>Ability to triage physical and behavioral health (F, S)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to tailor services (F, S)</td>
<td>Ability to tailor services (F, S)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to customize system to service user needs (F, S)</td>
<td>Ability to customize system to service user needs (F, S)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Involvement of “too many cooks” (B, S)</td>
<td>Involvement of “too many cooks” (B, S)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diverse service user needs (B, S)</td>
<td>Diverse service user needs (B, S)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diversity in Insurance Plans (B, S)</td>
<td>Diversity in Insurance Plans (B, S)</td>
<td></td>
</tr>
</tbody>
</table>

III. Characteristics of the Individuals

<table>
<thead>
<tr>
<th>Knowledge and Beliefs about the innovation</th>
<th>LIM: Beliefs and Commitment</th>
<th>Positive perception of IC (F, S, P)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Convenience of getting services (F, P)</td>
<td>The convenience of delivering services (S, P)</td>
</tr>
</tbody>
</table>
### Table 2. (Continued)

<table>
<thead>
<tr>
<th>First Level Code: CFIR Domains</th>
<th>Second Level Code: CFIR Constructs</th>
<th>Third Level Codes</th>
<th>Barriers and Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV. Outer Setting</td>
<td>Needs &amp; Resources of Those Served by the Organization</td>
<td></td>
<td>Diverse population (S)</td>
</tr>
<tr>
<td></td>
<td>Cosmopolitanism</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>External Policy and Incentives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V. Process Engaging</td>
<td>Reflecting &amp; Evaluating</td>
<td></td>
<td>Re-evaluation of programs &amp; services (F, S)</td>
</tr>
<tr>
<td>VI. Stigma</td>
<td></td>
<td></td>
<td>HIV (B, S, P)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LGBT (B, S, P)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mental health (B, S, P)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Agency’s image in the community (B, S, P)</td>
</tr>
</tbody>
</table>

**Note.** CFIR = Consolidated Framework for Implementation Research; EHR = Electronic Health Records; IC = Integrated Care; S = staff; P = patient

**Validity and Reliability of Qualitative.** Reliability in qualitative research is complex, as reality is not static and duplicating research may not have the same results. Instead, the results are consistent with the data collected at the time it was collected (Merriam & Tisdell, 2016). The study was aimed to explore real-life experiences by gathering diverse perspectives of IC from the participants and working to understand the meaning respondents gave to their experiences.
To improve internal validity and to reduce bias, the researcher used a strategy that Patton (2015) calls analyst triangulation, which involves using at least two researchers trained in qualitative data analysis to analyze the data and discuss findings independently. To further improve reliability and validity, the researcher maintained consistency by using the same research questions with all respondents and creating an audit trail by documenting the research process and procedures. The researcher created a database to record and store procedures, notes, and other relevant information about the case and the process of the study.

**Conclusion**

This chapter contained the research questions and an overview of the research design and methodology used in this study. In the chapter, there is an explanation of why the case was selected, and why the target populations within the case, sampling methods, and data collection methods were used. This chapter provides the foundation for Chapter 4, which details the findings.
Chapter Four: Results

This chapter begins with a description of the staff and service user respondents’ characteristics, followed by the respondents’ understandings of IC. The data represent the experiences of staff and service user respondents, and their perspectives provide a better understanding of the challenges and success of implementing IC for people living with HIV. The survey results are then presented and serve as a foundation to explore staff and service user interview findings. This chapter ends with respondents’ suggestions for improving IC service delivery and an overview of service user satisfaction with services.

Survey Respondents Characteristics

A total of sixty-five respondents completed either the web-based or paper survey (staff, \( n = 17 \); service users, \( n = 48 \)). A sub-sample of survey respondents (\( n = 23 \)) also completed an in-depth semi-structured interview (staff, \( n = 10 \); service users, \( n = 13 \)).

Staff respondents (\( n = 17 \)), as shown in Table 3 included two medical providers, six administrators, three BHS, and six case managers. Most of the staff were white (71%) and most were employed at the organization for more than two years (70%), and some were employed more than five years (31%). Almost half of the staff (47%) reported they were “somewhat involved” in the agency’s efforts to integrate HIV medical, primary, and behavioral health services, while 53% reported they were “very or extremely involved” in the service integration process.
Service users included 33 men, 12 women, one transgendered male and one transgendered female (Table 3). Ages ranged from 18–76 years old. Most service users (56%) were adults aged 45 to 64 years. The proportions of whites and nonwhites were 67% and 32% respectively, and 8% identified as Hispanic.

Table 3. Respondent Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Staff (n = 17)</th>
<th>Service User (n = 48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>71</td>
</tr>
<tr>
<td>Transgender Male</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Transgender Female</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>12</td>
<td>71</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 – 34</td>
<td>8</td>
<td>47</td>
</tr>
<tr>
<td>35 – 44</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>45 – 54</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>55 – 64</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>65 – 74</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>75 – 84</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>High school graduate</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>Some college</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>2-year degree</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>4-year degree</td>
<td>7</td>
<td>41</td>
</tr>
<tr>
<td>Graduate or advanced degree</td>
<td>6</td>
<td>35</td>
</tr>
</tbody>
</table>

Note. Total N = 65
Most study participants were male, middle-aged, poor, and unemployed, with severe physical and behavioral comorbidities. Fifty-eight percent of service users reported living with an HIV diagnosis for ten or more years, with a range of one year to greater than 20 years. All 48 service users reported having an undetectable viral load at their last clinical test, and many (64%) reported having greater than 500 T-cells on their last clinical test prior to data collection, which indicates a T-cell count in normal clinical range. As shown in Table 4, most individuals have co-morbid physical and mental health conditions. Sixty-seven percent reported past or current behavioral health diagnosis, and 34% reported dual mental and substance use disorders in their past or current diagnoses. Thirty-one percent of service users reported being unemployed and receiving social security disability payments, while 25% reported full-time employment.

Table 4. Additional Service User Characteristics, N = 48

<table>
<thead>
<tr>
<th>Description</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Identify</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td>Gay</td>
<td>25</td>
<td>52</td>
</tr>
<tr>
<td>Bisexual</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Other/prefer not to say</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Yearly Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; $10,000</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>$10,000 - $19,999</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>$20,000 - $29,999</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>$30,000 - $39,999</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>$40,000 - $49,999</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>$50,000 - $59,999</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>$70,000 or more</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed full time</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Employed part-time</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Unemployed looking</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Unemployed not looking</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Retired</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
Service users reported using a variety of services at the CBO including HIV medical services (96%), primary health care services (52%), case management services (52%), and therapeutic and support groups (33%; Table 4). The survey did not include whether the respondents were using health and social services outside of the CBO.

Table 5. Service Users Reported Services, (N = 48)

<table>
<thead>
<tr>
<th>Services</th>
<th>N = 48</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric medication management</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>HIV medical care</td>
<td>46</td>
<td>96</td>
</tr>
<tr>
<td>Primary Care</td>
<td>25</td>
<td>52</td>
</tr>
<tr>
<td>Pharmacy services</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Medical case management</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Case management</td>
<td>18</td>
<td>58</td>
</tr>
<tr>
<td>Counseling</td>
<td>12</td>
<td>25</td>
</tr>
</tbody>
</table>
Table 5. (Continued)

<table>
<thead>
<tr>
<th>Services</th>
<th>N = 48</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance abuse treatment</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>LGBT services</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Transgender-specific services</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Fitness programs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Therapeutic &amp; support groups</td>
<td>16</td>
<td>33</td>
</tr>
</tbody>
</table>

*Note: Totals exceed 100% as service users use more than one service.*

Interview Respondents Characteristics

A subsample of 23 survey respondents participated in in-depth semi-structured interviews, including 10 staff and 13 service users. Staff interview respondents included four administrators, two BHSs, and four case managers. More than half of the staff were female (60%), and their average length of employment at the CBO was 5.9 years ($SD = 3.57$).

Service user interview respondents included 10 males and three females who had an average age of 45 years ($SD = 12.04$). Most service user survey respondents were white; however, in contrast, most service user interview respondents (85%) were black (Table 3, p 78). Aim 1: Describe the degree of Integrated Care in a CBO that provides physical and behavioral health services, as well as social services to people living with HIV in the geographical area.

Research Question 1

RQ1. How do staff and service users define the concept of IC?

Staff and service users had similar understandings of IC, and they discussed the relative advantages of providing IC services as compared to the traditional model of providing physical and behavioral health services separately. Respondents noted that IC is where people can access
physical and mental health services in one location. Staff descriptions of IC focused on how these services were provided, such as comprehensively treating service user’s health needs, providing seamless services, and coordinating care behind the scenes. Staff respondents expanded the definition of IC by comparing it to the HIV care continuum. They described how IC could guide people diagnosed with HIV through the full HIV care continuum, from HIV testing to medical care. The majority of staff ($n = 8$) mentioned that the services offered that support people through this continuum include behavioral health treatment and other services people living with HIV need to stay healthy. One staff member stated,

*Integrated care is providing all the services someone needs after testing positive. People need health services and sometimes case management. Many of them also need a counselor to help them to cope with their diagnosis. It ain’t easy having your whole world turned upside down. IC coordinates that care and helps people figure out what services they need and links them, links them to those services.*

All staff respondents focused on how services were provided, and service users ($n = 10$) focused on the location and convenience of access care services. For example, this is illustrated in the following comment from a service user:

*Like you can get all services in one place. I mean I can come here [the community-based organization] and I can get primary care, I can get the psychiatric care that I need, I can get my HIV care, and my medications. I see my case manager, do my Ryan White renewal stuff and anything else and that’s what I like about [the community-based organization], everything is in one location.*

The remarks above illustrate that service users prefer getting all their care and treatment in one location. They described how they valued the use of one coordinated treatment plan instead of having multiple plans with multiple providers. One service user noted not having to repeat their story to different providers:

*One thing I hate is having to tell my story over and over again to someone new. Here at [the community-based organization], they know me, they know what I have been through, so I don’t have to repeat myself. I have a history with them.*
While service users reported the convenience of accessing multiple services in one location, the staff talked about being able to respond to all service users’ health and social service needs. For example, a BHS replied:

*Integrated care is like treating patients comprehensively. So, um, you know, being able to assess, all the needs of a patient who walks in the door or calls us and you know, they are saying I need help. I don’t even know what I need. I have so many, so many things going on and that we're able to identify all the needs and treat them all. At least most of them all in one place and be able to refer to other programs in [the community-based organization].*

**Research Question 2**

RQ2. What factors/elements are associated with the degree of IC in this setting?

Data from all sources revealed several vital factors associated with the level of integration in which the CBO functions. Findings from the IPAT revealed that the CBO was functioning at a level four out of six integration and had some functions associated with level five and six as described by Substance Abuse and Mental Health Services Administration (SAMHSA) SFLIH (Health et al., 2013). Level 4, as described by Health et al. (2013), is a close collaboration with some system integration, which is due partly because the HIV medical specialist, primary care providers, and behavioral health services are co-located in the same facility. In addition, findings from the IPAT, survey, and interviews helped to identify other factors associated with level four integration at the CBO. Those findings include the below factors associated with level four, five, and six with correspond with SAMSHA’s SFLIH.

- physical and behavioral health providers at the CBO work in the same facility and in the same space or close proximity (level 4);
- providers at the CBO collaborate to increase successful referrals for shared service users - (level 4);
• providers at the CBO work across departments sharing some systems (e.g., scheduling, or medical records (Level 4);
• organization leaders at the CBO support integration through mutual problem solving (level 4);
• there is separate funding between disciplines at the CBO, but they do share some grant funding (level 4);
• providers and staff at the CBO regularly communicate in person (level 5),
• metro employs a consistent set of agreed upon screenings tools across disciplines, which guide interventions (level 5);
• leaders at the CBO support integration of physical and behavioral health and efforts are made to solve as many system issues as possible, without fundamentally changing how disciplines are practiced (level 5);
• providers at the CBO have formal and informal meetings to support an integrated model of care (level 6).

The factors mentioned above are facilitators of IC services at the CBO. Additional factors include the full range of educational and support services. The CBO provides all users with services that go beyond physical and behavioral health services and offers a full range of health and social services, including on-site pharmacy and case management at all four of their locations. The CBO also provides transportation services to and from the CBO appointments for those who do not have means or those who may have physical challenges when using the city bus system. The CBO has an in-house driver and arranges Medicaid cabs, and Uber Health rides for service users to travel to the CBO appointments.
The CBO’s full-service facility is designed to provide holistic, patient-centered care. A service user shared that after a hip operation, the CBO “picked me up and brought me back home so I could attend some of the groups.” One of the recurrent themes mentioned by both staff and service users was the “time allocated” for physical health appointments. Respondents stated that HIV specialists and primary care providers spent more time with service user beyond the usual 10 to 15-minute visit normally found in a clinical setting. As one service user stated,

> When I first started coming here, I couldn’t believe how much time my doctors spent with me. He talked with me for more than a half hour. He don’t do that every time, but when something is going on, he don’t rush me, he lets me say what I need to say and then we do what needs to be done. I never had anyone spend this much time talking about my health stuff.

**Research Question 3**

RQ3. What factors facilitate or impede the implementation of IC health service delivery?

As noted for research question two, the CBO currently employs a variety of processes associated with level four, five, and six as described by the Center for Integrated Health Solutions Levels of Integrated Health Care. Data revealed the main facilitators to implementing IC at this setting included, a) co-locations of services; b) communication between providers; c) leaderships commitment to IC and their vision for creating a one-stop shop for the community. Barriers to implementing higher levels of integration included, a) fragmented EHR system and funder data reporting; b) complexities of different insurance companies and their requirements (e.g. Medicare, Medicaid, Ryan White, Private Insurance). Building size and structural layout was found to be a facilitator at one location and a barrier at another location.

Aim 2: Identify and document the perceptions of key stakeholders, specifically, administrative staff, clinical staff, and service users.
Research Question 4

RQ4. How do the experiences of the staff and service users compare with each other?

To compare stakeholders’ perceptions and experiences the researcher first collected survey data and then conducted in-depth semi-structured interviews with respondents. Data from the Level of Integration Measure Staff and Patients (LIM S & P) were compared on three of the LIM subscales. Because the LIM had not previously been used with service users in previous studies, a principal components analysis (PCA) was used prior to other analyses; this included inspecting a correlation matrix, which showed that all variables had at least one correlation coefficient greater than 0.3 indicating a small strength of association. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.73 and the individual KMO measures were all greater than 0.7. According to Kaiser (1974), these classifications are middling to meritorious. Bartlett's Test of Sphericity was statistically significant ($\chi^2(136) = 573.83, p < .010$) indicating a factor analysis may be useful for the data. PCA revealed three components that had eigenvalues > 1 and which explained 37.4% (eight items), 20.5% (six items), and 8.6% (three items) of the total variance, respectively. Visual inspection of the scree plot indicated that three components should be retained (Cattell, 1966). In addition, a three-component solution met the interpretability criterion. As such, three components were retained.

The three-component solution explained 66.5% of the total variance. Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited simple structure (Thurstone, 1947). The interpretation of the data was consistent with the levels of integration attributes the questionnaire was designed to measure with beliefs, system integration, and shared decision.
The LIM-HIV-P had an overall Cronbach’s alpha of 0.89. The three components also had a high level of internal consistency, determined by Cronbach’s alpha. Component loadings of the rotated solution and Cronbach’s alpha for each component are presented in Table 6.

### Table 6. Component Loadings and Cronbach’s Alpha for LIM-HIV-P (N = 48)

<table>
<thead>
<tr>
<th>Item</th>
<th>Beliefs &amp; Commitment</th>
<th>System Integration</th>
<th>Shared Decision-Making</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having multiple health and social services in one location makes accessing care more efficient</td>
<td>.864</td>
<td>-.281</td>
<td>.028</td>
<td></td>
</tr>
<tr>
<td>Integrating care ensures I receive appropriate care</td>
<td>.832</td>
<td>.281</td>
<td>-.068</td>
<td></td>
</tr>
<tr>
<td>It is easy for me to access needed services.</td>
<td>.795</td>
<td>-.089</td>
<td>.183</td>
<td></td>
</tr>
<tr>
<td>Integrated care is a worthwhile investment of clinic time, energy, and resources</td>
<td>.794</td>
<td>.319</td>
<td>.008</td>
<td>.873</td>
</tr>
<tr>
<td>Integrated care is a superior form of patient care.</td>
<td>.704</td>
<td>.362</td>
<td>-.072</td>
<td></td>
</tr>
<tr>
<td>I feel involved in decisions about my health goals.</td>
<td>.647</td>
<td>-.349</td>
<td>.325</td>
<td></td>
</tr>
<tr>
<td>The HIV clinic is committed to integrated care</td>
<td>.582</td>
<td>.264</td>
<td>.440</td>
<td></td>
</tr>
<tr>
<td>I trust my HIV care specialist.</td>
<td>.458</td>
<td>.030</td>
<td>.188</td>
<td></td>
</tr>
<tr>
<td>I trust my substance abuse counselor.</td>
<td>-.045</td>
<td>.842</td>
<td>.231</td>
<td></td>
</tr>
<tr>
<td>I work comfortably with my substance abuse counselor and HIV Specialists to make decisions about my care</td>
<td>.071</td>
<td>.828</td>
<td>.280</td>
<td></td>
</tr>
<tr>
<td>I have been asked about my mental health as part of my HIV care appointment</td>
<td>.224</td>
<td>.775</td>
<td>.200</td>
<td></td>
</tr>
<tr>
<td>I am able to see a mental health counselor when I need one.</td>
<td>.309</td>
<td>.609</td>
<td>.380</td>
<td>.862</td>
</tr>
<tr>
<td>My treatment plans include both my mental and physical health needs.</td>
<td>.213</td>
<td>.596</td>
<td>.421</td>
<td></td>
</tr>
<tr>
<td>I have been able to schedule a “same day” appointment to see my MH counselor.</td>
<td>-.097</td>
<td>.579</td>
<td>.083</td>
<td></td>
</tr>
<tr>
<td>I work as part of a team with my mental health counselor and HIV care specialist to make decisions about my care</td>
<td>.161</td>
<td>.293</td>
<td>.850</td>
<td>.903</td>
</tr>
<tr>
<td>I trust my mental health counselor.</td>
<td>.111</td>
<td>.221</td>
<td>.815</td>
<td></td>
</tr>
<tr>
<td>I work comfortably with my MH counselor and HIV Specialists to make decisions about my care</td>
<td>-.012</td>
<td>.482</td>
<td>.791</td>
<td></td>
</tr>
<tr>
<td>Eigenvalues</td>
<td>6.87</td>
<td>3.08</td>
<td>1.85</td>
<td></td>
</tr>
<tr>
<td>Percentage of total variance</td>
<td>37.4</td>
<td>20.5</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Number of test measures</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

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Level of Integration Measure Patients: Factor Analysis

Eight items load onto Factor 1. Table 7 shows that these eight items relate to service users’ beliefs about the value of the IC. This factor loads onto the reported level of efficiently in accessing integrated services, receipt of appropriate care, ease of access, worth of investment in IC, the superiority of IC, involvement in decisions, clinic commitment, and trust in the provider. This factor was labeled as beliefs and commitment, thereby keeping the same label as the original scale.

Table 7. LIM-HIV-S Frequency Distribution of Staff $N = 17$

<table>
<thead>
<tr>
<th>LIM-HIV-S sub-scales</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. System Integration</td>
<td>6%</td>
<td>88%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Beliefs and Commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Shared Decision Making</td>
<td>6%</td>
<td>82%</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Integrated Practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Relationships</td>
<td>6%</td>
<td>12%</td>
<td>88%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Training</td>
<td>24%</td>
<td>64%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Leadership</td>
<td>23%</td>
<td>53%</td>
<td>24%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. LIM-HIV-S = Level of Integration Measure HIV Staff*

Six items load onto a second factor related to service users’ reported perceptions about the integration of behavioral health services at the clinic. The six items related to service users trust with the behavioral health counselor, being asked about their behavioral health, the inclusion of behavioral health needs in their treatment plans, and ability to schedule a same day appointment. This factor was labeled using the same label as the original scale: system integration.
Three items load onto a third factor related to service users’ reported perception about working with their mental health counselor. This is related to feeling a part of the clinical team, trusting their counselor, and working comfortably with their providers. This factor was labeled as shared decision making as was in the original scale. Although this instrument may have concurrent validity, in that it is consistent with the original measure, there are concerns with content validity as items in the second and third factors are similar and may be measuring the same thing.

**Comparing Staff and Service Users**

The results showed that staff and service users had similar perspectives about the degree of integration and they perceived physical and behavioral health services to be highly integrated (see Tables 7 and 8). However, service users agreed more frequently with items in all subscales of the LIM, with a notable difference in the shared decision-making subscale, which they rated higher than staff.

**Table 8. LIM-HIV-P Frequency Distribution of Service Users, N = 48**

<table>
<thead>
<tr>
<th>LIM-HIV-P sub-scales</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. System Integration</td>
<td>15%</td>
<td>65%</td>
<td>21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Beliefs and Commitment</td>
<td>4%</td>
<td>46%</td>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Shared Decision Making</td>
<td>8%</td>
<td>73%</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. LIM-HIV-P = Level of Integration Measure HIV Patients*

The next section describes the findings from the survey subscales further explained and supported with interview data.
**LIM-HIV-S & P Subscale 1: Systems integration.** The LIM-HIV-S and P subscale, systems integration, concerned respondents’ perceptions of processes at the CBO that promote physical and behavioral integration. Survey data revealed the mean scores for the systems integration subscale were similar for both staff and service user groups (staff, $M = 3.90$, $SD = 0.38$; service users, $M = 3.90$, $SD = 0.48$). However, average items rated within the scale slightly differed between the two groups. The items rated highest in agreement by staff included “this clinic is supported by viable financial systems” (82%) and “the clinic systematically triages behavioral health needs of its patients” (94%). Service users highly agreed their “treatment plans included both mental and physical health needs” (88%), and they have been “asked about their mental health as part of their HIV care appointments” (92%).

The item rated lowest by staff was the “ability of providers to share access to the electronic health records”; 30% of staff disagreed with the statement that behavioral health service shared electronic access to service users’ charts (barrier to higher integration). The challenges of sharing service user data among providers were evident in the qualitative interviews where many staff discussed the barriers to a centralized electronic data system. One staff person shared:

*One of the biggest challenges that we have right now. I think it is a goal across the organization, is being able to gather and compile all of our data across programs. Every single program that we have from prevention to case management, behavioral health, we all have different systems that we’re using, different electronic systems. So that makes data collection difficult when it comes to grant writing or quality improvement projects. We have to do that because we have funders require us to put our data into their required system. Our medical and behavioral health services are now using electronic health records, which we literally just went live with last Tuesday.*

The lowest rated item in the system integration subscale for service users was their perception of their ability to schedule a “same day” appointment to see a mental health counselor. Most staff (52%) rated this as neutral. To further understand this rating, during the
interviews, service users were asked if they ever needed a same-day mental health appointment, one service user said:

*No, I haven’t ever asked for one. I have asked for same day appointments when I am sick, like with the flu or something and feel like I am dying [laughs] but I have never thought about asking for a same-day mental health appointment. I guess I have never been that bad off where I thought I needed something like that.*

Staff was also asked if service users ever received same-day appointments, which are a facilitator to higher integration. Many staff agreed that same day, mental health appointments are available, especially if someone is in crisis or is newly diagnosed. However, the staff pointed out that many times, people want to run after they learn of their positive HIV test result:

*They just want to leave, they are so upset. But we make sure they are okay. We don’t want someone leaving here in a crisis; we want to make sure they are safe.*

As stated in service users’ definition of IC, service users overwhelmingly discussed the convenience of having health and social services in one location. However, some service users reported being confused about the system of care and three respondents reported not getting all their health services at the CBO and that they were still accessing multiple providers to get services. For example, some were receiving case management services outside of the CBO system of care and were confused about the programs and services they were receiving. One service user reported:

*I have, I guess, I have Ryan White, I don’t know which one it is, but I go to one place that’s where I get registered to get my HIV drugs, my meds, and the other place I guess that’s more like my case management, but ADAP is the place for that drug assistance program, and then I got this place [the community-based organization] where I see my HIV doctor and my counselor. So, I have three different places I have to go to get all my stuff done and sometimes I don’t know what paperwork I am supposed to bring to what appointment.*
Another service user shared that they are not receiving their HIV medical care at the CBO, not due to navigation challenges, but because the person had the same HIV specialists since their HIV diagnosis 25 years ago. The service user explained:

_I don’t go [to the community-based organization] because I know the people at [clinic name] that’s where I go. And I am not switching. I get my case management at the community-based organization and they helped me with housing and food, stuff like that, and I see a counselor there sometimes, but I don’t go as often as I should. I go to [clinic name] cuz that is where I have gone for years because my doctor is there. The same one since when I was first diagnosed and he knows everything about me._

**LIM-HIV-S & P Subscale 2: Shared Decision-Making.** The LIM-HIV-S subscale, shared decision making, is used to determining whether the BHS and medical providers have joint or equal authority when making treatment decisions about specific service users. Shared decision-making is a vital tool used in higher level integrated settings and is mapped to CFIR’s intervention characteristic domain.

Data from the survey show that 71% of staff agreed that “providers approach service users’ care with a sense of partnership and shared decision-making.” However, 71% of staff disagreed or rated neutral concerning how much providers have equal authority in determining service users’ care. The qualitative data provided additional insight into the survey findings; one staff respondent stated:

_We have provider meetings about once a month. If anything comes up during the month about a client, we can get together with the provider individually and staff cases as needed. We each bring our own professional education and experiences and make decisions for the case. No one has more authority; it just depends on the circumstances. We all want what is best for the client._

The LIM-HIV-P subscale on shared decision-making allowed the researcher to address whether service users felt a part of the decision-making process and whether they trusted and felt comfortable working jointly with their providers. Almost all (98%) of service users felt involved
in decisions about their health care goals and 100% of those diagnosed with a mental health condition agreed with the statement,

*I work as part of a team with my mental health counselor and HIV care specialist to make decisions about my care.*

To follow up on the concept of shared decision making during the interviews, service users were asked about their perceptions of the process of making decisions about their treatment options with their providers. Most service users described that they did feel like part of a team and they trusted and respected their providers. For example, one service user stated:

*Yes, I mean, I have to part of the team too because the simple fact is hell, it’s me. I mean it’s me, at the end of the day it is my body and my life that we’re talking about. I always make the final decision in my care, but I do listen to my doctor. We do this together.*

This service user’s remarks supported the idea the users were ultimately the final decision-makers about their treatment options and care. The main decisions service users discussed was their ability to decide when to start treatment and which medications best fit their lifestyle.

**LIM-HIV-S & P Subscale 3: Beliefs and Commitment.** The LIM-HIV-S and P subscales concern beliefs and commitment and were used to assess respondent’s attitudes and knowledge about IC, as well as their perceptions of the value of IC. The CFIR suggest that knowledge and beliefs about how innovation affects an organization’s ability to implement successfully and carry out functions necessary to implement the innovation. Staff and service users rated this subscale the highest, affirming the value and importance of integrating behavioral health services and HIV services. One hundred percent of staff and 94% of service users agreed that IC is a superior form of provider practice and that it is a worthwhile investment of clinic time, energy, and resources as indicated with the quote below. Staff interview data were consistent with the survey findings. For example, one staff member said:
The wrap around services people get today are much better than they used to get. It is like a no brainer that HIV and mental health issues go hand in hand; we have known this for years. You really can’t separate that and providing all the services in one location really does make a difference for the patient and even for the providers.

Service users’ interview data also supported that IC was a superior form of care, and that user noticed the changes in the system of care over the past few years. Many of the service users described the fragmented system of care and how challenging it was for them to access the care and services they needed to stay healthy. For example, a respondent who had been living with HIV for 30 years and receiving care and treatment in the geographical area during that time said:

I been diagnosed since 1989, so it’s been quite a while for me. The first couple of years I couldn’t really get any help but what could I do. Care is so different now. [the community-based organization], like has everything. They always ask if I need, you know, counseling. And I have seen a couple of them [counselors]. I am grateful for everything they do for me. Getting care is so different than it used to be having everything in one place makes it easy to take care of myself.

Another service user noted the challenges in accessing counseling services in this geographical area. A service user shared,

It has been hard to get counseling service unless. Most counselors don’t take Medicaid and most of us don’t have Medicare. The health department had a counselor in the earlier 1990s but he quit and they never replaced him. Even the [agency name] had lost their counselor about 10 years ago when she got sick, they didn’t replace her neither. That is when I started seeing a counselor here at [the community-based organization], without them I don’t know what I would do. I don’t like going to [named another organization in the area].

LIM-HIV-S & P Subscales 1-3. This research compared staff and service users on three key subscales of the LIM-HIV instrument, including 1) beliefs and commitment, 2) system integration, and 3) shared decision-making. As seen in Figure 3 and Table 9, data revealed that staff and service users shared similar perspectives on the subscales: 1) beliefs and commitment (staff, $M = 4.50, SD = .33$; service users, $(M = 4.50, SD = .43)$; 2) system integration (staff, $M = 3.90, SD = 0.38$; service users, $M = 3.90, SD = 0.48$); and a small difference was observed
between group rating on the 3) shared decision-making subscale-- service users ratings were higher than staff (staff, $M = 3.50$, $SD = 0.31$; service user, $M = 4.30$, $SD = 0.44$).

![Level of Integration Measure (LIM) Scores](image)

**Figure 3. Level of Integration Measure-HIV-S & P**

Differences between staff and service users were not found to be statistically significant. Means, standard deviations, and $p$ values of the LIM-HIV-S and P are shown in Table 10. This data shows that staff and service users rated their ($M = 4.50$ for both groups) beliefs and commitment to integrated care and system integration highly ($M = 3.90$ for both groups). Service users perceived a higher degree of shared decision-making ($M = 4.30$) as compared to staff ($M= 3.50$). However, the low score on staff shared decisions does not reflect the information provided in the interview data, where staff discussion was focused on communication and collaboration among - and providers.
Table 9. LIM Mean by Domain and Respondent Type

<table>
<thead>
<tr>
<th>Domain</th>
<th>Staff (n = 17)</th>
<th>Service Users (n = 48)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>1. System Integration</td>
<td>3.90</td>
<td>0.38</td>
<td>3.90</td>
</tr>
<tr>
<td>2. Beliefs</td>
<td>4.50</td>
<td>0.33</td>
<td>4.50</td>
</tr>
<tr>
<td>3. Shared Decision Making</td>
<td>3.50</td>
<td>0.31</td>
<td>4.30</td>
</tr>
<tr>
<td>4. Integrated Practice</td>
<td>3.40</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>5. Relationships</td>
<td>3.70</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>6. Training</td>
<td>3.40</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>7. Leadership</td>
<td>3.90</td>
<td>0.66</td>
<td></td>
</tr>
</tbody>
</table>

Note. LIM = Level of Integration Measure

LIM-HIV-S Subscale 4: Integrated Practices. The subscale, integrated practices is a measure for the collaboration and frequency of interactions between behavioral health and medical specialists and is related to the characteristics of an innovation. Data obtained using the subscale, integrated practices, showed the highest agreement with the statement that BHSs are “readily available” to see service users and consult with a medical specialist (88%). The qualitative findings highlighted the ease of in-house referrals, as one staff member stated:

*We have many different resources and services for clients onsite, which is really actually cool. I mean, we can make referrals from on provider to the next pretty seamlessly. The transition for the client is easy, which I really like, and it is very easy for me to kind of follow up and make sure that my clients have gotten to see a doctor and that they are getting the other services that, that they need.*

While most staff agreed that BHSs were available, 41% of staff disagreed with the statement that BHS and medical specialists “regularly” reviewed each other’s notes. Staff interview data supported this finding. Staff reported the lack of a centralized EHR system as a barrier to IC services. However, some suggested that collaboration can still occur at staff meetings. For example, one staff member noted that
we’re all sitting down talking about the clients with their charts out in front of us. So, we are able to share information during meetings

Additional challenges to integrated practices included difficulties in getting adequate reimbursement for services. One staff member pointed out that

Although we do get some funding for behavioral health services, it doesn’t cover everything. So, we are always looking for new grant money to try and cover some of the things we want to do, to cover the services our clients need.

Additionally, some staff discussed the changing needs of the populations they serve. The CBO not only provides health and social services for people living with HIV, they also provide services for people at-risk for HIV, specifically the LGBTQ population. One staff shared that:

I know our population is changing, our HIV patients are aging, which is a great thing, but the way that we deliver care to, you know, to someone who is been living with HIV for 30 years versus someone who's been living with HIV for two months is very different. And so, and then across the LGBTQ spectrum, things are changing, and we want to make sure that all of our providers are well trained a competent and sensitive to the different terminology and needs the patients have.

LIM-HIV-S Subscale 5: Relationships. The LIM-HIV-S subscale, relationships, concerns how BHS and medical providers interact with one another and is an inner setting CFIR factor. The items within this subscale measure the trust, respect, positive interactions, and level of comfort between providers. Most staff (76%) agreed that the BHS and medical provider had positive interactions, and all staff (100%) agreed that there was mutual trust between providers. Similarly, staff spoke highly of the respect and trust among providers which exist at the community-based organization.

LIM-HIV-S Subscale 6: Training. The LIM-HIV-S subscale training assesses formal and informal interdisciplinary provider training. According to the CFIR, training is an inner setting factor that influences the implementation of IC. All staff (100%) agreed that behavioral health and medical specialists learn from each other. Eighty-eight percent of staff agreed that
everyone received IC training. The staff members were less in agreement (35%) that behavioral health and medical specialists attend training together. Interview data revealed that many staff saw the need for interdisciplinary training, as one staff pointed out

*When I was in school, we were not taught to work with other providers, we were taught how to do our discipline, and outside of school I do not think there is training that includes multiple providers in one space, we are all trained to work in our discipline.*

**LIM-HIV-S Subscale 7: Leadership.** The LIM-HIV-S sub-scale leadership is focused on leadership involvement and support that are critical to the successful implementation of IC. The leadership subscale was rated highly by staff—94% agreed or strongly agreed that leadership is committed to IC, and 82% agreed that leaders in the agency “go to bat” for IC. Findings from staff interviews showed that the staff felt supported by executive management when implementing IC services.

**Research Question 5**

RQ5. Is there congruence or dissonance with the survey and interview data between staff and service users and if so, what are the implications?

The results show congruence between survey and interview data and between the stakeholder groups. The survey data show that staff and service users perceive physical and behavioral health services to be highly integrated and interview data support this finding. However, there are notable differences between the survey and interview data. The interview data added a more robust understanding of IC when combined with the quantitative results. The interview data show the service users who receive all their services from the CBO, perceived the system of care as highly integrated. Other service users who are served outside of the CBO, indicated that they were still receiving fragmented uncoordinated care because they chose to maintain long-term relationships with other providers and agencies.
Emerging Theme: Stigma

The concept of stigma was not planned as a focus of this study. However, stigma emerged as a repeated theme with both staff and service users who discussed stigma in relation to HIV, accessing services, mental health, gender identity, isolation, family rejection, and sexual orientation. Stigma towards mental illness, HIV, and substance abuse are significant barriers that deter people from seeking health service (SAMHSA, 2016). From initial recruitment for this study through the interview process, stigma was found to be an overarching theme and was prevalent throughout the data collection and in the findings.

Stigma may have impacted the low response rate for this study. The service user recruitment flyers and surveys were placed in the CBO’s clinic waiting areas, and the location may have hindered service user recruitment. Other people in the waiting areas would see the person pick up a survey package or write down information about the study, thus ‘outing’ the person’s HIV status as it was a primary eligibility requirement for this study. In addition, staff and service users both noted stigma in relation to HIV and behavioral health in the interviews and noted the organization’s image and reputation in the community. Many staff and service users discussed the CBO’s community image as “the place people with AIDS go” or “the place gay people with AIDS go.” These labels for the organization are one reason the CBO rebranded during the course of this study. In the future, researchers should be mindful of how recruiting methods may increase stigma for the populations they are trying to recruit.

Some staff members specifically mentioned how stigma is a barrier to providing comprehensive health and social services. As one staff stated,

*People don’t want to walk in here [the community-based organization] for fear that someone will see them. We have been known as the place where gay people with AIDS go but we are trying to change that image.*
To overcome stigma in the community, the CBO rebranded by creating a new name and logo that launched during data collection for this study. As one staff pointed out,

*One of the barriers we are trying to address now is our branding and the stigma that goes along with being the community-based organization because we’ve historically been known just as either an LGBT organization or an HIV organization, which can be stigmatizing to some people who need to get into care and wants to get into care, but don’t want to go to you know air quotes the HIV place or the gay place. We serve everybody, but it doesn’t always appear that way.*

Some other staff stated that the organization is going through a “new branding process” because they do not want to deter anyone from seeking health services. Another staff member noted that

*Some people feel judged because of their HIV status; mental health concerns or sexual orientation and they might not feel comfortable reaching out for help.*

Respondents stressed the challenges of living with multiple stigmatized issues: being gay, living with HIV, and living with a mental health diagnosis. Some respondents focused on the shame and isolation they felt, which kept them from disclosing to family or friends. As one respondent explained:

*I’ve been diagnosed for about 12 years now with it [HIV] and I am depressed and there’s nobody that I would actually want to share this with because I am afraid of rejection. My family doesn’t even know anything. I don’t tell them because I would definitely be ousted by them because they’re from [state] and they know, I don’t know, I don’t want to say they are backwoodsy but they’re scared of stuff like that. It is better they don’t know. I already got disowned because I am gay.*

**Research Question 6**

RQ6. What suggestions do stakeholders have for optimizing the care process?

The last question in interviews concerned whether the participants had any suggestions on how the delivery of services could be improved. Staff expressed a desire for additional training to increase interdisciplinary collaboration and communication, specifically for service users with complex health and social service users so that “*every one of the patient or client team members knows what’s going on.*” Staff also pointed out the need to improve data collection and
reporting systems and noted that outer setting requirements of data reporting often brought inner setting challenges. An administrative staff member described how the CBO had an electronic data system to gather information during HIV testing but was required to provide that information to the health department in paper format. The administrator stated that this process:

*Puts an additional burden on staff. They literally have to duplicate their work. If Ryan White could somehow combine their data systems, it would reduce the amount of work we do and allow us to focus our efforts towards other goals.*

Other staff noted similar concerns with electronic data reporting and sharing in and outside of the CBO.

To improve services, most service users focused on the need for additional health services, such as dental and vision care. At the time of the interviews, two service users were struggling with visual impairments. They were in the process of trying to get eyeglasses but were frustrated with the system and having difficulties receiving needed services. One respondent expressed how she had been struggling for the past three months and shared,

*I don’t know when I will get my new glasses, it is so frustrating, and I can’t even really watch TV.*

Also, 30% of service users mentioned a need for a food bank or pantry and described their difficulties in obtaining enough food for the month. One service user respondent stated,

*Like I said, they need to provide food. We need to eat to stay healthy. We can’t take our medicine if we don’t have food. If they had food, I don’t have to all over the place trying to get enough food for the month. Now, I have to go to different places to get food and sometimes they out and you can’t get any. Then I done wasted the entire day and not get anything to eat.*

The geographical area currently has only one food pantry explicitly designated for people living with HIV. To shop within this food pantry, people must attend support groups or
educational workshops to earn points. Some service users expressed not having the time or
desire to attend the groups at the agency, which provides the food pantry.

Some service users suggested “they [the community-based organization] don’t need to
change anything”, others expressed a need for increased coordination of services. As one service
users explained:

The payers, or funders of our services need to get it together and coordinate how we get
care. A lot of money is wasted, and people can’t get the services they need.

AIM 3: Describe the implementation of IC using the CFIR as a lens to organize and integrate the
survey and interview data.

Research Question 7

RQ7. How can the survey and interview data be interpreted through the lens of the
Consolidated Framework for Implementation Research (CFIR) to account for the
implementation of integrated care?

The researcher used the CFIR to guide data collection, coding, and analysis focusing on
three of the CFIR domains: 1) inner setting, 2) characteristics of the individual, and 3) process.
However, it became evident during data analysis that the other two CFIR domains: the outer
setting, and process were also relevant. In this section, all five of the CFIR domains are used to
organize and discuss themes found in the interview data. The data showed most facilitators were
associated with the inner setting while most of the barriers were external (outer setting) and
independent of the CBO’s capacity to change.

CFIR Domain I: Inner Setting. The inner setting themes identified are specific
characteristics associated with the structural and cultural context that impact the implementation
process. Interview data revealed a total of 16 unique inner setting themes (i.e., 12 facilitators and four barriers) associated with IC at this site. As previously discussed in this chapter and as shown in Table 10, the building size at one of the locations had an impact on health and social service delivery and was perceived as a barrier due to the limited agency size and office structure. Even though the use of a centralized EHR system was not in place at the time of data collection, staff noted they were able to communicate effectively across departments to address service users’ needs.

**Table 10. CFIR Domain I: Inner Setting Facilitators and Barriers**

<table>
<thead>
<tr>
<th>CFIR Constructs</th>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
</table>
| Structural Characteristics | Provider office location  
Transportation assistance  
Organization reflective of the community | Building size limit |
| Networks & Communications Relationships | Monthly interdisciplinary team meetings  
Communication between providers  
In-house referral process  
Service users’ communication with providers | Different Data Systems |
| Implementation Climate Tension for Change | Changing service user needs |
| Relative Priority | Leadership’s commitment to IC |
| Goals and Feedback | Agency Goal to achieve Federal Qualified Health Center (FQHC) accreditation |
Table 10. (Continued)

<table>
<thead>
<tr>
<th>CFIR Constructs</th>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness for implementation</td>
<td>Leadership Engagement</td>
<td>Agency vision leadership involvement and support</td>
</tr>
<tr>
<td></td>
<td>Available Resources</td>
<td>On-going staff training</td>
</tr>
<tr>
<td></td>
<td>Access to Knowledge &amp; Information</td>
<td>Lack of interdisciplinary training</td>
</tr>
</tbody>
</table>

Note. CFIR = Consolidated Framework for Implementation Research

CFIR Domain II: Intervention Characteristics. The characteristics of the interventions, as described by the CFIR, include stakeholders’ perceptions of the attributes of the innovation which influence implementation success (Damschroder et al., 2009). Interview data revealed a total of 15 unique intervention characteristics (i.e., 13 facilitators and two barriers) associated with IC at this setting. Staff overwhelmingly understood the relative advantage of providing IC services and openly discussed those attributes. The two most common attributes discussed by respondents include service user convenience and care coordination. Providing IC services is convenient for the service user because they were able to receive coordinated services in one location. However, some staff mentioned that there were “too many cooks,” and sometimes information gets lost and processes are not followed up. Staff also discussed difficulties understanding their role and authority in making decisions about shared service users and working in interdisciplinary teams. Overall staff stressed that they felt comfortable working with their colleagues and trusted their judgements in making health decisions based on the specific experience and discipline.
Table 11. CFIR Domain II: Interventions Characteristics Facilitators and Barriers

<table>
<thead>
<tr>
<th>CFIR Constructs</th>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Advantage</td>
<td>Increased time with providers Service user Convenience Empowers service users and staff Improves collaboration between providers Improves collaboration with service users Care Coordination “One-stop shopping” Linkage to providers seamlessly Relationships Ability to triage physical and behavioral health Ability to tailor services</td>
<td>Service Users frustration with past system</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Ability to customize the system to service user needs</td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td>Diverse service user needs Diversity in Insurance Plans</td>
<td>Involvement of “too many cooks.”</td>
</tr>
</tbody>
</table>

Note. CFIR = Consolidated Framework for Implementation Research

**CFIR Domain III: Characteristics of the Individual.** The characteristics of the individual domain focuses on respondents’ knowledge of and familiarity with the principles associated with IC and on their identification with the organization. As previously discussed, survey data revealed that both staff and service users had positive perceptions of IC and the capacity to address physical and behavioral health care needs. Interview data revealed that both staff and servicer users described IC with positive statements, and both groups expressed an intimate connection with the organization.

**CFIR Domain IV: Outer Setting.** The CFIR domain outer setting includes the context outside of the organization: the economic, political, and social context in which the organization functions (Damschroder et al., 2009). Interview data revealed a total of 10 unique outer setting
themes (i.e., two facilitators and eight barriers) associated with IC at this setting. The noted
constructs within this domain included the needs and resources of those served by the
organization, cosmopolitanism, and external policies and incentives.

The fact that service users’ needs and resources are included in the outer setting is
questionable in this context. Service users’ health and social service needs are at the center of IC
and are a high priority for the CBO and how they design their care system: the data showed that
staff at all levels were highly aware of the health and social service needs of the population and
community they serve. The staff noted some specific barriers for service users when accessing
services and staying in care. The staff discussed the lack of housing and supportive housing
programs. Furthermore, they noted the service users’ limited knowledge of the health care
system, including confusing and burdensome requirements. For example, to qualify for Ryan
White, service users must renew their eligibility every six months. If they miss their Ryan White
eligibility appointment, they cannot be seen in the clinic and must be turned away.

The CBO relies on Ryan White funding, Medicaid, Medicare, private reimbursement, and
other government grants to deliver health care and social services to the populations they serve.
Due to various grant requirements, the data systems are not integrated into one system, which
often duplicates staff workload. For example, the Ryan White HIV/AIDS Program has five
unique parts (i.e., Part A, B, C, D, and F) that provide funding for medical services, technical
assistance, clinical training, support services, and the development new models of care for those
affected by HIV (Health Resources and Services Administration, 2019). Each part of RWHAP
has a distinct electronic reporting system that organizations are required to use.
Table 12. CFIR Domain IV: Outer Setting Facilitators and Barriers

<table>
<thead>
<tr>
<th>CFIR Constructs</th>
<th>Facilitators</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs &amp; resources of those served by the organization</td>
<td>High awareness of service user needs</td>
<td>Serving diverse populations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diverse and changing service user needs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service users access to housing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Access to Service Requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service users’ knowledge of health systems and insurance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of food pantry</td>
</tr>
<tr>
<td>Cosmopolitanism</td>
<td>Easy referrals to outside specialists</td>
<td>Funder/Grant Requirements</td>
</tr>
<tr>
<td></td>
<td>Good relationships with community agencies</td>
<td>[Data collection/Reporting]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changing community resources</td>
</tr>
</tbody>
</table>

Note. CFIR = Consolidated Framework for Implementation Research

**CFIR Domain V: Process**

The fifth and last CFIR domain focuses on the implementation process, including planning, engaging, executing, and evaluating (Damschroder et al., 2009). Survey results showed that close to half of the staff (47%) reported they were “somewhat involved” in the agency’s efforts to integrate HIV medical, primary, and behavioral health services, while 53% reported they were “very or extremely involved” in the service integration process. The results further showed that leaders at the CBO were very engaged in the transformation of care services and routinely evaluate the programs they offer and accessed population level and community needs. The leaders at the CBO are aware of the diverse and growing needs of the population they serve.
Service User Satisfaction with Services

As measured by the SATIS-IC, most service users reported high levels of satisfaction with the services they received on the three subscales assessed, including; quality and convenience of care; availability of services; and competence of staff. Of the three subscales in the SATIS-IC, services users rated the competency sub-scale highest. Service users agreed 100% that they were satisfied with the responsiveness of providers to their health questions and requests (Table 13). Of the service users who reported receiving behavioral health treatment, 98% were satisfied with the quality of mental health services they received and 97% were satisfied with the quality of substance abuse services. Interview data supported service users’ satisfaction with care. One service user pointed out:

_I like everyone at the community-based organization and don’t have nothing bad to say about them. Everyone is so nice and I know almost everyone by name and they know me. When I come to my appointments, I know they will take care of me. I walk in the door and everyone is smiling and asking me how I am doing. I never had a bad experience here._

Table 13. Satisfaction with HIV Treatment Interview Scale Integrated Care, (N = 48)

<table>
<thead>
<tr>
<th>SATIS item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with the quality of HIV treatment services I receive.</td>
<td>6%</td>
<td>58%</td>
<td>36%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the quality of mental health care treatment services I receive. (of those with mental health diagnosis)</td>
<td>2%</td>
<td>43%</td>
<td>55%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the overall quality of substance abuse treatment services I receive. (of those with substance abuse diagnosis)</td>
<td>2%</td>
<td>45%</td>
<td>52%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with access to information on available services.</td>
<td>6%</td>
<td>56%</td>
<td>38%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 13. (Continued)

<table>
<thead>
<tr>
<th>SATIS item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with the explanations and guidance I have received from providers.</td>
<td>2%</td>
<td>50%</td>
<td>48%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the convenience of making appointments.</td>
<td>2%</td>
<td>54%</td>
<td>44%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with my ability to get the care I need.</td>
<td>6%</td>
<td>50%</td>
<td>44%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the collaborations between my providers.</td>
<td>2%</td>
<td>10%</td>
<td>58%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the competency of the health workers.</td>
<td>2%</td>
<td>46%</td>
<td>52%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the responsiveness of providers to my questions and requests.</td>
<td>48%</td>
<td>52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the availability services.</td>
<td>2%</td>
<td>50%</td>
<td>48%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. SATIS-IC = Satisfaction with HIV Treatment Interview Scale Integrated Care*

Service users expressed that the care and treatment they received from the CBO supported them in dealing with and managing their stress and depression. Several service users reported that they felt staff at the CBO genuinely cared about their health and well-being. For example, one of the service users mentioned that they felt more attention was given to their overall health and wellness as compared to other health settings where they have received services. Moreover, the focus at the CBO was not just on their T-Cell count or viral load. The respondent said, “*I like the fact that they go over all my health stuff, they ask me about my stress and how I am coping. It seems like they really care about me and what happens to me.*”
Conclusion

In this chapter, the study’s findings were presented. This chapter summarized data collected from the organization, surveys, and interviews, and the integration of data will be used as a foundation for the discussion chapter.
Chapter Five: Discussion

Introduction

This study was designed to describe the level of IC achieved and examined the experiences of staff and service users in a new IC setting serving persons living with HIV. These results illustrate one organization’s implementation of IC and provide an understanding of the factors associated with the level of integration achieved from the perspectives of staff and service users. Using the CFIR as a lens, the researcher collected survey and interview data from staff and service users. The organization for this case study, the CBO, was chosen because of its recent adoption of IC services to provide for the delivery and integration of HIV medical care, primary care, behavioral health, and social services. Gathering data from multiple sources from those directly involved in delivering and receiving IC services allowed for the synthesis of all data to provide a holistic understanding of IC services in a setting serving individuals living with HIV. This chapter includes a discussion of the key findings from this study and the importance of these results for public health research, practice, and policy.

Providing good quality IC services for people diagnosed with HIV requires the coordination and collaboration of multiple providers and involves shifting services to a more holistic approach. The CBO’s newly integrated community health centers aim to provide patient-centered holistic care by combining a variety of health and social services in one location. Findings from this study show that the CBO is functioning at a high level of integration, level four out of six, and the CBO has also adopted some system and provider functions associated with level five and six as described by SAMSHA’s SFLIH (Heath et al.,
The level of integration was distinguished by the reported organization processes, interdisciplinary activities, and provision of behavioral and physical health services in one setting. The presence of integration was further supported by survey and interview data. The CBO is moving toward a fully IC system but still faces some challenges to creating a fully integrated care system.

**Service Integration**

Stakeholder support, buy-in for IC, and staff involvement in the implementation process are essential components of successful implementation and often predict higher levels of integration (Blount, 2003; Blount et al., 2009; Chau et al., 2017). The data show that staff valued the integration of health services and were highly involved in the agency’s effort to provide IC. Service users also understood the concept of IC and valued these services, noting they felt more involved in the decision-making process about their care and felt supported by a team of providers. However, there is limited research on which interventions work well for providing integrated HIV and behavioral health services (Chuah et al., 2017). Additional research is needed to clearly define integration for this population and understand specific interdisciplinary and bundled interventions that work.

**Co-Location**

The co-location of physical and behavioral health services in a single site and provider “space” within an organization has advantages for implementing higher levels of IC. Co-localization has been found to increase communication and collaboration (Cameron et al., 2014; Collins, 2010; Heath et al., 2013; Miller et al., 2011; Peek, 2009; Strosahl, 1998). Findings in this research suggest the co-location of providers and the physical proximity of provider offices made it convenient for staff to collaborate regarding shared service users. This result
suggestions that co-located service is beneficial to the workflow of the agency. This finding is similar to previous research that suggested that the colocation of services facilitates practice integration (Collins, 2010; Durfey et al., 2018). Planned and unplanned staff meetings (e.g., chance meetings in hallways), increased communication, shared decision-making, and the ability for staff to follow-up with in-house referrals. Study findings also suggest that service users valued the ease and convenience of accessing services in this organization compared to the fragmented care they previously experienced. These findings suggest that the co-location and integration of services have the potential to increase access to both physical and behavioral health services for the people diagnosed with HIV.

Leadership

Previous research has shown that leadership is an essential component to providing collaborative care and achieving higher levels of service integration (Armitage et al., 2009; Sutter et al., 2009; Struckmann et al., 2017). Study findings revealed that the CBO staff felt supported by leaders in their efforts to transform services, and staff also felt involved in the implementation process. Similarly, service users perceived health services to be highly integrated even though they had a limited understanding of the specific clinical activities needed to coordinate services behind the scenes. They felt their health care was coordinated across departments and that they are a part of the clinical team, specifically when making decisions about their health care treatment.

Collaboration

Data from this study show that service users who were dually diagnosed with HIV and a behavioral health condition and receiving all their health and social services from the CBO were highly satisfied with the collaboration among their HIV care specialist, primary care, and
behavioral health providers. They felt that their service providers used one coordinated treatment plan to address all their health and social service needs. Collaboration at a fully IC setting requires the HIV specialist, primary care providers, BHSs, service users, and other public health allies to work as a team to develop the treatment plan and adjust that plan as the service users’ needs change. However, previous studies have shown that competing priorities among providers does occur, which reinforces the need for appropriate training and clear definition of roles (Bouis, Reif, Whetten, Scovil, Murray, & Swartz, 2007).

**Challenges**

The process of adopting and implementing integrated services is not without challenges. Previous results showed that there are system barriers to IC including logistics and transportation issues, poor coordination and service linkage, inadequate reimbursement, funding restrictions, and stigma (Burfeind et al., 2014; Gallant et al., 2011; Kathol et al., 2010; Kessler et al., 2014). Data for this study show that the most significant barriers to providing integrated services are the lack of a centralized electronic health record system and outside funding agencies data reporting requirements. The results indicated that the CBO overcame some of these barriers as they coordinate and provide transportation to and from appointments, provide increased linkage by using an in-house referral process, and address issues related to stigma. The CBO is also actively seeking additional funding to support the different services they provide, including Ryan White.

**Training and Education**

Additional staff education and training are needed to increase the knowledge and skills necessary to provide IC and work in interdisciplinary teams. Providers and organizations who provide integrated health services need training to develop team-based interdisciplinary and
specialty-specific competencies. Education and training are needed for both clinical and non-clinical staff including case manager, HIV medical specialists, primary care providers, nurse practitioners, BHSs, psychiatrists, clinical pharmacists, and allied public health professionals who want to work in an IC setting serving persons living with HIV. Most staff and providers have been trained in discipline-specific silos, starting at the academic level, and throughout their professional careers; they rarely interact with others in different disciplines. The education and training silos limit their understanding and ability to work effectively in interdisciplinary teams. For example, evidence shows that HIV specialists and primary care providers have limited training in psychiatric disorders and BHSs lack training in physical health needs (Sanchez et al., 2010). Training to work in an IC setting with interdisciplinary teams is essential to increase integration of service (Blount, 2009; Hoge et al., 2014; Peek, 2013; Pomerantz et al., 2009).

It is important to note that the two counties, where the CBO is centrally located, are among the 48 counties in the nation that account for more than 50% of new HIV diagnoses. These counties are the target for the Trump Administration’s recently revealed plan to eliminate the transmission of HIV in the US by 2030 (CDC, 2018; HIV.gov, 2019). The Trump Administration’s plan aims to reduce new HIV infections by 75% over five years and to end the HIV epidemic in America by 2030 by targeting specific counties in the US that have the highest rate of new HIV infections (Azar, 2019). As of March 2019, there were approximately 13,500 people diagnosed with HIV or AIDS in the CBO’s immediate service area (Florida Department of Health, 2019). This population can benefit from the integrated services the CBO offers.

The results of this study found that the CBO was successful in implementing key factors associated with higher levels of IC but still faced challenges related to interdisciplinary education and training as well as responding to requirements of grantors and other funding agencies. These
findings may be transferable to other HIV community-based service organizations that provide health and social services to people diagnosed with HIV.

**Study Strengths and Limitations**

This case study had several strengths and limitations. A strength of this research is that the data were collected from multiple sources to provide a more holistic view of implementing IC in a CBO. However, this study was exploratory and based in one organization. Therefore, the generalization of findings to other settings or populations is limited. Low response rates between staff types as well as lack of medical provider participation in interviews may have affected the findings of this study. Also, this study did not interview service users who were not engaged in care; thus, their perspectives are unknown. Despite the limitations in generalizability, the findings in this study provide relevant information for other CBOs serving individuals living with HIV who are striving to integrate their services.

Threats to the validity and reliability of the survey instruments are possible. Response bias may occur when respondents do not understand the survey questions or when they provide a socially desirable response, even when the survey is anonymous (Rosenman, Tennekoon, & Hill, 2011). Socially desirable responses occur when the respondent does not want to present themselves in a negative light. Thus, respondents may tend to respond positively. There was also the possibility of participation bias, as those who chose to participate may have different views about IC when compared to those who chose not to participate. The survey responses were self-reported, categorical, and subjective, and thus, can be expected to vary in meaning across providers and service users. Also, some participants may not have been honest or forthcoming with their survey responses or opinions about IC. To reduce self-report bias, the
researcher sought to preserve participants' anonymity and confidentiality throughout the research process.

The decision to adopt and use modified versions of LIM and SATIS instruments may have resulted in a different interpretation of the data, which is why an inductive approach to the qualitative data analysis was also used. During this study, there may have been several federal and state level changes in the health care system and insurance programs that could have affected how the staff and service user participants viewed and experienced the delivery and receipt of health services. In this study, the health or quality of life outcomes or the effectiveness of the services provided were not examined. Those in the field of public health research should aim to examine health outcomes in an IC setting serving the health needs of people living with HIV.

Lastly, although results of this study are not generalizable to other clinics or other service user populations, the knowledge gained from this research will potentially aid in developing strategies and training for other organizations and health care professionals striving to move to a fully integrated health care setting. One of the reasons the CFIR was chosen for this study was because of its application to broad system changes and to provide first and second level codes to describe and organize the data. Using template analysis with the CFIR in this study highlights its usefulness in studying broad system transformation. However, in keeping with previous research, the results of the current study suggest that while using the CFIR domains and constructs deductively, it may also be necessary to allow for inductive coding to make sure nothing is missed (Hill et al., 2018; Kirk et al., 2016).
Implications and Future Research

Findings from the research have implications for research, practice, and policy, and are described in the next section. It is important to note that implications may vary depending on geographic location of the community based organization and the populations they serve.

Implications for Research

While the advantages of IC for people with co- and multi-morbid physical and behavioral health conditions have been documented, there is a need to understand further the factors that facilitate or impede the implementation of higher levels of IC in real-world settings (Brawer, Martielli, Pye, Manwaring, & Tierney, 2010). IC presents an opportunity to collect and share information from different service areas and disciplines which could provide a holistic understanding and identification of service users’ needs across health care sectors. Research is needed to understand the effects different levels of IC may have on service users’ health outcomes, quality of life indicators, and satisfaction with services.

Historically, researchers have examined individual interventions and their impact on health outcomes. However, IC provides the opportunity for researchers to develop and examine the integration of behavioral and biomedical interventions and determine which factors are essential for successful health outcomes in such settings.

Questions for future studies include: Does IC create added responsibilities and overburden organizations and staff? Does IC create larger caseloads? How does integration affect the quality of services, and can we compare the delivery of services between high and low integrated settings? How can we best combine biomedical, behavioral health, and social service interventions into “bundled” services for various populations?
Implications for Practice

Given the high prevalence of co-morbid behavioral and physical health conditions in the population of people living with HIV and their need for basic social services, it is essential that people living with HIV receive patient-centered holistic health care services in a fully IC setting delivered by interdisciplinary teams of health care professionals. The findings presented in this study reveal that IC can be accepted by the staff and service users. However, these staff need additional training to improve collaboration and skills in working with interdisciplinary teams, including how to identify and address behavioral health conditions in an HIV clinic setting. Furthermore, effort is needed to build the HIV workforce as the US is currently facing a provider shortage, which is expected to increase as the demand for HIV and primary health care services continues to increase because people living with HIV are living longer. According to a report by the American Academy of HIV Medicine (Gatty, 2016), 30% of experienced HIV specialists will retire by 2020, and there are higher turnover rates projected for Ryan White HIV/AIDS program funded facilities compared to other health practices.

Providing IC also serves as the foundation necessary to deliver evidence-based biomedical and behavioral intervention as well as the bundling of services and funding structures (Hardin, Klian, & Murphy, 2017). The synergistic combination of providing interdisciplinary physical and behavioral health interventions as well as social services to people living with HIV may result in better health outcomes and ultimately reduce the transmission of HIV. More research is needed to understand the bundling of evidence-based interventions in IC settings and how this may affect health outcomes and costs. Organizations striving to become a fully IC setting should consider adding the additional social services for this population, including dental care, vision care, a food pantry, and housing assistance. Organizations can also develop these
services by partnering with other local service agencies in the service users’ geographical location.

Implications for Policy

Current health systems are designed to address episodic acute health care needs but fail to address health prevention and intervention needs for chronic physical and mental health disorders. We have seen several recent initiatives pass that are aimed at supporting the integration of physical and behavioral health services, including provisions in the ACA which provide an opportunity to merge not only physical and behavioral health but also social services. The ACA includes insurance reform, coverage expansion, delivery system redesign, and payment reforms. However, more is needed to provide a solid foundation that supports reimbursements for collaborative care efforts. For example, payment reforms, quality measures, and practice guidelines need to include behavioral health screening, similar to screenings for other common health conditions such as blood pressure, vision, and hearing.

To break down the silos of health care and enhance service delivery, improve health outcomes, and control costs new partnerships are need to bridge the gap between health care delivery and reimbursement structures. One of the goals of National HIV/AIDS strategies is to work toward achieving a more coordinated national response to the HIV epidemic by increasing coordination of programs across the federal government and between agencies, states, and local government and focusing on creating IC plans for people diagnosed with HIV (White House Office of National AIDS Policy, 2015). All health insurers for people living with HIV, including Medicaid, Medicare, Ryan White, and even private insurance should cover the integration of behavioral health billing codes, as well as reimbursement codes related to prevention, early intervention, treatment, and health management.
The findings from this study document the implementation of IC within one organization serving persons living with HIV, and highlight the need for improvements in interdisciplinary education and training programs for health professionals working in an IC setting. Policymakers may need to create additional legislation to increase Ryan White funding, Medicaid and Medicare policies to support the development of IC models and interdisciplinary training.

**Conclusion**

This study set out to describe the level of integrated care in a CBO that provides health and social services for people living with HIV in this geographical area. Findings indicate the organization was functioning at a level four out of six. The organization’s goal is to increase integration by providing service users with patient-centered holistic care from a team of interdisciplinary providers and a host of in-house services. Interdisciplinary teams comprised of varying professionals including an HIV medical specialist, pharmacists, primary care providers, case managers, BHSs, and health educators. In-house services included a pharmacy, education and support groups, and transportation services. The key inner setting factors that facilitated the level four integration included structural characteristics, networks and communication among staff and with service users, organization vision, and leadership involvement and support. Other facilitators included routine screening for behavioral health and social service needs as well as face-to-face meetings among providers as scheduled and by chance. Barriers to providing higher levels of integration included the lack of a centralized EHR system, and a lack of interdisciplinary education and staff training. Findings suggest that IC services at the CBO are valued and well accepted, and with continued leadership and support, higher levels of IC may be possible.
The second aim of the study was to identify and document the perceptions of key stakeholders, specifically staff and service users. Staff and service users perceived physical and behavioral health services to be highly integrated and service users noted that they felt part of the clinical team when making decisions about care and treatment. Service users were also highly satisfied with the care and treatment that received at the CBO and had specific suggestions to improve services. Those suggestions included additional services that could help them maintain their health and wellness. Those services included food assistance, dental and vision care, which are currently lacking in the local area for this population.

The final and third aim was to describe the implementation of IC using the CFIR as a lens to organize and report the findings. The use of the CFIR to inform this research and to organize findings helped to further the understanding of factors facilitating and impeding implementation of IC in this setting. Inner setting organization process and supports were found to facilitate IC, while policies outside the organization were found to challenge and impede the CBO’s efforts to achieve full integration. Similar settings could benefit from an ongoing evaluation of processes aimed at achieving higher levels of integration.

The methods used in this study focused on giving voice to staff and service users as they experienced delivering and receiving health and social services, respectively, in the CBO setting. Thus, the findings in this study contribute to science by documenting staff and service users’ perspectives and experience in the health care system and providing an in-depth understanding of implementing IC in a real-world setting serving persons living with HIV. While organizations serving the health and social service needs of people living with HIV are faced with challenges to implementing IC services, the organization included in this research has successfully overcome some of the barriers to the adoption of an IC model and is moving toward a higher
level of service integration. This study emphasizes the need for continued work in understanding the delivery of interdisciplinary IC services. Future research is needed to understand the level of IC in which organizations function and how that level impacts health and wellness for people living with HIV.
References


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Hughes, E., Bassi, S., Gilbody, S., Bland, M., & Martin, F. (2016). Prevalence of HIV, hepatitis B, and hepatitis C in people with severe mental illness: a systematic review and meta-


mental illness. Administration and Policy in Mental Health and Mental Health Services Research, 39(6), 448-457. doi:10.1007/s10488-011-0365-9


## Appendix A: CFIR Domains and Constructs

<table>
<thead>
<tr>
<th>Domain</th>
<th>Construct</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Source</td>
<td>Stakeholder perception of whether the development of IC (externally or internally)</td>
<td>Stakeholders’ perceptions of the quality and validity of evidence supporting the belief that the IC will have desired outcomes.</td>
</tr>
<tr>
<td>Evidence</td>
<td>Clear advantage of IC in either effectiveness or cost for the providers and service users</td>
<td>The degree to which IC can be adapted, tailored, refined, or reinvented to meet the needs of the clinic, service user, and the community.</td>
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<tr>
<td>Relative advantage</td>
<td>Ability to experiment with IC.</td>
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<tr>
<td>Adaptability</td>
<td>Degree of difficulty to understand and delivery IC services.</td>
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<tr>
<td>Trialability</td>
<td>Visibility of results or benefits IC.</td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td>Service User Needs and Resources</td>
<td>The extent to which patient needs (e.g., transportation, food), as well as barriers and facilitators to meet those needs are accurately known and prioritized by the organization.</td>
</tr>
<tr>
<td>Observability</td>
<td>Cosmopolitanism</td>
<td>And organization that is externally well networked with other groups and organizations.</td>
</tr>
<tr>
<td>Outer Context</td>
<td>Peer pressure</td>
<td>Mimetic or competitive pressure to implement IC.</td>
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<tr>
<td></td>
<td>External Policy &amp; Incentives</td>
<td>A broad construct includes external strategies, policy, and regulations, mandates, recommendations and guidelines, pay-for-performance, collaborative, and public or benchmark reporting.</td>
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<tr>
<td></td>
<td>Structural Characteristics</td>
<td>Social architecture</td>
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<td></td>
<td>Communication</td>
<td>Age and maturity of the organization</td>
</tr>
<tr>
<td></td>
<td>Culture</td>
<td>The nature and quality of webs of social networks and the nature and quality of formal and informal communications within the organization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norms, values, and basic assumptions of a given organization</td>
</tr>
<tr>
<td>Domain</td>
<td>Construct</td>
<td>Definition</td>
</tr>
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<td>--------------------------------</td>
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<tr>
<td>Tension for Change</td>
<td>The degree to which stakeholders perceive the current situation as intolerable or needing change.</td>
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<tr>
<td></td>
<td>The degree of tangible fit between meaning and values attached to IC by involved individuals, how those align with individuals’ own norms, values, and perceived risks and needs, and how IC fits with existing workflows and systems.</td>
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<tr>
<td>Compatibility</td>
<td>Individuals’ shared perception of the importance of the implementation within the organization.</td>
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<tr>
<td>Relative Priority</td>
<td>Extrinsic incentives such as goal-sharing awards, performance reviews, promotions, and raises in salary, and less tangible incentives such as increased stature or respect.</td>
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<tr>
<td>Organizational Incentives and Rewards</td>
<td>The degree to which goals are communicated, acted upon, and fed back to staff, and alignment of that feedback with goals.</td>
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<tr>
<td>Goals and Feedback</td>
<td>A climate in which: a) leaders express their own fallibility and need for team members’ assistance and input; b) team members feel that they are essential, valued, and knowledgeable partners in the change process; c) individuals feel psychologically safe to try new methods; and d) there is sufficient time and space for reflective thinking and evaluation.</td>
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<tr>
<td>Learning Climate</td>
<td>Commitment, involvement, and accountability of leaders and managers with the implementation.</td>
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<tr>
<td>Leadership Engagement</td>
<td>The level of resources dedicated for implementation and on-going operations, including money, training, education, physical space, and time.</td>
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<tr>
<td>Available resources</td>
<td>Ease of access to digestible information and knowledge about IC and how to incorporate it into work tasks.</td>
<td></td>
</tr>
<tr>
<td>Access to knowledge and information</td>
<td>Individuals’ attitudes toward and value placed on IC as well as familiarity with facts, truths, and principles related to IC.</td>
<td></td>
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<tr>
<td>Characteristics of the Individual</td>
<td>Knowledge and beliefs about the intervention</td>
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</table>

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<table>
<thead>
<tr>
<th>Domain</th>
<th>Construct</th>
<th>Definition</th>
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<tbody>
<tr>
<td></td>
<td>Self-efficacy</td>
<td>Individual belief in their own capabilities to execute courses of action to achieve implementation goals.</td>
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<td></td>
<td>Individual Stage of Change</td>
<td>Characterization of the phase an individual is in, as he or she progresses toward skilled, enthusiastic, and sustained use of IC.</td>
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<td></td>
<td>Individual identification with organization</td>
<td>A broad construct related to how individuals perceive the organization, and their relationship and degree of commitment with that organization.</td>
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<td></td>
<td>Other personal attributes</td>
<td>Broad construct to include other personal traits such as tolerance of ambiguity, intellectual ability, motivation, values, competence, capacity, and learning style.</td>
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<tr>
<td></td>
<td>Process</td>
<td>Adaptive/flexible structures and processes that support decision making, facilitate implementation, and routinization of an innovation. Includes task issues related to delivering IC</td>
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<tr>
<td></td>
<td>Planning</td>
<td>Individuals in an organization who have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing IC.</td>
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<tr>
<td></td>
<td>Opinion Leaders</td>
<td>Individuals from within the organization who have been formally appointed with responsibility for implementing an intervention as coordinator, project manager, team leader, or other similar roles.</td>
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<tr>
<td></td>
<td>Formally Appointed Internal Implementation Leaders</td>
<td>Individuals who dedicate themselves to supporting, marketing, and ‘driving through’ an implementation, overcoming indifference or resistance that IC may provoke in an organization.</td>
</tr>
<tr>
<td></td>
<td>Engaging</td>
<td>Individuals who are affiliated with an outside entity who formally influence or facilitate intervention decisions in a desirable direction.</td>
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<td></td>
<td>Executing</td>
<td>Carrying out or accomplishing the implementation according to plan.</td>
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<tr>
<td></td>
<td>Reflecting and Evaluating</td>
<td>Quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience.</td>
</tr>
</tbody>
</table>

CFIR = Consolidated Framework for Implementation Research

Note: Adapted from Damschroder et al. (2009).
January 22, 2018

Vickie Lynn
Community and Family Health Tampa,
FL  33612

RE:  Expedited Approval for Initial Review
IRB#: Pro00032929
Title: Understanding the Implementation of Integrated Care for People Living with HIV

Study Approval Period: 1/22/2018 to 1/22/2019

Dear Ms. Lynn:

On 1/22/2018, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below.

Approved Item(s):
Protocol Document(s):
Research Protocols Integrated Care v.1_01.08.2018.docx

Consent/Assent Document(s)*:
PaperPh1_Interview Ph2 Patient Version 1_01.09.2018.docx.pdf
Online Ph1_Interview Ph2 Staff Version 1_01.08.2018.docx
OnlinePh1_Interview Ph2 Patient Version 1_01.09.2018.docx
*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved. Online forms are not stamped. 

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110. The research proposed in this study is categorized under the following expedited review category:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your study qualifies for a waiver of the requirements for the documentation of informed consent as outlined in the federal regulations at 45CFR46.117(c) which states that an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either: (1) That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern; or (2) That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context. (online forms)

Your study qualifies for a waiver of the requirement for signed authorization as outlined in the HIPAA Privacy Rule regulations at 45CFR164.512(i) which states that an IRB may approve a waiver or alteration of the authorization requirement provided that the following criteria are met (1) the PHI use or disclosure involves no more than a minimal risk to the privacy of individuals; (2) the research could not practicably be conducted without the requested waiver or alteration; and (3) the research could not practicably be conducted without access to and use of the PHI. An alteration of HIPAA Authorization is granted for participants who provide their consent and Authorization online, exempting the study team from the Privacy Rule's requirement that participants sign and date the Authorization.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment.
Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board
December 5, 2017

Research Integrity and Compliance
University of South Florida
12901 Bruce B. Downs Blvd., MDC 35
Tampa, FL 33612-4799

Re: Integrated Care Research – Vickie Lynn

Dear LSF Research Integrity and Compliance,

It is our understanding that Vickie Lynn will be conducting research on “Understanding Integrated Care for People Living with HIV.” We have been informed of the design of her research, have reviewed the research protocols, and understand data collection will begin shortly after LSF IRB approval and continue through the end of 2018. Ms. Lynn will conduct a document review to answer organizational level questions, conduct a survey targeting HIV clinic staff and patients and follow-up interviews with HIV clinic staff and patients to understand factors affecting the delivery of integrated care health services. We are aware that Vickie will have a locked box in our waiting area where potential survey participants can leave their surveys and Vickie will pick up the completed surveys on a weekly basis.

We support this efort and will provide any assistance necessary for the successful implementation of this research project. If you have any questions, please do not
Appendix D: Integrated Practice Assessment Tool (IPAT) Copyright Permission

Vickie:

We are delighted that you wish to use the IPAT in your research study. We created the IPAT with the express purpose of putting it in the public domain for everyone to use so you do not need permission to use the instrument as designed and constructed – and you certainly have our blessings to do so.

As such, we would expect attribution as standard professional practice. Also as a professional standard we would not want anyone claiming authorship and securing payment for its use – neither of which you intend.

There is no requirement for a copy of your completed research, but as a matter of our own professional interest we would appreciate it if you would provide us a copy of your findings on completion of the study.

On behalf of my colleagues, I thank you for your professional diligence and we wish you the very best in your research.

Bern

Bern Heath, Jr., Ph.D.
CEO, Axis Health System
Corporate Offices
185 Suttle St.
Durango, CO  81303
(970) 335-2200 (direct)
(970) 749-8455 (cell)

Success is not permanent, failure is not fatal: It is the courage to continue that counts - Winston Churchill

CONFIDENTIALITY NOTICE: Privileged and/or confidential information may be contained in this message. If you are not the intended recipient of this electronic message, you are hereby notified that any disclosure, copying, distribution, or action taken in reliance on the contents of this document is strictly prohibited. If you receive this information in error, please notify the sender immediately and arrange for the destruction of this document.
Appendix E: Organizational Questions

The following questions are designed to give us a better understanding of the community-based organization’s services and the population they serve.

1. What is the total number of individuals seen in the HIV clinic in the past 12 months? ______

2. What is the agency “viral load” (viral load for all patients seen at the clinic)?

3. What is the total number of individuals seen by case management in the past 12 months? ______

4. What is the total number of individuals seen for counseling services in the past 12 months? ______
   a. Specify
      i. Substance abuse services ______
      ii. Mental Health Counseling ______

5. What percentage of your client population is dual diagnosed (HIV and a mental health or substance abuse condition)?

6. What percentage of your client population is triply-diagnosed? (HIV, mental health, and substance abuse condition)?

7. What are the top three co-occurring physical health diagnoses (besides HIV) for individuals seen at the community-based organization’s HIV clinics (e.g. asthma, diabetes, cardiovascular disease, etc)?
   a.
   b.
   c.

8. What are the top 3 co-occurring behavioral health diagnoses for individuals seen at the community-based organization’s HIV clinics (e.g. substance abuse, depression, anxiety)?
   a.
   b.
   c.
Appendix E: Organizational Questions (Continued)

9. Does the HIV clinic use interdisciplinary team-based care?
   a. If so, what disciplines are included? (e.g. HIV specialist, Mental health care specialist, pharmacist, case manager).

10. Does the HIV clinic use Electronic Health Records (EHRs)? (yes or no)
    a. If yes, are medical providers and behavioral health clinicians able to see each other’s patient encounter notes in the electronic health record?
    b. If no, does your agency plan on using them in the future?
       i. If yes, do you know when?
       ii. If no, why not __________________________

11. How often are patients screened for emotional/behavioral health needs (e.g., stress, depression, anxiety)?
    a. Are not done
    b. Are occasionally done
    c. Are sometimes done (i.e., if the patient has reported symptoms)
    d. Are done often (i.e., patients receive a screening at their annual physical appointments)
    e. Are always done (i.e., patients receive a brief screening as part of every routine visit)
    f. I don’t know

12. How often are patients screened for substance use/abuse?
    a. Are not done
    b. Are occasionally done
    c. Are sometimes done (i.e., if the patient has reported symptoms)
    d. Are done often (i.e., patients receive a screening at their annual physical appointments)
    e. Are always done (i.e., patients receive a brief screening as part of every routine visit)
    f. I don’t know

13. What screening tools are used with patients? (e.g. Patient Health Questionnaire (PHQ-9); Health-related Quality of Life (HRQOL))
    a. Please list:

14. Does the community-based organization have a patient registry? (A registry provides a method to prevent patients from getting “lost to follow-up” and helps to notify the provider team of tasks that are needed for each patient). Yes or No

15. What is the approximate proportion of patients with the following insurance/payer types at your site(s)?

<table>
<thead>
<tr>
<th>Insurance/Payer Type</th>
<th>Less than 10%</th>
<th>10-25%</th>
<th>25-50%</th>
<th>50-75%</th>
<th>75-90%</th>
<th>More than 90%</th>
<th>I don’t know</th>
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<tbody>
<tr>
<td>Medicaid</td>
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<td>Medicare</td>
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<td>Dual Eligible</td>
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<tr>
<td>Private/Commercial Insurance</td>
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<tr>
<td>Uninsured</td>
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Appendix E: Organizational Questions (Continued)

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<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Is the community-based organization accredited by Joint Commission or NCQA recognition as a Patient Centered Medical Home?</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>If no to the above questions, does the community-based organization have plans to become accredited?</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Does your organization routinely capture Quality Improvement data related to chronic disease and health outcomes?</td>
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</table>

17. Does the community-based organization have work with other community agency to partner for patient care? If so, please list those partnerships and the nature of the partnerships? (e.g. Partnerships with local mental health agency (name agency) for patients with serious mental illness).
   a.  

18. Our clinic staff (e.g. physicians, behavioral health specialist, and staff) are educated and trained for integrated care service delivery.
   a. Does not occur
   b. Occurs on a limited basis
   c. Is provided for some team members
   d. Is supported and provided on a routine basis

19. Does the community-based organization have specific funding to provided integrated care services? If so, what sources of funding?
Appendix F: Email Invitation Staff

You are being invited to participate in a research study titled “Understanding the Implementation of Integrated Care for People Living with HIV” being conducted by Vickie Lynn, a doctoral candidate at University of South Florida in the College of Public Health, Department of Community and Family. The goal of this study is to learn more about the delivery of Integrated Care health services from the experiences of those involved in the delivery of that care. The Principal Investigator wants to learn more about factors associated with Integrated Care and how we can improve the delivery of health services for people living with HIV. We hope that this information will assist us to better understand the delivery of clinical services and operational practices for people living with HIV.

You qualify for this study if you:

- Are 18 years old or older;
- Work as a medical provider (e.g., physician, nurse practitioner, physician assistant), behavioral health provider (e.g., therapist, counselor, psychologist, psychiatrists, case manager), pharmacy provider (e.g., pharmacists, pharmacy technician) OR administrator (e.g., director, practice manager, CEO, billing and coding manager) at the community-based organization;
- Have been employed with the community-based organization for more than 6 months;

Please call me at *813-417-1522* if you have any questions.

Thank you!

Vickie Lynn, MSW, MPH
USF Doctoral Candidate
vlynn@health.usf.edu
*Personal information has been redacted*

The link below will be take you to a website supported by Qualtrics, where you can read more information about the research study and then decide whether or not you would like to participate. [Link to Survey]*
Appendix G: Staff Survey with Informed Consent – Qualtrics

Informed Consent

Informed Consent to Participate in Research
Information to Consider Before Taking Part in this Research Study
Pro #00032929

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study.

We are asking you to take part in a research study that is called:

Understanding the Implementation of Integrated Care for People Living with HIV

The person who is conducting this research study is Vickie Lynn. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge.

Purpose of the Study

The purpose of this study is to learn more about the delivery of Integrated Care health services from the experiences of those involved in the delivery of that care. The Principal Investigator wants to learn more about factors associated with Integrated Care and how we can improve the delivery of health services for people living with HIV.

Why are you being asked to take part?

We are asking you to take part in this research study because you work at a community-based organization that provides integrated Care services for people living with HIV.

Study Procedures

This study has 2 phases. Phase 1 is an online survey and phase 2 is an interview. If you take part in the first phase of this research study, you will be asked to complete a brief 15–20 minute online survey. Your answers are anonymous and confidential and will not be shared with your employer.

If you are interested in taking part in the second phase of this study, you can elect to do so by clicking “next” at the end of the survey. This will direct you to another webpage where you can provide your contact information. Your contact information will not be linked to your survey answers and only the Principal Investigator will have access to your information.

Phase 1

A random sample of those who expressed interest in participating in phase 2 will be selected. If you are selected for phase 2, you will be interviewed either in-person or by telephone (your choice) to help the researcher further understand the delivery of Integrated Care services for people living with HIV.

- A suitable time, date, and place will be set for your interview.
- The interview will take approximately 20–30 minutes of your time.
- You will be asked a few questions about yourself and your thoughts about Integrated Care services.
- The interview will be digitally-recorded and transcribed by the Principal Investigator for analysis.
- For phone interviews, the interviewer will sit in a private room and use the speaker phone and a digital recorder to capture the audio from the interview.
- For in-person interviews, the interview will be conducted in a private location and the Principal Investigator will use a digital recorder to capture the audio from the interview.
- To ensure confidentiality, information will be identifiable only by a participant number.
- Only the Principal Investigator and authorized research team members will have access to your study records.
- All study records, including the digital files and transcriptions, will be stored for at least five years. After five years, when the data are no longer being used, all files will be deleted, and any hard data will be shredded.
- Providing your contact information for phase 2 does not guarantee you will be interviewed. Participants for the interview process will be chosen randomly from the list of those willing to participate.
- If you are not interested in taking part in phase 2, you do not have to include your contact information. We may publish what we learn from this study and we may share your comments with Metro. If we do, we will not publish anything or share anything that would let people know who you are.
Appendix G: Staff Survey – Qualtrics (Continued)

Alternatives / Voluntary Participation / Withdrawal
You have the alternative to choose not to participate in this research study. You should only take part in this study if you want to volunteer; you are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your job status, employment record, employee evaluations, or advancement opportunities.

Benefits and Risks
This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. We are unsure if you will receive any benefits by taking part in this research study. You may indirectly benefit by providing information that may contribute to the better understanding of health service delivery for people living with HI. This research is considered to be minimal risk.

Compensation
We will not pay you for the time you. You are a volunteer while being in this study.

Privacy and Confidentiality
We must keep your study records as confidential as possible.
- It is possible, although unlikely, that unauthorized individuals could gain access to your online survey responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet. However, your participation in this online survey involves risks similar to a person’s everyday use of the Internet.
- If you complete and submit an anonymous survey and later request your data be withdrawn, this may or may not be possible as the researcher may be unable to extract anonymous data from the database.
- Interviews will be securely transcribed and analyzed by the Principal Investigator and research staff.
- The audio files, transcription, and survey data will be stored on a password-protected computer for at least five years. After at least five years, when the data are no longer being used, all files will be deleted, and any hard data will be shredded.
- We will do everything we can to keep others from learning about your participation in this study. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:
  - The research team, including the Principal Investigator, the Advising Professor, and all other research staff.
  - Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study the right way. They also need to make sure that we are protecting your rights and your safety. These include The University of South Florida Institutional Review Board (IRB) and the staff that work for the IRB. Other individuals who work for USF that provide other kinds of oversight may also need to look at your records.

Contact Information
If you have any questions about your rights as a research participant, please contact the USF IRB at (813) 974-5638 or contact by email at RSCH-IRB@usf.edu. If you have questions regarding the research, please contact the Principal Investigator at [redacted] or vlyn@health.usf.edu. You can print a copy of this consent form for your records.
I freely give my consent to take part in this study. I understand that by proceeding with this survey that I am agreeing to take part in research and am 18 years of age or older.

Eligibility Questions

Are you 18 years of age or older?

☐ Yes
☐ No
Appendix G: Staff Survey – Qualtrics (Continued)

Have you been employed at Metro 8 months or longer?
- Yes
- No

Do you work with people who are living with HIV?
- Yes
- No

Demographic Questions

What is your age?
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75 - 84
- 85 or older

What is your gender identity?
- Female
- Male
- Trans-male
- Trans-female
- other, please specify
- Prefer not to respond

Please specify your race.
- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other
- Prefer not to answer
Appendix G: Staff Survey – Qualtrics (Continued)

What is the highest degree or level of school you have completed? *If currently enrolled in school, highest degree received.*

- Less than high school
- High school graduate
- Some college
- 2-year degree
- 4-year degree
- Professional degree
- Doctorate
- Prefer not to answer

Agency Specific

Which county do you currently work at?

- Hillsborough
- Pinellas
- Pasco
- Prefer not to answer

What is your current position at the agency you work? (Check one)

- Medical Provider (NP, PA, MD, DO, etc.; primary role is providing clinical care to patients)
- Behavioral Health Clinician/Provider (e.g. LMHC, LCSW)
- Psychiatrist
- Behavioral Health Director/Integrated Care Director
- Medical Director/Chief Medical Officer
- Practice Manager
- Case Manager
- Administrator (please specify)
- Prefer not to answer

How long have you been working at this agency?

- 1-3 years
- 4-6 years
- 7-10 years
- Longer than 10 years
- Prefer not to answer
Appendix G: Staff Survey – Qualtrics (Continued)

When answering the following questions please keep in mind the definition of Integrated Care.

Integrated Care is the care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization.

Click on the choice that best reflects your level of agreement with the statement regarding the HIV clinic in which you work. Please do not leave the question blank. Thank you.

<table>
<thead>
<tr>
<th></th>
<th>Not Involved</th>
<th>Slightly Involved</th>
<th>Somewhat Involved</th>
<th>Very Involved</th>
<th>Extremely Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>How involved are you in the efforts of your agency to integrate HIV medical care services and mental health services?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>How involved are you in the efforts of your agency to integrate HIV medical care services and substance abuse services?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

LIM

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

A Behavioral Health Specialist (BHS) is a Licensed Mental Health Counselor (LMHC), Licensed Clinical Social Worker (L.CSW), Psychologist, or Psychiatrist.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The HIV clinic has a sufficient number of Behavioral Health Specialists on site.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The Behavioral Health Specialists are integrated into the work-flow of the HIV clinic.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The Behavioral Health Specialists share access to the electronic medical record (EMR)/patient chart with the HIV Medical Specialists.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>HIV Clinic treatment plans reflect an integrated approach to patients' behavioral and physical health needs.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The HIV clinic scheduling system allows patients to be scheduled for same day appointments with the Behavioral Health Specialists.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Integrated care in this HIV clinic is supported by a viable financial system.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The HIV clinic systematically triage the behavioral health needs of its patients.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The HIV clinic systematically detects and serves the behavioral health needs of patients.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The HIV clinic systematically tracks the progress of behavioral health treatment.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The Behavioral Health Specialist and HIV Medical Specialist are treated as equals within the clinic.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix G: Staff Survey – Qualtrics (Continued)

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The HIV clinic is committed to integrated care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated care is a superior form of patient care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrating care ensures that patients receive appropriate care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated care is a worthwhile investment of clinic time, energy, and resources.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivering integrated care is a priority in our HIV clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

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<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>In our HIV clinic, HIV Medical Specialists and Behavioral Health Specialist regularly review each other’s notes in patient chart or the Electronic Medical Records</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>HIV Medical Specialists and Behavioral Health Specialists do “warm hand-offs” according to patient needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Medical Specialists and Behavioral Health Specialists regularly consult about patient care in our clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Medical Specialists and Behavioral Health Specialists regularly consult about patient care in our clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Behavioral Health Specialists take part in HIV clinic meetings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Behavioral Health Specialists are readily available to see patients and consult with HIV Medical Specialists in the HIV clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Medical Specialists and Behavioral Health Specialists collaborate in making decisions about mutual patients in the HIV clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
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<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Health Specialists and HIV Medical Specialist approach patient care with a sense of partnership and shared decision-making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Medical Specialists are ultimately responsible for all patient behavioral health care in our clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Behavioral Health Specialist and HIV Medical Specialist have equal authority in determining patient care for mutual patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

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<tr>
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<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The HIV Medical Specialists and BHSs have regular, positive interactions in our HIV clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G: Staff Survey – Qualtrics (Continued)

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Behavioral Health Specialists and HIV Medical Specialists trust each other.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Behavioral Health Specialists and HIV Medical Specialists respect each other.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Behavioral Health Specialists and HIV Medical Specialists work comfortably together.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DHI5s and HIV Medical Specialist provide training for each other and the rest of the HIV clinic staff.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DHI5s and HIV Medical Specialist attend training together.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DHI5s and HIV Medical Specialist learn from each other.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All HIV clinic staff receives integrated care training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each item below click on the choice that reflects your level of agreement with each item regarding the HIV clinic in which you work. Please do not leave any question blank and mark only one response to each question. Thank you.

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<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organization has at least one integrated care “champion.”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The HIV clinic administrator(s) value integrated care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The HIV clinic administrator(s) “go to bail” for integrated care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organization is committed to the process of delivering integrated care health services.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership is committed to integrated care.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Block 5

Do you have any comments about Integrated Care health services?

Do you have any suggestions for improvement of Integrated Care health services?
Appendix H: Service User Recruitment Flyer

Research Participants Needed

The researcher is interested in understanding more about Integrated Care Health Services for People Living with HIV

If you meet these criteria:
- 18 years or older
- Diagnosed with HIV
- A patient at [redacted] who has had 2 clinical visits in the past year

What: A 15-20 minute web-based or paper survey and if interested, a follow up interview (20-30 minutes)

You should know:
- All results are confidential
- There is no compensation for the survey
- But participants can receive a $20 Walmart gift card if selected for a follow up interview.

How to participate:
- Log on to https://usfhealth.e11.qualtrics.com/jfe/form/SV_dnj2Eu2TvbkrSt to complete the survey. You can also scan the QR Code below.
- Complete the paper survey seal the survey in the provided envelope, and place in the locked box in the reception area. Only the Principal Investigator, Vickie Lynn, has a key to the box.

If you have any questions contact:
Vickie Lynn, MPH, MSW, Principal Investigator
or email vlynn@health.usf.edu
University of South Florida, College of Public Health,
Department of Community and Family Health
Protocol #00032929

March 18, 2018 Version 2
Appendix I: Service User Survey with Informed Consent - Qualtrics

Informed Consent

Informed Consent to Participate in Research and Authorization to Collect, Use and Share Your Health Information
Information to Consider Before Taking Part in this Research Study

Pre # 00052020

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study. We are asking you to take part in a research study that is called “Understanding the Implementation of Integrated Care for People Living with HIV”. The person in charge of this research study is Vickie Lynn. This person is called the Principal Investigator.

Purpose of the Study
The purpose of this study is to find out more information about Integrated Care from the experiences of those delivering and receiving that care. The Principal Investigator wants to learn more about how we can improve the delivery of health services for people living with HIV.

Why are you being asked to take part?
We are asking you to take part in this research study because you are a client at Metro who is receiving health services.

Study Procedures
This study has 2 phases. Phase 1 is a survey and phase 2 is an interview.

If you take part in the first phase of this research study, you will be asked to complete a brief 20 minute survey. Your answers to the online survey will be stored electronically. Your answers are anonymous and confidential and will not be shared with your employer.

If you are interested in taking part in the second phase of this study, you can elect to do so by clicking “next” at the end of the survey. This will direct you to another webpage where you can provide your contact information. Your contact information will not be linked to your survey answers and only the Principal Investigator will have access to your information.

Phase 2
A random sample of those who expressed interest in participating in phase 2 will be selected. If you are selected for phase 2, you will be interviewed either in-person or by telephone (your choice) to help the researcher further understand your perception and experience getting health and social services in a clinic that offers Integrated Care services for people living with HIV.

- A suitable time, date and place will be set for your interview.
- The interview will take approximately 60 minutes of your time.
- You will be asked to answer a few questions about yourself and your thoughts about Integrated Care services.
- The interview will be digitally recorded and transcribed by the Principal Investigator for analysis.
- For phone interviews, the interviewer will sit in a private room and use the speakerphone and a digital recorder to capture the audio from the interview.
- For in-person interviews, the interview will be conducted in a private location and the Principal Investigator will use a digital recorder to capture the audio from the interview.
- To ensure confidentiality, information will be identifiable only by a participant number.
- Only the Principal Investigator and authorized research team members will have access to your study records.
- All study records, including the digital files and transcriptions, will be stored for at least five years. After five years, when the data are no longer being used, all files will be deleted, and any hard data will be shredded.
- Providing your contact information for phase 2 does not guarantee you will be interviewed. Participants for the interview process will be chosen randomly from the list of those willing to participate.
- If you are not interested in taking part in phase 2, you do not have to include your contact information.

Alternatives / Voluntary Participation / Withdrawal
You have the alternative to choose not to participate in this research study.

We may publish what we learn from this study and we may share your comments with Metro. If we do, we will not publish anything or share anything that would let people know who you are.
Appendix I: Service User Survey - Qualtrics (Continued)

You should only take part in this study if you want to volunteer; you are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect the services you receive at Metro.

Benefits and Risks
We are unsure if you will receive any benefits by taking part in this research study. You may indirectly benefit by providing information that may contribute to the better understanding of health service delivery. This research is considered to be minimal risk.

Compensation
Survey: There is no compensation for participating in the survey.
Interview: If you are selected, you will be paid a $20 Walmart gift card for your participation in the interview.

Privacy and Confidentiality
We must keep your study records as confidential as possible.

• It is possible, although unlikely, that unauthorized individuals could gain access to your online survey responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet. However, your participation in this online survey involves risks, as does a person’s everyday use of the Internet. If you complete and submit an anonymous survey and later request your data be withdrawn, this may or may not be possible as the researcher may be unable to extract anonymous data from the database.

Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

• The research team, including the Principal Investigator, the Advising Professor, and all other research staff.
• Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety. These include The University of South Florida Institutional Review Board (IRB) and the staff that work for the IRB.
• Other individuals who work for USF that provide other kinds of oversight may also need to look at your records.

Contact Information
If you have any questions about your rights as a research participant, please contact the USF IRB at (813) 974-5638 or contact by email at RSCH-IRB@usf.edu. If you have questions regarding the research, please contact the Principal Investigator at <removed> or tvrn@health.usf.edu.

Authorization to Use and Disclose Protected Health Information (HIPAA Language)

The federal privacy regulations of the Health Insurance Portability & Accountability Act (HIPAA) protect your identifiable health information. By signing this form, you are permitting the University of South Florida to use your health information for research purposes. You are also allowing us to share your health information with individuals or organizations other than USF who are also involved in the research and listed below.

The following groups of people may also be able to see your health information and may use that information to conduct this research:
• Those who are part of this research study.
• Each research site for this study including the University of South Florida College of Public Health and Metro.
• The USF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance and the USF Health Office of Clinical Research.
• Data Safety Monitoring Board or others who monitor the data and safety of the study.

Anyone listed above may use consultants in this research and may share your information with them. If you have questions about who they are, you should ask the study team. Individuals who receive your health information for this research study may not be required by the HIPAA Privacy Rule to protect it and may share your information with others without your permission. They can only do so if permitted by law. If your information is shared, it may no longer be protected by the HIPAA Privacy Rule.
Appendix I: Service User Survey – Qualtrics (Continued)

By agreeing to participate, you are giving your permission to use and/or share your health information as described in this document. As part of this research, USF may collect, use, and share the following information:

- Your research records
- All of your past, current or future medical and other health records held by USF, other health care providers or any other site affiliated with this study as they relate to this research project. This includes, but is not limited to records related to HIV/AIDS, mental health, substance abuse, and/or genetic information.

You can refuse to participate. If you do not agree you will not be able to take part in this research study. However, your care outside of this study and benefits will not change. Your authorization to use your health information will not expire unless you revoke (withdraw) it in writing. You can revoke this form at any time by sending a letter clearly stating that you wish to withdraw your authorization to use your health information in the research. If you revoke your permission:

- You will no longer be a participant in this research study;
- We will stop collecting new information about you;
- We will use the information collected prior to the revocation of your authorization. This information may already have been used or shared with others, or we may need it to complete and protect the validity of the research; and
- Staff may need to follow-up with you if there is a medical reason to do so.

To revoke this form, please write to:
Principal Investigator
For IRB Study # 00032929
1201 Bruce B. Downs Blvd., MDC0056
Tampa, FL 33612-3805

While we are conducting the research study, we cannot let you see or copy the research information we have about you. After the research is completed, you have a right to see the information about you, as allowed by USF policies. You can print a copy of this form for your records.

I freely give my consent to take part in this study. I understand that by proceeding with this survey that I am agreeing to take part in research, and I am 18 years of age or older.

☐ I understand that by proceeding with this survey that I am agreeing to take part in research, and I am 18 years of age or older.
☐ I do not consent, I do not wish to participate

Are you 18 years of age or older?
☐ Yes
☐ No

Are you diagnosed with HIV?
☐ Yes
☐ No

Are you a patient or client at [ ] for longer than 6 months?
☐ Yes
☐ No

What is your age?
☐ 18 - 24
☐ 25 - 34
☐ 35 - 44
☐ 45 - 54
Appendix I: Service User Survey – Qualtrics (Continued)

Age:
- □ 55 - 64
- □ 65 - 74
- □ 75 - 84
- □ 85 or older
- □ Prefer not to respond

What is your gender identity?
- □ Female
- □ Male
- □ Trans-male
- □ Trans-female
- □ other, please specify
- □ Prefer not to respond

Please specify your race.
- □ White
- □ Black or African American
- □ American Indian or Alaska Native
- □ Asian
- □ Native Hawaiian or Pacific Islander
- □ Other
- □ Prefer not to answer

Do you identify as Hispanic or Latino?
- □ Yes
- □ No

How do you identify?
- □ Heterosexual
- □ Homosexual
- □ Bisexual
- □ Other
- □ Prefer not to say

What is your estimated yearly income?
- □ Less than $10,000
- □ $10,000 - $19,999
- □ $20,000 - $29,999
- □ $30,000 - $39,999
- □ Prefer not to answer
Appendix I: Service User Survey - Qualtrics (Continued)

- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 or more
- Prefer not to answer

What is the highest degree or level of school you have completed? If currently enrolled in school, highest degree received:

- Less than high school
- High school graduate
- Some college
- 2-year degree
- 4-year degree
- Professional degree
- Doctorate
- Prefer not to answer

Are you currently employed?

- Employed full time
- Employed part time
- Unemployed looking for work
- Unemployed not looking for work
- Retired
- Student
- Disabled

What year were you diagnosed with HIV? If you do not remember, please include your best guess.

What was your latest viral load?

- Undetectable
- Detectable

What was your latest T-Cell count?

- Less than 200
- 200-350
- 351-500
- Greater than 500
Appendix I: Service User Survey – Qualtrics (Continued)

<table>
<thead>
<tr>
<th>What services do you currently receive from Qualtrics (Check all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric medication management</td>
</tr>
<tr>
<td>HIV medical care–primary medical care</td>
</tr>
<tr>
<td>Pharmacy services</td>
</tr>
<tr>
<td>HIV testing</td>
</tr>
<tr>
<td>Medical case management</td>
</tr>
<tr>
<td>LGBT services</td>
</tr>
<tr>
<td>PEP/PrEP</td>
</tr>
<tr>
<td>Therapeutic &amp; support groups</td>
</tr>
</tbody>
</table>

Have you ever been diagnosed with a mental health condition?

- Yes
- No
- Prefer not to answer

Have you ever been diagnosed with a Substance abuse problem?

- Yes
- No
- Prefer not to answer

Are you currently getting treatment for a mental health condition?

- Yes
- No
- Prefer not to answer

Are you currently getting treatment for a Substance abuse problem?

- Yes
- No
- Prefer not to answer

The following questions ask about your satisfaction with the quality of health care and treatment services you have received in this clinic.

For each item below, mark the choice that best reflects your level of agreement with each item regarding the clinic where you receive health services. Please do not leave any question blank and mark only one response to each question. Thank you.

Please leave blank if it does not apply

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with the overall quality of HIV treatment services I receive at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the overall quality of mental health care treatment services I receive at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the overall quality of substance abuse treatment services I receive at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with access to information on available services at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the explanations and guidance I have received from providers at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the convenience of making appointments at this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each item below, mark the choice that best reflects your level of agreement with each item regarding the clinic where you receive health services. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with my ability to get the care I need in this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the collaborations between my providers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the competency of the health workers in this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the responsiveness of providers to my questions and requests in this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the availability services in this clinic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix I: Service User Survey – Qualtrics (Continued)

For each item below, mark the choice that best reflects your level of agreement with each item regarding the clinic where you receive health services. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have access to a mental health counselor when I need one.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My treatment plans include both my mental and physical health needs.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I have been able to schedule a “same day” appointment to see my mental health counselor when I have needed to.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I have been asked about my mental health as part of my HIV care appointment</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

When answering the following questions please keep in mind the definition of Integrated Care.

Integrated Care is the care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization.

For each item below, mark the choice that best reflects your level of agreement with each item regarding the clinic where you receive health services. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro is committed to providing integrated care services.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Having multiple health and social services in one location makes accessing care more efficient.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>It is easy for me to access needed services at this clinic.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Integrated care is a superior form of patient care.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Integrating care ensures I receive appropriate care.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Integrating care is a worthwhile investment of clinic time, energy and resources</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

For each item below, mark the choice that best reflects your level of agreement with each item regarding the clinic where you receive health services. Please do not leave any question blank and mark only one response to each question. Thank you.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided/Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I am involved in decisions about my health care goals.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I trust my mental health counselor.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I trust my HIV care specialist.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I trust my substance abuse counselor.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I work as part of a team with my mental health counselor and HIV care specialist to make decisions about my care.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I work comfortably with my mental health counselor and HIV Specialists to make decisions about my care.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix I: Service User Survey – Qualtrics (Continued)

<table>
<thead>
<tr>
<th>I work comfortably with my substance abuse counselor and HIV Specialists to make decisions about my care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
</tbody>
</table>

Do you have any comments about Integrated Care health services?


Do you have any suggestions for improvement of Integrated Care health services?


This is the end of the survey. Thank you for your responses.

Clicking next will take you to another webpage where you can provide your contact information if you are interested in participating in phase 2 of this project. Your survey answers and contact information will not be linked.
Appendix J: Level of Integration Measure (LIM) Copyright Permission

It's actually not copyrighted so you'd be free to use it anyways, but thanks for asking and would love to hear the results of your study!

On Thu, Feb 21, 2019 at 10:51 AM Lynn, Vickie <vlynn@health.usf.edu> wrote:

Dr. Fauth,
Appendix K: Satisfaction with HIV/AIDS Treatment Interview Scale Copyright Permission

Dear Vickie,
Thanks so much for your request. I totally support it.
Best of luck to your study!

Bach
Appendix L: Staff and Service Users Interview

<table>
<thead>
<tr>
<th>Providers/Staff</th>
<th>Domain/Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. the community-based organization is set up as an IC* agency. When I say, “integrated care,” what comes to mind for you?</td>
<td>Characteristics of the Individual/knowledge and beliefs about IC</td>
</tr>
<tr>
<td>Probe: Do you think providing integrated care is an effective way to deliver services for people diagnosed with HIV?</td>
<td></td>
</tr>
<tr>
<td>2. What is your role in providing care or services to patients here at [the community-based organization]?</td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td>Probe: Do you feel part of the clinical team?</td>
<td></td>
</tr>
<tr>
<td>Probe: How are service integrated between primary care and behavioral health providers.</td>
<td></td>
</tr>
<tr>
<td>3. Can you tell me about your experiences with providing services/working here?</td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td>Probe: How does providing integrated care in this setting compare to previous places you have worked?</td>
<td></td>
</tr>
<tr>
<td>4. How does your role fit in with other providers here at [the community-based organization]?</td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td>Probe: Do you feel part of a team?</td>
<td></td>
</tr>
<tr>
<td>Probe: Do you meet on a regular basis with other providers?</td>
<td></td>
</tr>
<tr>
<td>5. Do you have any suggestions on how to improve “IC” services here at [the community-based organization]?:</td>
<td>Process/Executing</td>
</tr>
<tr>
<td>Probe: What kind of changes do you think the community-based organization might need to make to improve services?</td>
<td></td>
</tr>
<tr>
<td>Probe: What kind of larger system level changes mind need to occur to facilitate a higher level of integrated care?</td>
<td></td>
</tr>
</tbody>
</table>

Note: Integrated Care (IC)
### Appendix L: Staff and Service Users Interview (Continued)

<table>
<thead>
<tr>
<th>Service Users</th>
<th>Domain/Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. The community-based organization is set up as an IC agency.</strong> When I say “integrated care,” what comes to mind for you?</td>
<td>Characteristics of the individual/Knowledge and beliefs about IC</td>
</tr>
<tr>
<td>Probe: Do you think providing integrated care is an effective way of meeting your health care and social needs?</td>
<td></td>
</tr>
<tr>
<td><strong>2. What are your expectations for receiving health care here at [the community-based organization]?</strong></td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td><strong>3. What are your experiences with the community-based organization health and social services?</strong></td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td>Probe: Do you experience any barriers to receiving care? What things are helpful for you to access care here?</td>
<td></td>
</tr>
<tr>
<td><strong>4. How does role as a patient/client fit in with providers?</strong></td>
<td>Characteristics of the Individual/Individual identification with organization Process/Executing</td>
</tr>
<tr>
<td>Probe: Do you feel part of the clinical team?</td>
<td></td>
</tr>
<tr>
<td><strong>5. Do you have any suggestions on how to improve health and social services for people diagnosed with HIV?</strong></td>
<td>Process/Executing</td>
</tr>
</tbody>
</table>

Note: Integrated Care (IC)