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**Dissertation Title page**

**KNOWLEDGE OF SOCIAL WORK ROLES ON INTERDISCIPLINARY PRIMARY CARE TEAMS: AN ADVANCED MIXED METHODS STUDY**

BY

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DISSERTATION

Submitted in partial fulfillment of the requirements for
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**<u>Dissertation Signature Page</u>**

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**WE HEREBY RECOMMEND THAT THE DISSERTATION BY**

Christine River Bakos-Block

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KNOWLEDGE OF SOCIAL WORK ROLES ON INTERDISCIPLINARY INTEGRATED
PRIMARE CARE TEAMS:  A MIXED METHODS STUDY

An Abstract of a Dissertation

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of Doctor of Philosophy in Social Work

By

Christine River Bakos-Block

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Abstract

Driven by the Patient Protection and Affordable Care Act (ACA, 2016), new programs like Healthcare Transformation Initiatives are being adopted by healthcare systems in the United States to improve patient health outcomes. Social workers are uniquely suited to address the psychosocial needs that often get overlooked in primary care. This study used an advanced mixed method qualitative + qualitative + quantitative design to understand the roles of the social worker on the integrated primary care team, and how knowledge of social work roles is related to interdisciplinary collaboration. A scale developed in the qualitative part of the second phase of this study was used to quantitatively measure knowledge of social work role. This study identified a positive relationship between increased knowledge of roles, and increased levels of interdisciplinary collaboration. This study also found that as knowledge of social work roles increased, satisfaction with collaboration increased. These findings establish the importance of role knowledge on interdisciplinary collaboration. Additionally, as social work roles are diverse and often defined by setting, this study promotes the need for further research regarding the various functions of social workers in primary care. It further suggests that social work is in a unique position to make its mark on integrated primary care and further redefine its role on interdisciplinary health care teams.

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**Introduction**

The passage of the patient Protection and Affordable Care Act (P.L. 111-148) created

sweeping changes across the field of patient medical care in the United States, from the

financing, the organization, and accessibility of healthcare, to the implementation of social

services and case management for comprehensive patient care. Although the ACA is likely to

change in shape and scope, many of the changes implemented are expected to remain. Health

care centers around the country were awarded federal funds to support activities that support

coordinated care efforts (HRSA.gov, 2014). In 2011, the Medicaid 1115 Waiver, which was

based on California's "Bridge to Reform" Waiver, was approved in Texas, which provided $29

billion over five years to reform healthcare through innovative programs. Seventeen-billion

dollars of Texas' 1115 Waiver was designated for two purposes:  Uncompensated Care (UC),

and Delivery System Reform Incentive Pool (DSRIP). The UC program helps reimburse for

healthcare costs incurred by inpatient and outpatient services accessed by individuals who have

no insurance or third-party health coverage.

The over-arching goal of the DSRIP program is to support improvements in coordinated

care and quality of care, while reducing excess costs. The program aims to "transform"

healthcare delivery systems to reduce health disparities by improving access and efficiency in the

healthcare system (Texas Health and Human Services Commission, 2015).  The Chronic Care

Model (Wagner, Austin, Davis, Hindmarsh, Schaefer, & Bonomi, 2001) and the Patient-

Centered Medical Home (American Hospital Association, 2010) are two of the innovative

programs supported by government grants that are specifically focused on improving patient

health outcomes at the primary care level. Characteristics of these two models include a focus on

population and individual patient health involving coordinated care management for high-risk

patients, coordination of care between providers, an improved care delivery processes, and other

methods to support patient self-management of care (Goldberg, et al, 2013).

The American Hospital Association (AHA, 2014) defines the patient-centered medical

home (PCMH) as "comprehensive primary care services that facilitates communication and

shared-decision making between the patient, his/her primary care providers, other providers, and

the patient's family [*sic*]" (AHA, 2014). This includes specialists such as endocrinology and

behavioral health clinicians. The PCMH places primary care at the center of patient care and

employs a team of care providers aside from medical providers, such as community health

workers, nurse case managers, and social workers to provide enhanced services and treat the

patient as a "whole." Social workers are especially suited for working in integrated

multidisciplinary care teams, as their education focuses on the biopsychosocial model, and

treating the client as a whole (Council on Social Work Education, 2008). Furthermore, social

workers understand that clients are part of an integral network of interpersonal relationships,

neighborhoods, and communities that contribute to their health status. The PCMH will be further

explored in Chapter 2.

As an interdisciplinary model of care, the PCMH aims to achieve accessible,

comprehensive, and coordinated patient-centered care that also includes mental and behavioral

health services (Patient-Centered Primary Care Collaborative, 2013). Integrated care has been

shown to be most effective when specialty services are co-located and specifically, when

behavioral health professionals work in the same office as primary care providers (Bowling, &

Curtis, 2004) as only 10% of patients follow through on outside behavioral health referrals. Even

with mental health providers in the community, primary care tends to be the setting in which

most people seek mental health treatment (Jolly, et al., 2016). Primary care clinic has been called the "de facto" setting for behavioral and mental health services (Kessler and Stafford, 2008, pg. 9) and this trend does not seem to be changing. According to one survey, over 50% of patients who received mental health treatment in the past twelve months from the time of the survey received it from their primary care provider (Wang, et al., 2005). The reasons for this vary from convenience, to reduced stigma (Foy, et al., 2010). Wang further explains that only 12.7% who those were treated in primary care received "minimally adequate treatment" (pg. 634). Wang goes on to explain patients who seek mental health services through primary care providers tend to have fewer mental health visits. Additionally, primary care providers are time-limited and often cannot fully assess for mental and behavioral health issues (Rinfrette, 2009; Rock and Cooper, 2000). Because social workers have been shown as more likely than physicians to identify mental and behavioral health issues (Abramson, 2000), the integration and co-location of social workers in the primary care setting can increase patient's access to mental and behavioral health services (Kelleher, 2000).

Interdisciplinary health care teams are not new in medicine or social work (Heinemann, & Zeiss, 2002) and medical social work has long held a presence in hospitals and public community-based mental health clinics (Bureau of Labor This Statistics, 2012). However, as health care delivery becomes more complex due to increasing numbers of patients with chronic diseases, such as diabetes (Klonoff, 2009), hypertension, and obesity (Zamosky, 2013) entering the system, the need for interdisciplinary care teams in primary care will increase (Goldberg, et al., 2013). Currently, an estimated 133 million adults live with at least one chronic illness, and that number is expected to rise to 157 million Americans by 2020 (Zamosky, 2013). The expansion of Medicaid and access to insurance through the ACA has seen an increase Americans

acquiring health coverage and receiving care; an estimated 16 million new patients have

increased access to primary care services. Among these 16 million new patients are groups that

have historically experienced health and economic disparities and previously relied on

emergency services for their care (Manoleas, 2008). To meet this challenge, it is necessary for

healthcare centers to coordinate care among different professionals who work as part of a

multidisciplinary team. According to D'Amour and Oandasan (2005) interprofessional

collaboration in healthcare is

> the process by which professionals reflect on and develop ways of practicing that
>
> provides an integrated and cohesive answer to the needs of the
>
> client/family/population. It involves continuous interaction and knowledge sharing
>
> between professionals, organized to solve or explore a variety of education and care
>
> issues all while seeking to optimize the patient's participation (pg. 9)

Specifically, the authors note, "Interprofessionality requires a paradigm shift," since

interprofessional practice has unique characteristics in terms of values, codes of conduct, and

ways of working (pg.9).  Medical doctors, nurses, community health workers, social workers,

and other health care professionals are independent disciplines that have their own scope of

practice, with different bases of knowledge and different approaches to patient care and

intervention.

That said, interprofessional practice does not necessarily imply interprofessional

collaboration. In many cases, patient care is fragmented, as professionals from different

disciplines and, often different organizations, act as autonomous parts separate from the whole.

The term multidisciplinary refers to more than one profession working together, but without an

emphasis on collaboration (Körner, 2010). According to the World Health Organization, the

United States health system, with its technological advances, ranks 37th in the world for its

performance (WHO, 2009). This fragmentation leads to the United States spending significantly

more on health care per capita than any other industrialized nation, yet patients in the U.S. are

getting less healthcare for the dollars they spend (Anderson, Reinhardt, Hussey, and Varduhi,

2003). Interprofessional collaborative practice in healthcare may be one key to mending the

fragmented system and increasing the quality of healthcare received over the quantity (Stange,

2009).

**Background**

Interdisciplinary collaboration is not a new concept in professional fields, nor is

interdisciplinary collaboration a new concept in the medical field. The health care system has

historically been dependent on different professions working in tandem to achieve both

population and individual health goals. The integration of theoretical concepts, ideologies,

philosophies of practice, and methodologies from different branches of knowledge have led to

innovations in medical research and treatment (Ravid, Faux, Corkey, and Coleman, 2013).

Interdisciplinary practice and research has been critical to solving some of the most challenging

medical problems of our era, from artificial organs and organ transplant technology to the

development of innovative treatments for spinal cord injuries and stroke. Interdisciplinary

collaboration lays the groundwork for a cooperative exchange that helps transform understanding

of the challenges faced by professionals and produces new concepts to aid in solving problems

that may otherwise not be achievable.

**Barriers and Facilitators to Collaboration**

Levicka and Levicka (2012) distinguish between multidisciplinary and interdisciplinary

practice, noting that multidisciplinary collaboration differs in that each team member is not

equally oriented towards achieving the final goal. The authors posit that the common goal is paramount in successful interdisciplinary teams. Each member operates as an independent yet complementary agent towards achieving the common goal(s). Therefore, joint-decision making is a necessary step in clearly defining the goal; otherwise the collaboration is a fruitless effort.

Certain obstacles, however, impede successful collaboration. Barriers to collaboration exist on a multidimensional plane, from individual barriers to barriers of an administrational or organizational level (Leipziz et al. 2002). Leipzig et al. studied the attitudes towards interdisciplinary collaboration of 591 healthcare students across the country in a sample that consisted of internal medicine or family practice residents, advanced graduate nursing students (NP), and master social work students (MSW). They found the trainees from each profession placed value on interdisciplinary collaboration, stating that teamwork benefits patients. However, they also found that the medical residents held attitudes that were less positive towards interdisciplinary collaboration than did the MSW and NP students. In their discussion, the authors further note that the National Association of Social Workers Code of Ethics directly addresses interdisciplinary collaboration, as does the American Nurses Association Code. In contrast, there is little emphasis on interprofessional collaboration and teamwork in the American Medical Association Code of Medical Ethics (Code of Medical Ethics, AMA). The researchers concluded that resident physicians need exposure to interdisciplinary collaboration not only in residency, but also at earlier points in their education. By residency, they note, certain attitudes may have already been formed that prove difficult to change and they add that effective collaboration is often difficult to achieve in practice. The authors also described interpersonal conflict as a barrier to collaboration. This conflict is fueled by diverse professional and personal perspectives, differing perceptions of role expectations, role conflict, differing professional

socialization processes, physician dominance of interdisciplinary teams, and the judgment that physicians undervalue interdisciplinary collaboration (Leipzig et al).

Bronstein (2003) named several obstacles to interdisciplinary collaboration: structural, procedural, financial, and professional. Structural obstacles include poorly defined roles and responsibilities that can result in the fragmentation of responsibility. Procedural barriers may include inadequate planning or conflicts in planning between different departments, poor definition of the goals, inadequate budgeting, poorly defined methods, and insufficient monitoring and reporting systems. Financial obstacles may also pose a significant challenge, either by lack of funding and/ or insufficient reimbursement for the services provided by various team members. Finally, professional obstacles may be one of the most difficult to control for, as they are subjective to not only the individual but also one's professional identity. Professional obstacles include competing professional and personal ideologies, professional values and ethics, professional autonomy, and even differing opinions.

In their examination of effective medical teamwork, Rubin, and Bechard (1972) identified 5 variables that were fundamental: 1) definition of appropriate goals; 2) clear role expectations; 3) flexible decision-making process; 4) the establishment of open communication patterns and leadership; and 5) the ability of the team to "treat" itself or make needed adjustments. In their study, the researchers focused on the interdisciplinary experience of health professionals in a community-based practice, rather than a hospital. They found that the hierarchy of leadership, clinical norms, communication methods, and definition of goals differs greatly between the two environments, even with the same professions present in both settings. Rubin and Beckhard (1972) conclude that the communication framework that is suitable for

hospital settings, is inefficient at responding to the complex and diverse issues that arise in community-based clinics.

A study by Bronstein (2003) identified five factors that contribute to and detract from interdisciplinary practice. The author argues for a two-part model for collaboration, to help meet the increasing complexities of the diverse populations served. Part one of the model focuses on the factors that embody successful interdisciplinary collaboration between social workers and other professions. They consist of: interdependence; newly created professional activities; flexibility; collective ownership of goals; and reflection on process(es).

The second part of Bronstein's (2003) model is composed of four influences on collaboration: professional roles; structural characteristics; personal characteristics; and history of collaboration. First, one must have a clear understanding of his/her own role to effectively work in a team. If the role and duties are poorly defined, it can lead to role confusion. Structural characteristics include the organization's overall culture, supportive administration, a level of autonomy for team members, and the physical space, such as co-location that allow formal and informal collaborative interventions to naturally occur. Team members must also have respect for the other members of the multidisciplinary team, including respect for their roles and professional cultures. In addition to respect, trust is essential to successful collaboration. If members of a multidisciplinary team do not trust the professional/clinical judgement of the other individuals, it can hamper collaboration. Finally, an individual's personal experience with collaboration is important to how they will enter collaborative relationships with others.

**Interdisciplinary Collaboration Model**

Interdisciplinary collaboration in any setting faces challenges and those in health settings face a particular set of problems. Collaboration in healthcare requires levels of communication,

ongoing relationships, new procedures and frameworks that are quite different from the

traditional medical model (Lasker, Weiss and Miller, 2009). Kreuter, Lezin and Young (2000)

estimate nearly half of newly formed healthcare collaborations fail their first year. To aid in

successful healthcare partnerships, researchers have directed their attention to the ways in which

these collaborations function and evolve (Lasker, Weiss and Miller, 2009), developing

frameworks that explain the processes of interdisciplinary collaboration. One of these

frameworks, Bronstein's (2003) model for interdisciplinary collaboration is based on five core

components: interdependence; newly created professional roles; flexibility; collective ownership

of goals; and reflection on process (Figure 1). Bronstein's model was developed using four

theoretical frameworks, a multidisciplinary theory on collaboration, services integration, role

theory, and ecological systems theory. Through an extensive search of the literature, Bronstein

identified fundamental concepts of interdisciplinary collaboration that consistently recurred,

which she used to develop her model. Bronstein explains this model is meant to be a general

framework for successful collaboration between social workers and other disciplines. These

components will be explained in further detail in this section.

Figure 1

*Model of Interdisciplinary Collaboration*
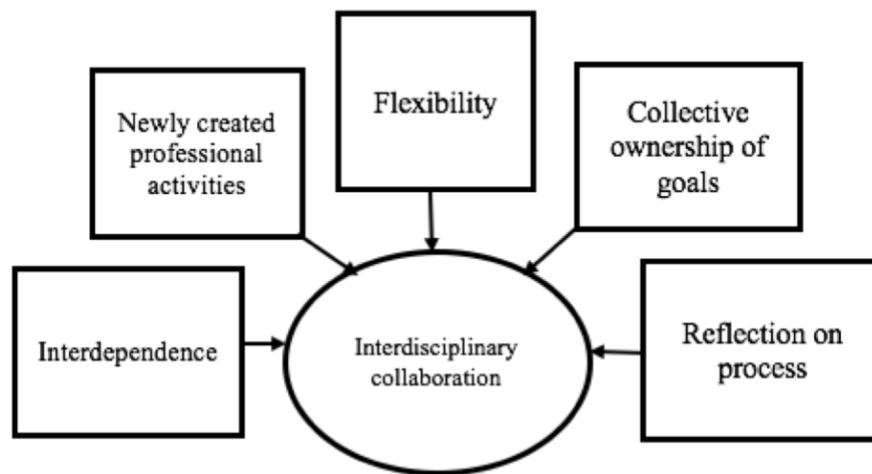


Source: Bronstein (2013)

*Interdependence* relates to group members relying on one another and at the same time maintaining a level of autonomy to accomplish agreed upon goals. Bronstein (2003) further explains that to operate interdependently, group members must not only have clear knowledge of their own roles, but of the roles of other group members. Characteristics such as group cohesion, effective written and oral communication, and mutual respect are crucial for achieving interdependence. A group working interdependently is operating from the assumption that more is to be gained from collaboration than from isolation.

Collaborative actions, plans, and networks that optimize interdisciplinary performance are referred to as *newly created professional activities*. This component assumes individuals working in in an interdisciplinary group can accomplish more than working independently. In a health care setting, newly created professional activities directly impact patient care by providing a structure with which to meet complex patient needs that may not otherwise be met. For instance, a trained community health worker in a primary care setting can serve as a diabetes

educator, while the social worker attends to behavioral barriers to medication compliance, and the physician monitors the patient's health status, each professional in sync with the other. Many newly created professional activities are developed as a function of a well-integrated team. Molyneux (2001) identified the importance of team autonomy in developing new team activities as being one of the indicators for effective teamwork. Moreover, healthcare professionals working together to share their expertise and skills, has a positive impact on patient outcomes (Nancarrow et al., 2013).

*Flexibility* of teams and team members is essential to resolving intergroup conflicts, overcoming obstacles to goal attainment, and the revision of role expectations as the contextual need dictates. This may include "blurring" of roles, if one group member is called to carry out a task usually delegated to another group member (Bronstein, 2003).  For example, a social worker can answer a patient's questions regarding palliative care and advance directives while a patient is waiting to see the physician. Bronstein (2003) expands on the notion of flexibility by stating it necessitates abandonment of rigid hierarchical structures to maximize collaborative relationships. More traditional models of multidisciplinary teams place the physician at the apex of the hierarchy, with others arranged below (Abramson and Mizrahi, 2003). Bronstein (2003) argues that successful collaboration depends on the power balance of the group. Flexibility also requires role expectations to adjust to the needs of the organization, the context, the needs of patients, and needs of other group members.

The fourth core component, *collective ownership of goals*, refers to the equitable sharing of responsibility among the group members. This includes the entire process of goal attainment from decision-making to the implementation and revisions of procedures. In a primary care practice, collective ownership of goals applies not only to the interdisciplinary group members,

but also the patients and their families. Bronstein (2003) explains this process includes the group members taking responsibility for not only his/her portion of successes, but also failures. Each group member should openly engage in constructive discourse regarding the deficiencies and accomplishments of the goal attainment procedures. Further, collective ownership of goals assumes establishing clearly defined and reasonable goals, collaborating on the objectives and strategies, and a shared concept of the overall mission. Bronstein identified two components in the literature that are necessary to achieving collective ownership of goals: the identification and assessment of problems, desired outcomes, and action plans; and the implementation and evaluation of action plans (Billups, 1987 in Bronstein, 2003). Evaluation is an important ongoing process of action plans, as aids in identifying areas of improvement for the efficacious achievement of set goals.

Finally, the *reflection on process* relates to the group members' retrospective observation of the process of collaboration, to help settle any differences and strengthen the group cohesion. Just as the evaluation of action plans is important, it is additionally necessary to evaluate the group's process of working together to determine if any adjustments need to be made to the group composition. The focus here is not on the outcomes of the processes, but the group members' experiences in working collaboratively and observations of behaviors of group members. This practice is ongoing and serves as a vehicle for improving future collaboration.

In reviewing Bronstein's model, an important component that is missing is the concept of professional roles and how knowledge of one's own and others' roles may facilitate or hinder interprofessional collaboration. A *professional role* is widely understood as the expected function of member of a specific profession. Abramson and Mizrahi (1996) explain that successful collaboration can be curbed by allegiances that are biased toward a certain member's

professional identity, or toward the interdisciplinary team. To be successful, the authors claim an allegiance is needed to both. Social workers engaging in interdisciplinary practice should not only be secure in their professional identity with a strong commitment to the values and ethics of social work, but also demonstrate respect for the other team members and their professions. Bronstein (2003) explains that role theory helps us understand how socialization occurs in an organization and in a multidisciplinary group. The differing professional cultures, norms, and terminologies can "make the process of interdisciplinary collaboration resemble the bringing together of inhabitants from foreign lands" (Bronstein, 2003 pg. 302). To successfully socialize the group toward collaboration, a level of professional autonomy and mutual respect is needed regardless of the profession's perceived status in the multidisciplinary group and agency.

Based on the above literature, the successful integration of social work in community-based primary care clinics is dependent on many factors, the most significant are illustrated below in Figure 2.

Figure 2

*Knowledge of Social Work Roles and Interdisciplinary Collaboration*
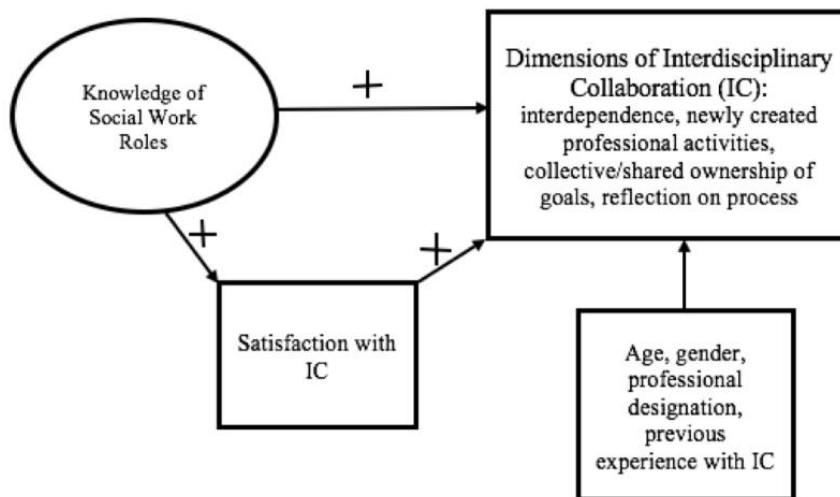
As seen in this model, the five dimensions of interdisciplinary collaboration: interdependence, flexibility, evaluation of collaboration, collective ownership, of goals, and newly created professional activities, are themselves influenced by the knowledge of roles within the interdisciplinary team. Knowledge of roles not only influences the perceived value of social work, but the knowledge of the social worker's role by other members of the team can affect how much value other team members place in the social worker's role on the interdisciplinary team. Similarly, knowledge of one's own role helps determine how each professional works within their boundaries and with the other team members. Newly created professional activities, members of the interdisciplinary team working in concert can achieve goals that could otherwise not be achieved. For instance, a physician, social worker and nurse case manager working together to help a patient with diabetes can have a greater impact than in working alone, as each professional focus on a different aspect of patient care, treating the whole instead of parts. Structural characteristics, such as adequate space, adequate funding and the physical space to allow collaboration to happen, both planned and unplanned are heavily influenced by supportive structural characteristics. Additionally, structural characteristics can support ongoing evaluation of practice, by allowing the space for reflection meetings, encouraging open communication among team members, and creating a framework with which to appraise collaborative efforts.

Flexibility is influenced both by personal characteristics and history of collaboration. When individual team members trust each other's professional judgement, and respect their separate roles on the team, they are more apt to flex and adapt to changing situations. An individual's personal history with collaboration and working with other professionals can also influence his/her devotion to working with another interdisciplinary team. Interdependence, or reliance on one another, is also determined by personal characteristics, knowledge of roles, and

history of collaboration. Flexibility is also an important component to conflict resolution. Conflict is not adequately worked out when one (or several) team member(s) prevails over another, but rather by creative and innovative solutions that address the concerns of all team members. This type of collaboration does not depend on an "either/or" solution to settling conflicts, rather it depends on the ability of the team members to develop alternative solutions (Gardner, 2005).

The proposed model represented in Figure 2 places knowledge of roles as a primary influence on successful interdisciplinary collaboration, by directly influencing the other dimensions. Specifically, knowledge of the social work role, by other members of the interdisciplinary team may have a direct relationship with how well the team works together. Although social workers have been working in healthcare interdisciplinary teams in hospitals, and other health centers, the inclusion of social workers as part of the primary care team taking shape and several studies have shown that knowledge of professional roles of others is an important factor that contributes to successful integration of multidisciplinary teams (MacDonald et al., 2010; Holland, 2004; Pullon, 2008; Suter, et al., 2009).

A study by Pullon (2008) found that a thorough understanding of one's own professional role, as well as other's professional roles increased competence, mutual respect and trust among members of an interprofessional team. Pullon (2008) describes two distinct types of trust evident in an interdisciplinary team, "calculus-based" and "identification-based" (pg. 144). Calculus-based trust, he explains, develops over time and with a team member's consistent behavior, while identification-based trust relies on knowing the intentions of others, and appreciation for their individual needs. The role needs of individual team members will often overlap when operating in an interdisciplinary team setting, making trust among team members crucial for

successful collaboration. Without knowledge of other's roles, trust will not be realized. When team members understand and respect one another's professional roles, trust follows (Pullon, 2008).

Understanding other's professional roles has been identified as a key factor in successful integration (Suter, et al., 2009; Barr, 1998). Barr (1998) elaborates that it is important to understand the responsibilities, competencies and limitations of others' roles in relation to one's own professional role. This is crucial, the author states, in recognizing when, where, and how to involve other team members in an action. Reinforcing this notion, Hall (2005) found that without the reciprocal knowledge of others' roles, meaningful relationships are less likely to develop, affecting collaboration and ultimately patient care.  In the patient-centered medical home, comprehensive and cost-effective patient care is the focal point of practice. Inadequate collaboration among members of a multidisciplinary team has been linked to poor patient outcomes (World Health Organization, 2013). Productive communication has been shown to significantly contribute to team proficiency; and research shows that knowledge and understanding of other's roles is imperative to effective communication (O'Daniel, and Rosenstein, 2008; Suter, et al., 2008; Hall, 2005; Stewart et al., 2000; Barr, 1998).

The proposed model also adds satisfaction as an element that leads to greater engagement in collaboration. According to Avery, McKay, and Wilson (2007), satisfaction with coworkers leads to engagement in the workplace. Self-determination theory (Deci and Ryan, 2000) posits two types of motivation involved in work engagement, intrinsic and extrinsic. Intrinsic motivation, the researchers state is related primarily to pursuit of growth and development in the workplace, whereas extrinsic motivation is oriented towards financial and status rewards. For successful interdisciplinary collaboration, intrinsic motivation should be valued over extrinsic.

The researchers go on to explain teams with intrinsic values have more positive outcomes and satisfaction in their work. Finally, knowledge of roles is important for satisfaction and team cohesion. Research has found (1970) found role conflict and ambiguity result in decreased satisfaction and effectiveness (Schwab, Iwanicki and Pierson, 1983; Rizzo, House and Lirtzman, 1970). knowledge of social work roles among interdisciplinary team members can be seen as necessary for team cohesion, shared values and satisfaction with interdisciplinary collaboration among team members.

**Conclusion**

According to a Commonwealth Fund report, the United States spends more on healthcare per capita than many other high-income nations yet maintains poorer health outcomes than the other countries in this bracket (Commonwealth Fund, 2015). The Centers for Disease Control (CDC) reports that more than seventy-five percent of health care spending in the U.S. is on chronic conditions, such as chronic obstructive pulmonary disease (COPD), hypertension, asthma, congestive heart failure (CHF) and diabetes (CDC, 2009). In the U.S., more than $9,000 is spent per person on health care, with just five percent of the population generating over fifty-percent of the healthcare costs. Yet the U.S. has worse healthcare outcomes than other country in the high-income category (National Center for Health Statistics, 2016). Golden (2011) describes the role of social work in the changing scope of primary health care, as a central part of the interdisciplinary team, providing "coordinated" care, with a focus on patient-centered care that goes beyond addressing only the medical needs. Andrews, Darnell, McBride, and Gehlert (2013) argue that social workers will play a leading role in the implementation of patient-centered programs mandated by the ACA, bringing a focus to treating the whole patient, not just the

physical symptoms, acting as patient-advocates, care coordinators, and behavioral health counselors.

Social work has long been engaged in the activities that the Affordable Care Act (2010) has placed new emphasis on: coordination of services, interdisciplinary teams, efficiency and affordability, and resource navigation (Browne, Darnell, Savage, and Brown, 2014). Veritably, the integrated approach social work takes, by seeing the patient in their context, as a part of their family, their community, and their situation is an asset to the interdisciplinary team. According to Rizzo, Rowe, Kricke, Krajci, and Golden (2016) evidence shows that non-medical issues such as social and psychological aspects, have a significant impact on physical health. Through social work education, (CSWE, 2014) social workers are uniquely qualified to navigate the complex health system, working as a part of an interdisciplinary team, to help streamline patient care.

**Chapter II**

**Introduction**

Interdisciplinary collaboration is a strength of social work practice; since its onset, the profession has been collaborating with other disciplines in macro, mezzo, and clinical practice. Social work has a long history in the healthcare field, particularly in hospital settings where the inclusion of social work changed the sole focus from acute care to include long-term health outcomes of patients (Judd & Sheffield, 2010). This chapter will further explain the functions of the patient-centered medical home, describe the benefits of social work integration in primary care, and examine the research related to the barriers and facilitators of collaboration. This literature review will specifically focus on the knowledge of professional roles in an interdisciplinary team by all members of the team, which is a pillar of successful integration.

**Patient Centered Medical Home**

In 1967, the American Academy of Pediatrics first developed the term "medical home" to describe a concentrated source of medical information about a patient (AAFP, American Academy of Family Physicians, 2007). This term evolved to include medical partnerships between providers and patients to improve healthcare coordination (Medical Home Advisory Committee, 2002). The World Health Organization expanded on the medical home concept in 1978 and designated primary care as the core of the health care system (AAFP, 2007). In 2002, the American Academy of Physicians (AAP) introduced an operational definition of "medical home" that detailed thirty-seven distinct functions such as continuity and coordination of care and culturally competent services. Four major primary care physician societies, The American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), the American College of Physicians (ACP), and the American Osteopathic Association (AOA)

published the Joint Principles of the Patient-Centered Medical Home (PCMH) in 2007. To help

formalize the accreditation process, the four societies created guidelines for PCMH recognition

(AAFP, AAP, ACP, and AOA, 2010). The National Committee for Quality Assurance (NCQA)

along with the Joint Commission's recognition of PCMH are the most universally accepted

accreditation for primary care practices in the United States (NCQA, 2013). The NCQA defines

the PCMH as a team-based approach that meets the majority of a patient's medical and

behavioral health needs, as well as including prevention and wellness care, and chronic case

management. Providing this type of expansive care requires several professionals working

collaboratively, from physicians and mid-level providers (nurse practitioners, physician

assistants) to nutritionists, community health workers, and social workers. Previously, there was

no third-party reimbursement for team-based care; however, CMS has recently instituted

reimbursement for collaboration under the chronic care management program, allowing

physicians to bill for non-face-to-face patient care involving collaboration with other health

professionals, which is a significant change to the reimbursement schedule for primary care

physicians (Centers for Medicare and Medicaid (CMS), 2016; T. Murphy, personal

communication, January 2017). A study by Farber, Siu, and Bloom (2007) reported that out of

472 patient-provider interactions, over half required multiple steps to coordinate care, with over

100 minutes of out-of-office tasks spent for every 30-minute in-office visit. Clearly, providing

billing codes for coordinated care services can encourage coordination of care by increasing

revenue for coordinated services.  Further necessitating the PCMH model, most patients seen in

primary care clinics present with two or more chronic conditions, such as diabetes or congestive

heart failure, which often co-occurs with a mental health condition (Turner, and Kelly, 2000).

Medical providers often do not have the time to assess for social, mental and behavioral health

issues during the time-limited office visit, (Rinfrette, 2009; Rock and Cooper, 2000), and this opens the door to social workers to address these issues in the primary care setting. Mizrahi and Abramson (2000) found that social workers were more likely than physicians to identify patient's emotional and psychosocial problems. Additionally, according to Bikson (2009), when the social and behavioral aspects of chronic health conditions are addressed, patient care can be improved while also lowering overall costs.

**The Benefits of Social Work Integration in the PCHM**

The patient-centered medical home is an innovative approach to primary care that focuses on the relationship between the patient and his/her primary care team, aimed at providing better patient care. Although social workers and social services have long been integral parts of healthcare in hospitals and Federally Qualified Health Centers, their inclusion on the patient care team of private primary care practice is novel. The population of those aged 65 and up is projected to increase by 135% by 2050 (Wiener, and Tilly, 2002). As the aging population will create new challenges as individuals who may not have had health insurance previously, will now be eligible for and receive Medicare. Medicare is publicly funded and is considered an entitlement as most become eligible at age 65. Medicare expenditures topped nearly $202.1 billion gross (U.S Department of Health and Human Services, 2017) in fee-for-service spending in 2017, and this is only expected to rise with the aging population. People receiving Medicare often incur higher healthcare expenditures than younger people do (Lubitz, Greenberg, Gornia, et al., 2001) which will place considerable strains on the Medicare and private healthcare system.

The Accountable Care Organization (ACO) is the network of providers from primary care to specialists, to hospital services and outpatient services that share responsibility for patient care and outcomes. The ACO model, developed by Centers for Medicare and Medicaid, strives

for a triple aim: improving the patient experience (quality and satisfaction), improving

population health, and containing healthcare costs (Berwick, 2011). This shifts the focus of care

from fee-for-service care, where providers are paid a fee for services they deliver, to a value-

based model, which focuses on the quality and value of healthcare services to the patient. As the

core of the Patient Protection and Affordable Care Act (ACA), the PCMH primary care provider

is often the point-of-entry of the patient into the health care system. The PCMH is responsible

for coordinating patient care across all providers, identifying and managing high-risk patients,

monitoring medications, and ensuring the referral and follow-up gaps are completed (NCQA,

2013). Social work integration in patient-centered medical homes offers an innovative means to

achieving integrated care, the goals of the ACO model, and efficiency in managing high-risk

patients, leading to better health outcomes.

The Agency for Healthcare Research and Quality (2010) describes six essential functions

of the integrated healthcare team: 1) appraise patient care-coordination needs; 2) develop an

integrated plan of care; 3) communicate pertinent information with the patient and other care

providers; 4) assist with patient transitions of care; 5) link patients with community resources; 6)

organize community resources by community needs (Meyers et al., 2010). The focus is shifted to

include prevention and population health, rather than acute care and the six functions named

above are congruent with social work values. For example, Andrews, Darnell, McBride and

Gehlert (2013) examined the qualities of social work that accommodate the field in achieving

these essential functions. First, social workers understand the importance of human relationships,

and that individuals are a part of their larger environment, which affects their health and health

behaviors. Second, social workers recognize and understand the intersectionality of the various

elements, such as education level, socioeconomic status, and race, that compound health

disparities. Third, social workers are knowledgeable, and engage in evidence-based practice, with interventions based on research. Finally, social workers are committed to social justice and have historically worked with vulnerable groups. An estimated 29-million Americans will still be without health insurance (Banthin et al., 2011), and the authors note that social works' focus on "historically focused on such disenfranchised groups" and their ability to empower individuals and communities through connecting them with needed resources and promoting wellbeing (Andrews, Darnell, McBride, and Gehlert, 2013, pg. 68). The following section will examine the ways in which social work integration in community-based primary care settings can help both patients and practitioners achieve common goals.

**Cost benefits.** The healthcare system in the United States has long been fraught with high costs and variations in the quality of care that patients receive. This, in part, is what led to large-scale healthcare reform during President Obama's term in office. A primary goal of health care reform was to provide affordable health care at a high level of quality, and integrated care is perceived as an important model to achieve this goal. As mentioned in Chapter 1, more low-income individuals have gained access to primary health care than ever before through the expansion of Medicaid and the availability of subsidized Marketplace plans. The integration of social services in primary health helps contain medical costs for both patients and providers (Weiner, 2001). Although there have not been any large-scale studies on the health care savings of integrated care, several studies have shown significant financial benefits. The Community Care of North Carolina (CCNC), a novel health system with a public and private partnership between the state and non-profit non-governmental organizations, was selected as one of fifteen study sites by the Commonwealth Fund Commission on a High-Performance Health System in 2008. The CCNC reported an annual savings of nearly $160 million per year over a 10-year

period (Grumbach, Bodenheimer, and Grundy, 2009). Another study of 308 practices showed a reduction of costs through fewer emergency room visits and hospitalizations, especially among the chronically ill, who at 5% of the population, account for approximately 50% of healthcare spending in the U.S. (Van Hasselt, McCall, Keyes, Wensky, and Smith, 2014).

**Population health.** Poor health is closely related to inadequacies in food, insecure housing, and unemployment / type of employment (Fritzell, Rehnberg, Bacchus Herzman, and Blomgren, 2015; Woolf and Braveman, 2011). According to Wolf and Braveman, factors such as access and quality of medical care, health behaviors, and environmental conditions are influenced by social determinants, such as education, income, and community. The authors report, "social determinants are often the root causes of illnesses and are key to understanding health disparities" (pg. 1853). Fritzell, et al. (2015) examined the literature on the association between poverty and mortality. The authors found a connection between relative poverty and mortality, especially among children. Social work has played a vital role in helping reduce disparities and poverty, they achieve this in part by providing assistance with basic human needs, such as food, clothing, and housing. In fact, the profession's roots lie in advocating for the poor and disenfranchised (McNutt, 2013). Individuals without insurance or the ability to afford routine healthcare tend to avoid seeking care all together (Taber, Leyva and Persoskie, 2015) which can lead to costly outcomes, specifically for those with chronic diseases. According to Wagner (2000), patient care by a multidisciplinary care team improves adherence to treatment plans, leads to higher patient satisfaction, and better health outcomes, while controlling costs. In Wagner's view, social workers are a core member of the patient care team. Investment in more social service integration to decrease health disparities, the U.S. health system can save health

care dollars (Hemmings, 2000; Rothman and Wagner, 2003) and improve health outcomes (Tierman et al., 2007; Miller et al. 2007).

      **Improved workflow.** A clinic's workflow is a series of steps, with each usually performed by different members of a patient care team, that together achieves a shared goal (AHRQ, 2011).  Keefe, Geron and Enguidanos (2009) found that nurses and physicians believed that social workers in primary care can contribute to the care coordination of patients, and both groups recognized the need for social work in primary care. The authors reported that nurses felt that having social workers on the care team could enhance their own ability to provide comprehensive care to patients. Additionally, Keefe, Geron and Enguidanos noted that physicians felt that having social workers in the clinic could improve their workflow with patient referrals to behavioral health. With social workers located in a shared space, the referring provider does not have to refer a patient to another location for behavioral health, nor spend extra time filling out referral forms.

      Importantly, nearly one-third of patients visiting a primary care clinic have at least one major psychiatric diagnosis (Manoleas, 2008; Mauer, 2009) and five psychosocial problems (Bikson, McGuire, Blue-Howells, and Seldin-Sommer, 2009). The patient-centered medical home offers a single location for all a patient's primary care needs by consolidating medical, social, and behavioral health in one practice. One study found that two-thirds of physicians surveyed saw the benefit of social workers in primary care to provide supportive therapy for personal problems, health crises, and financial problems (Keefe, Geron and Enguidanos, 2009). Another study found primary care providers viewed the integration of social work as a value to their practice in reduced workloads and the preservation of time and emotional stress (Todahl, Linville, Smith, Barnes, and Miller, 2006).

As the population of older adults grows, more will be living with multiple chronic health conditions compounded by psychosocial problems (Berkman, Gardner, Zodikoff and Harootyan, 2005). One study found that nearly eighty-percent of older adults visiting primary care have one or more chronic illnesses (He, Sengupta, Velkoff and DeBarros, 2005), which cause serious limitations in their activities of daily living (Alecxih, 2001). Further complicating matters, many older patients have psychosocial problems that can exacerbate physical illness if not addressed (Netting and Williams, 2000).  Other studies have found that as many as seventy-percent of older adults seeking primary care have psychosocial and social issues, such as substance abuse or misuse (McGuire, Bikson, & Blue-Howells, 2005). Finally, research has shown that patients receiving comprehensive care in one location are more satisfied with their care (Kanter, Martinez, Lindsay, Andrews, and Denver, 2001).

**Improved health outcomes.** In its current form, the Accountable Care Organizations' reimbursement will be determined, in part, by patient outcomes. If the ACA remains in place, over the next few years, potentially 32-million patients will gain health insurance through some form of ACA directive (Hoffer, Abraham, and Moscovice, 2011). However, unrelated to the ACA, as the population ages, additional pressures will be placed on our primary healthcare system. Older patients who receive social work services in primary care have been shown to have improved physical and mental health (Firth, Dyer, Marsden and Savage, 2003) and fewer acute care visits (Sommers, Marton, Barbaccia and Randolf, 2000). The presence of social work in primary care settings enables a holistic approach to patient care, addressing psychological, behavioral, and social issues in addition to other health problems. Interdisciplinary collaboration in healthcare settings has shown to reduce hospital emergency room visits (Butler et al., 2008), reduction in adverse drug events (Fernald et al., 2004), reduced medical errors, fewer in-patient

hospital days, fewer hospital re-admissions, and increased medication compliance (Naylor et al., 2004). Patients receiving integrated care have seen improved blood pressure (Borenstein, Graber, Saltiel, 2003), improved cholesterol and blood glucose levels (Pape, Hunt, Butler, 2000; Lemieux, 2015) and improved mental health (Firth, Dyer, Marsden and Savage, 2003). Craig, Bejan, and Muskat (2013) found that patients will often disclose pertinent information regarding their social determinants of health to a social worker, rather than with their physician. Thus, social workers are central to the assessment of psychosocial problems affecting patient health.

      **Reduced hospital readmissions**. Beginning in 2015, the Centers for Medicaid and Medicare Services (CMS), following the Readmissions Reduction Program (HRRP), will penalize hospitals that see patient readmissions within 30-days of discharge (CMS.gov). Because of this, the healthcare community is implementing strategies to help reduce hospital readmissions and improve patient care. One such strategy is streamlining post-discharge care to ensure patients are receiving the care they need to avoid returning to the emergency room. Discharge planners are now assisting patients in obtaining primary care after they leave the hospital (Silow-Carroll, Edwards and Lashbrook, 2011). A study supported by the Commonwealth Fund sought to examine four of the top hospitals in the United States, and how they have been able to reduce readmissions; Memorial Hermann in the Texas Medical Center was included in the study. The researchers found hospitals that identify high-risk patients—those with multiple health and social needs—and facilitate the transfer to a primary care clinic, attain fewer patient readmissions. When patients are receiving adequate follow-up care with community-based clinics they are more likely to follow through on discharge instructions and thus avoid readmission. Silow-Carroll, Edwards and Lashbrook posit that, ". . . integrating hospital and outpatient care is key to reducing hospital readmissions (pg. 2)."

Integrated primary care is also associated with reduced use of emergency rooms and more efficient use of out-patient services (Butler et al., 2008; Scharf et al., 2003). Bronstein, Gould, Berkowitz, James and Marks (2015) conducted a study looking at the involvement of social work in post-discharge care coordination. They found not only lower readmission rates for those patients receiving social work after-care, but also higher patient satisfaction rates. Further, Tuso et al. (2013) found that hospital readmissions were largely due to social problems that were not identified and resolved during hospitalization. The researchers learned these issues included the high cost of medication, lack of transportation for follow-up care, and lack of help at home to perform personal care tasks.  This points to the necessity to identify and address these gaps prior to patient discharge, shifting from a disease-focus to a patient-focus. Social workers are a pivotal part of the interdisciplinary healthcare team, as they operate from a biopsychosocial approach, and take into consideration the social and emotional factors that influence a patient's health.

**Facilitators and Barriers to Social Work Integration in Primary Care**

For social workers to be successfully integrated into primary care, they must be seen as directly contributing to positive patient outcomes, and cost savings. Research has shown a cost-savings associated with the inclusion of social work in primary care (Butler et al., 2008) and improved access to mental healthcare, and this contributes to better patient outcomes (Firth et al., 2003). However, some practices are slow to adopt an integrated model. Goldberg, Mick, Kuzel, Feng, and Love (2013) found barriers often exist across systems. The researchers note that some aspects of integrated care are in direct conflict to the PCMH integrated care model. For example, CMS reimbursement systems encourage high-volume rather than patient-focused care. Smaller primary care clinics may not be able to meet the new demands placed on the health care system, as they may not be able to employ extra members of the healthcare team to help keep up with the

volume necessary to remain profitable. Margolis and Bodenheimer (2010) suggest that primary

care practices will need to adjust to large patient panels (the number of patients each provider

sees), which will make it impossible for one physician to be responsible for both acute care and

chronic disease management for all their patients. Utilizing an integrated model, where different

aspects of acute and chronic care can be shared by the multidisciplinary team members is

necessary to keep up with the faster pace of primary care medicine.

Perhaps some of the most significant incentives to maintain integrated practice are

financial incentives, administrative support, and clear communication. Research has

demonstrated that strong leadership that supports interdisciplinary care were present in practices

that successfully adhered to a PCMH model (Goldberg et al., 2013). Shortell and Rundall (2003)

state that successful organizations are constantly in motion, assessing for and responding to

barriers to integrated care (as cited in Goldberg et al., 2013).

Facilitators and barriers were found to exist on three levels:  1) organizational; 2)

interpersonal; and 3) individual (Friedman et al., 2016). The same barriers and facilitators can

exist in multiple levels. For example, difficulty with electronic medical records (EMR) can exist

on the organizational level with software implementation problems, and on the individual level

with user error. Examples of organizational barriers/facilitators may be the presence or lack of

administrative and/or fiduciary support. Interpersonal barriers/facilitators may be interactions

between patients and providers, or between healthcare facilities; and examples of individual

barriers/facilitators may be past personal experiences with interdisciplinary teamwork.  For

instance, previous negative experiences with interdisciplinary teams, such as lack of shared

goals, may affect an individual's performance on a newly formed team (Fernald et al., 2011).

Factors that significantly influence interdisciplinary teamwork include time for collaboration,

disciplinary tribalism, location of interdisciplinary teams, and knowledge of professional roles. Friedman et al (2016) maintain that these factors can exist on all three levels, either separately or simultaneously. The facilitators and barriers are discussed in further detail below.

**Knowledge of Professional Roles.** Many of the facilitators of collaboration are dependent on the knowledge of others' professional roles. Social work has, perhaps, been one of the most misunderstood professions, with people believing the profession limited to welfare work or child protection. Unfortunately, misconceptions held by the general population are likely to be shared by those in healthcare professions. A study by LeCroy and Stinson (2004) that examined the stereotypes of social work found that the general population is largely unaware of the occupational range of social workers, and do not hold the profession in a high level of esteem, when compared to other helping professions. It is not surprising, then, that unfavorable stereotypes and generalizations can frustrate collaboration efforts (Thomson, Outram, Gilligan and Levett-Jones, 2015). Physicians, too, are not free from negative stereotypes by other professions. Doctors can be perceived as arrogant, and callous (Cook and Stoecker, 2014) which can also impair collaboration with other health professionals. Furthermore, the strain felt by health professionals engaged in interdisciplinary practice can have a detrimental impact on communication, attitudes and job satisfaction (Jungyai, Bailey-Kloch, and Kyeongmo, 2014). These misconceptions may create false expectations and can be exacerbated when other's roles are not clearly understood.

When the roles of the various interdisciplinary team members are well known by all members, stereotypes and misunderstandings can dissipate, and allow team members to rely on their own experiences within the team to form their impressions. Health professionals who are knowledgeable of other professional roles and scope of practice and are trained to work in

interdisciplinary clinical settings show a higher level of collaboration and mutual respect (Tomson et al., 2015). Therefore, educating various team members about the roles of other members of the interdisciplinary team may be necessary to promote improved team alliance and collaboration. Tomson et al. (2015) posit that effective communication within an interdisciplinary team requires that each team member has a good understanding of the roles and scope of practice of the other team members.

***Role Confusion***. Existing research has raised the question about how well social work is understood among other disciplines. Some studies have shown that physicians and nurses have a poor understanding of the roles of social work in healthcare (Keefe, Geron and Enguidanos, 2009; Lesser, 2000; Salvatore, 1988). And, as Abramson and Mizrahi (1996) have found, confusion about the role of social work in primary care can disrupt collaboration.

Interdisciplinary education is central to advancing collaboration in practice, but it has not been a regular part of the curriculum of many health professions (Long, Dann, Wolff, and Brienza, 2014), and this creates a gap in understanding other's roles on the healthcare team. According to Begley (2009) it is important for different professions working in tandem to understand each other's roles, as that the lack of interdisciplinary education can contribute to not only misunderstanding the roles of others, but to a devaluation their function in the healthcare team.

In the past, there has been abundant research on the role of medical social work in hospital settings and the perceptions of that role as perceived by social workers and other health professions (Carrigan, 1987; Schlesinger and Wolock, 1982; Mizrahi and Abramson, 1985; Crowles and Lefcowitz, 1992), yet current research in the primary care area is lacking. There are some similarities, however, in the existing research that may lead one to believe that there are

overlapping misconceptions. For example, Crowles and Lefcowitz (1992) conducted a study in five Indianapolis area hospitals regarding perceptions of the social work role. They found that physicians and nurses perceived the primary goal of social work to connecting patients to community resources and services.  Social workers, however had a broader view of their role and it included conducting assessments as well as direct behavioral health interventions. Keefe, Geron and Enguidanos (2009) had similar findings in their focus group exploration of the ways in which primary care physicians and nurses perceived social work roles. The researchers found that most respondents saw social workers as accessing community-based resources for patients and assisting in long-term care planning. Nurses had a slightly broader perspective and knew that social workers also provided psychosocial assessments and education.  However, both groups underestimated the academic abilities of social work. They conclude that if there is to be large-scale integration of social work into primary care settings, primary care practitioners will require more knowledge regarding the services social workers provide.

Although some recent research on social work integration in primary care is available, much of it has focused on specializations, such as geriatrics and pediatrics, or mental health social work and social work in rural areas (Keefe, Geron and Enguidanos, 2009; Badger, Ackerson, Buittell and Rand, 1997; Netting and Williams, 2000; Lemieux, 2015; Firth, Dyer, Marsden, and Savage, 2003; Berkman, Gardner, Zodikoff, and Harootyan, 2005; Lynch and Franke, 2013). However, despite these few studies, as indicated above, the existing research on the knowledge of social work roles by other healthcare professionals reveals a poor understanding of the nature and scope of social work practice. One accomplishment of the ACA is that it has spurred expansive changes in the delivery of healthcare in the United States, in both in-patient and ambulatory settings. Additionally, healthcare social work is changing to meet the

growing demands placed on the healthcare system. The integration of social work in community-based primary care settings is necessary for the progression of the practice. And while much can be learned from the research in other settings, it is important to focus research on the new roles of social work in the primary care setting.

*Communication.* Efficient communication between healthcare providers is essential to patient care, and largely reliant on knowledge of others' professional roles. Team members are subject to his or her own professional culture, with values, attitudes beliefs, and language that is distinct to their occupation (Loseke and Cahill, 1986). Importantly, ineffective communication has been shown to contribute to serious adverse events (Sutcliffe, Lewton and Rosenthal, 2004) whereas high-functioning healthcare teams are associated with better clinical outcomes (Bonfias and Gray, 2013). Communication refers to not just the words that are written or spoken, but also the tone and body language. The behaviors and attitudes that are particular to a certain profession may be portrayed through nonverbal gestures and mannerisms. This is crucial because according to Allesandra and O'Connor (1996) less than ten-percent of the meaning and intent is conveyed by the words themselves. Lastly, communication is important for team cohesiveness; without clear and meaningful communication, professional relationships can be hampered. Moreover, Flin, Fletcher, McGeorge, Sutherland and Patey (2003) found that effective communication is associated not only with the effectiveness of teams, but also with the self-reported satisfaction.

Not surprisingly, poor communication is associated with poor collaboration (Shaw, de Lusignan, and Rowlands, 2005) and there are various impediments to effective communication within interdisciplinary teams. Occupational cultural differences (Schouten and Meeuwesen, 2006), hierarchical differences (Sutcliffe, Lewton and Rosenthal, 2004), education and training (O'Daniel and Rosenstein, 2008) and personality type (Rosenstein, 2002) have been shown to

impede communication among team members. O'Daniel and Rosenstein (2008) report that consistent and open communication are fundamental to the performance of interdisciplinary teams. Good communication enhances team cohesion, trust, mutual respect, and collaboration (O'Daniel and Rosenstein, 2002). One way this can be achieved is through continuing education on interdisciplinary care and communication and through regular meetings, or informal "huddles" (Martin, O'Brien, Heyworth, and Meyer, 2005).

 *Occupational Culture*. Different occupations, when working in a multidisciplinary environment, tend to hold similar views to those sharing their profession. Professionalization, as defined by Loseke and Cahill (1986) is the process by which junior professionals learn the values and master the skills of his/her profession and thus adopt the "occupational identity." Each profession has its own learning style that is dissimilar to others. For example, medical students are acculturated in a highly competitive environment, whereas social workers are trained to work more collaboratively (Loseke and Cahill, 1986). This can affect how they approach a problem and can lead to the dominance of one profession over others (Dalley, 1989) especially in medical settings where the physician tends to sit atop the clinical hierarchy (Page and Meerabeau, 2004). The educational silos that exist in our current academic model reinforce the occupational identity, leading to what Petrie (1976) called the "cognitive map" (pg. 11). Petrie, describing how different professions tend to have different perspectives, contends that two disciplinarians can look at the same problem and see entirely different things, and their education and socialization fortifies this process. Because of their training and education, physicians are prone to dominate interdisciplinary teams, and are thus more likely to impose their views onto others in the group. Not surprisingly, the academic culture of medical school is focused on outcome, and decision-making, rather than collaboration and shared-decision making (Reese & Sontag, 2001).

Due to this, professional or occupational "tribalism" can undermine efforts to engage in collaborative activities and can lead to some team members to feel subordinate, which leads to disengagement from the team and the loss of desire for collaboration. As integrated care is becoming more crucial to healthcare delivery, researchers are encouraging an exchange of knowledge and skills to facilitate collaboration (Baxter and Brumfitt, 2008; D'Amour and Oandson, 2005).

According to Weller (2012) tribalism and power differentials can affect interdisciplinary teamwork by creating a lack of respect, and devaluation of the opinions of other collaborators and the formation of rigid hierarchies (Gillespie, Ghaboyer and Longbottom, 2010).  In addition, if an aspect of patient care is viewed by others as the sole responsibility of one professional on the team, errors may occur when team members do not communicate about patient care. This can result in suboptimal patient care and conflict on the interdisciplinary team. Abramson and Mizrahi (1996) studied physician-social worker collaboration and saw tribalism as a factor that results from differing professional perspectives and socializations, which can lead to "turf" issues and discord among the team members. Although their study found that social workers placed higher value on collaboration than physicians did, the physicians believed that they had good communication when staffing cases with the social worker. The authors note that one-third of the doctors interviewed saw shared responsibility as important when staffing cases with social workers. Clearly, good communication is essential for collaboration, and good communication may be the key to overcoming professional tribalism. Abramson and Mizrahi conclude that the boundaries between each profession can be softened by effective communication, and to increase meaningful interaction, knowledge of others' functions and roles is essential (Reese and Sontag, 2001).

*Time for Collaboration*. An article published in 2016 in Forbes Magazine reported that physicians spend twice as much time documenting as they spend with patients in face-to-face encounters (Jaspen, 2016). Certainly, this is in part due to the transition to EMRs, but the ACA's requirement for the transition to EMR has also created additional burdens on medical practices. A study by Park, Lee and Chen (2011) found that the transition to EMR increased a physician's documentation time significantly, and this also increased emotional and mental strain, and reduced the amount of time they spend with patients. Not surprisingly. this may cause perceived time constraints for collaborative activities in busy practices.  Research by Abramson and Mizrahi (2003) found that physicians were under the impression that social workers do not understand the time pressures they face. Providers in busy practices are often limited to 15-minute time slots for patient visits and are expected to provide comprehensive care.  In successful collaboration, team members have their profession-specific roles, but together they assess and evaluate problems, working jointly to achieve goals. Without a good knowledge of each other's roles, this collaboration is impeded. For instance, in consolidation of time, the function of social workers in primary care can help conserve a provider's time. Keefe, Geron and Enguidanos (2009) pointed out that patients in primary care often present with multiple psychosocial problems that can often complicate their health status. As more patients turn to primary care to provide care beyond their medical needs, providers often find themselves over-burdened by multiple patient complaints in one office visit and they seldom have time to address all the patient's needs. Mizrahi and Abramson (2000) report that social workers are more likely to recognize psychosocial issues than physicians and can aid in addressing these issues.  If the social worker's role is not well understood by the primary care team, time for collaboration can be perceived as an impassable hurdle. As primary care is increasingly strained by patients with

multiple needs and complications, more providers are acknowledging the value that social work can add to their practice (Rock and Cooper, 2000; Sommers et al., 2000).

 ***Co-Location***. The physical space, or premises in which the team interaction takes place is another important factor to successful collaboration, as it can either hinder or encourage open communication, and familiarity with each team member's professional roles (Xrychis and Lowton, 2008). Co-location refers to the shared premises from which the interdisciplinary team operates (Rumball-Smith, Wodchis, Konè, Kenealy, Barnsley, and Ashton, 2014) and is believed to be critical in the facilitation of team-based care. Ni'Raghallaigh, Allen, Cunniffee and Quin (2013) conducted focus groups of social workers in primary care and found co-location to be an important factor for understanding the roles of others on the healthcare team. Another study found that co-location of the interdisciplinary team also enhances patient-focused care (Forman et al., 2013). When the team members are in close proximity, it facilitates scheduled and impromptu meetings and may increase the inclusion of social services by other health care professionals. It also facilitates warm-handoffs, in which the medical provider directly introduces the patient to the social worker during the office visit. Co-location increases the likelihood of not only warm-handoffs to the social worker, but also increases social work referrals and follow-ups (Lesser, 2000). When all team members are in a common location, social work follow ups can be scheduled with primary care follow ups. Moreover, Bikson et al. (2009) reported that patients seen in primary care have an average of five psychological and social problems, and a third will agree to see a social worker; however, many will fail to follow through if it requires the patient to travel to a different location (Kelleher, 2000). Finally, co-location aids in the prompt assessment of patients referred by the physician (Moran, Nancarrow, and Enderby, 2015).

Physical space is a crucial aspect for the co-location of interdisciplinary teams. If providers are crowded and in competition over space, it can hamper communication. Although other methods of communication, such as EMR, instant messaging and cell phones have been used to supplement teams that do not share location, the ability to walk "a few feet" to discuss patient care is preferred by many team members (Forman et al., 2014). Co-location also aids in the care of patients with chronic conditions, which complicates their care (Hogg et al., 2009). Research has shown that co-location of interdisciplinary health care teams improves clinical outcomes for patients diagnosed with diabetes, depression, and hypertension (Shojania, et al., 2006; Gilbody et al., 2006; Rumball-Smith et al. 2014; Walsh, et al., 2006). In a survey of over 300 primary care practices in Canada, Rumball-Smith et al. (2014) found a positive relationship between the number of disciplines working together on patient care and the quality of care provided to patients.

**Conclusion**

The traditional separation of disciplines and "one-size-fits-all" model of primary care is no longer adequate to meet the complex challenges of patients. Learning to work collaboratively to benefit patients is necessary to advance the patient-centered medical home's model of care to integrate the biological, psychological, social, and emotional aspects of patient health and wellbeing.  Social work is a person-centered profession and is consistent with the PCMH patient-centered approach to holistic healthcare. It is critical that the other professions who work in interdisciplinary teams recognize that social workers are knowledgeable about and trained in evidence-based interventions, such as motivational interviewing and cognitive behavioral therapy, and have a thorough understanding of the intersectionality of social and environmental factors on population health. Healthcare in the United States is slowly transforming from a

disease-focused model to a prevention and wellness model, with special attention to the non-medical aspects that complicate chronic diseases, such as housing insecurity and poverty. As more Americans receive preventative care through community-based primary care clinics, the importance of interprofessional collaboration is clear. Skopec and Sommers (2013) estimated that 105 million Americans received prevention services made possible by ACA, such as no-fee wellness visits. Moreover, as life expectancies continue to increase, more adults will likely be covered by Medicare in the coming years and will be living longer with multiple chronic health conditions (Berkman et al., 2005). Patients today are more likely to present with social and behavioral problems, complicating their care (Netting and Williams, 2000), and this will increase the burden on our already strained healthcare system. Social workers are expressly qualified to address the social and behavioral needs of complex patients in primary care settings, conserving both time and money (Clark and Foster, 2011; Andrews and Kuhn, 2005).

An estimated $2.5 trillion was spent on healthcare in 2009, with nearly one-third of that wasted through unnecessary diagnostic services, duplication of services, and other inefficiencies (Regence Blue Cross/Blue Shield, 2013). As managed care continues to evolve, the role of the primary care physician and community-based practice will take center stage in the new era of healthcare transformation.  As discussed throughout this chapter, the research has shown that the unique healthcare needs of individual patients can best be served by an integrated team of clinicians and providers working seamlessly together. The Institute of Medicine (1996) refers to patient-centered care as an alliance between providers, patients, and their families. Patient-centered care factors in the social, biological, economical, and psychological aspects of healthcare, and ensures the treatment plan respects the patient's values and preferences; this is consistent with the person-centered principle in social work practice. The primary aim of social

work is to "enhance human-wellbeing and to help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are vulnerable, oppressed, and living in poverty (NASW Code of Ethics, first paragraph). Social work and healthcare occupations are perhaps two of the largest groups of helping professions, and it only makes sense that these specialties come together to work towards enhancing human-wellbeing.

The facilitators and barriers presented in this chapter are significant as individual factors, but also in their interaction with each other, and with special attention to the knowledge of professional roles. Role knowledge is a pillar upon which the other facilitators rest.  A clear understanding of the professional roles and responsibilities of each member of the interdisciplinary team is necessary for mutual respect, effective communication and effective collaboration. Role knowledge enhances meaningful communication, and therefore enhances collaboration. Poor understanding of roles can lead to misconceptions and create false expectations of team members. Each profession has its own culture (Loseke and Cahill, 1986), and understanding the roles of others can help the interdisciplinary team form its own culture. Conversely, a lack of understanding of roles leads to the absence of mutual goals, organization, and increases conflict within the team. Although debate is a normal part of collaboration, without adequate knowledge of other's roles, it can transform routine conference into contention (Reader, Flin, Mearns and Culbertson, 2007).  Finally, each member of the interdisciplinary team has his/her own area and scope of practice. It is in collaboration that the healthcare team can bring their diverse knowledge together to meet the complex needs of the patient. For the team to work effectively, each member must value the contributions of the other; this is unlikely without adequate knowledge of each collaborator's role on the team.

As discussed above, the role of social work is often misunderstood, particularly in the healthcare field. Although social workers are employed in a wide range of fields, there can be confusion regarding exactly what responsibilities are carried out by social workers, and there is little research examining how this affects social work integration in primary healthcare. According to the research presented in this literature review, some misconceptions involve the level of education and training social workers receive and the roles they play on interdisciplinary healthcare teams (Keefe, Geron and Enguidanos, 2009; Crowles and Lefcowitz, 1992; Mizrahi and Abramson, 1985). Due to the sparse research on role knowledge in interprofessional healthcare teams, the purpose of this study was to first develop an understanding of social work roles in primary health care teams. Second, it sought to examine the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration (interdependence, newly created professional activities, flexibility, collective ownership of goals, and reflection on process). Lastly, this study investigated the association between the amount of interdisciplinary collaboration that occurs in the primary care setting and the level of satisfaction among the team members.  The specific aims are as follows:

**Qualitative**

S.A.1. To examine social work role knowledge on interdisciplinary primary care teams and the barriers and facilitators of collaboration with other medical professionals on the care team.

S.A.2. To develop and refine a scale intended to measure knowledge of social work roles, which will be piloted in the quantitative strand of the study.

**Quantitative**

S.A.1. To examine the association between knowledge of social work roles and the dimensions of interdisciplinary collaboration (interdependence, newly created professional activities, flexibility, shared ownership of goals, reflection on process).

S.A. 2. To examine the association between the knowledge of social work roles and satisfaction with collaboration.

S.A.3. To determine if satisfaction with interdisciplinary collaboration is a mediator on the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration.

**Chapter III**

**Methods**

This study used an exploratory qualitative, plus sequential mixed methods design (qualitative + quantitative), as illustrated in Figure 3, to explore the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration (interdependence, newly created professional activities, flexibility, collective ownership of goals, reflection on process) described in the previous chapter. According to Creswell (2011) an exploratory sequential design begins with the collection and analysis of qualitative data which then leads to the quantitative strand, to test the initial findings. Phase 1, an exploratory qualitative deign was used develop a better understanding of the duties and roles of the social worker in the community-based primary care clinics, and the facilitators and barriers to achieving collaboration.

Phase 2 of this study used a sequential mixed-methods (qualitative + quantitative), design to develop a scale and examine the relationship between knowledge of social work roles, interdisciplinary collaboration, and satisfaction with collaboration. In phase 2 part 1, qualitative interviews of integrated medical social workers were used to refine scale to measure knowledge of social work roles on integrated primary care teams. This scale was developed by this researcher and will be further explained in the measures section. The refined version of this measure was administered during phase 2, part 2, the quantitative strand of the study. After data analysis the results were synthesized with Phase 1and then presented. This advanced mixed-methods design is illustrated in the figure below.

Figure 3

*Qualitative Exploratory + Sequential Mixed Methods (Qualitative + Qualitative) Design*



The quantitative portion of this study explored the relationship between knowledge of social work roles and satisfaction with collaboration and the dimensions of interdisciplinary collaboration, which was measured using Bronstein's (2002) Index of Interdisciplinary Collaboration. Lastly, this strand of the study examined satisfaction as a mediator to the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration. The core member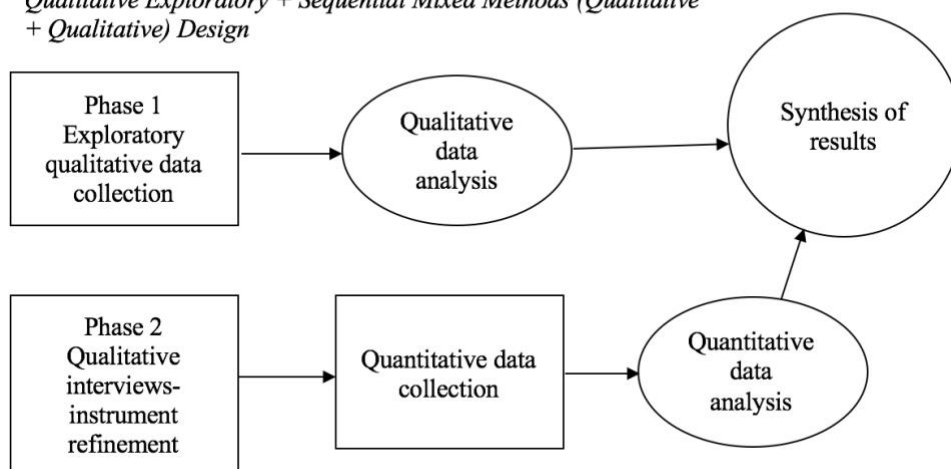s of the interdisciplinary team, primary care providers (medical doctors, registered dieticians, physician assistants, and nurse practitioners), nurse case managers, and social workers located in the community-based primary care and adjoined multispecialty clinics were recruited to participate in this study. The following three hypotheses were developed based on a thorough review of the literature:

**Hypotheses:**

1. There is a direct positive relationship between knowledge of social work roles and each of the five dimensions of interdisciplinary collaboration.

2. There is a direct positive relationship between knowledge of social work roles and satisfaction with interdisciplinary collaboration.

3.  Satisfaction with interdisciplinary collaboration will partially mediate the relationship

between knowledge of social work roles and each of the five dimensions of

interdisciplinary collaboration.

**Subjects/Sampling**

A sample was recruited from nineteen community-based primary care and adjoining

multispecialty clinics operated by UT Health Science Center in and around Houston, Texas,

which have access to, or a medical social worker located in the clinic. Multispecialty clinics that

are connected to primary care clinics are included in this study as the specialists are considered a

part of the interdisciplinary team, with the primary care provider serving as the gateway to

specialists. Participants were recruited for focus groups or for individual interviews via email.

The eligible providers'@uth.tmc.edu email addresses was obtained by the researcher, for direct

contact. The researcher's medical consultant, Dr. Thomas Murphy, Chief Medical Officer for the

Community-based clinics, sent an introductory email to potential respondents to announce his

support of this research. Three days after the introductory email, an email describing the purpose

of the study was sent directly to the providers via email inviting them to participate in the study.

Reminder emails were sent at one-week intervals, for a total of two weeks until two focus groups

were formed, and individual interviews were scheduled. Subjects were screened for eligibility by

the researcher prior to selection and provided with informed consent prior to participating in the

study. The inclusion criteria for the first group were: a physician, nurse practitioner, physician

assistant, or registered nurse working at least part time or one day per week in UT Physicians

community-based primary care and/or adjoining multispecialty clinics in the greater Houston

area. In addition, providers must have had at least one contact regarding patient care with the

clinic social worker in the past 12 months. The second group consisted of social workers

working at least part time or 20 hours per week in UT Physicians community-based primary care clinics. Of the participants responding to the recruitment email, 10 to 15 of each study population (medical providers and social workers) were purposively selected for maximum variation across medical professions and clinics. Participants were selected for the focus groups based on professional diversity, and availability. Previous studies have found that medical providers and physicians have a response rate that is ten-percent lower than the general population (Cummings, Savitz, and Konrad, 2001). This is largely due to the demanding schedules and time constraints under which physicians practice. For this reason, the primary investigator took necessary steps to ensure maximum convenience for medical providers who responded to participate in this study. Due to the time needed for focus groups and the limits of provider schedules, individual interviews were also scheduled. One social worker and eight providers were interviewed by telephone; nine social workers and four providers participated in focus groups; and three providers were interviewed in person. Respondents were selected to represent maximum diversity of clinic location and professional designation. Interviews and focus groups were scheduled at the provider's preferred time and location.

For the quantitative survey, respondents answered screening questions online prior to gaining access to the survey. Inclusion criteria for the quantitative strand of this study were: physician, nurse practitioner, physician assistant, psychotherapist, dietician, or registered nurse working at least part time for registered nurses, and one day per week in a UT Physicians community-based primary care clinic and/or adjoining multidisciplinary clinic in and around Houston, Texas who have engaged in interdisciplinary collaboration with the social worker at least one time in the past 12 months. Similarly, the same inclusion criteria as listed in the qualitative strand was applied to social workers during this portion of the study; those working at

least part time, or 20 hours per week in a UT Physicians primary care and/or adjoining

multispecialty clinic were eligible to participate. Although social workers were invited to

participate in the quantitative strand of this study, the sample size was not large enough to

compare to providers, and therefore the quantitative portion focused solely on medical providers.

**Setting**

University of Texas Physicians community-based clinics located in the greater Houston

area served as the setting for data collection. The clinic sites where recruitment took place are

shown in Appendix A. There is an approximate total of 188 primary care and multispecialty

providers and 12 social workers employed in the community-based clinics. Due to turnover rates,

the number of social workers has risen and fallen over the past year and have left some of the

clinics without a designated social worker on site. Medical providers range from primary care

and internal medicine, to cardiology, rheumatology, endocrinology, otolaryngology, obstetrics

and gynecology, gastroenterology, neurology, ophthalmology, pediatrics, and urology.  The

patient population varies by clinic, and some locations have a majority adult population, while

other locations serve more children. Additionally, patient demographics vary by location, with

some clinics located in minority-majority communities, such as the Southwest Community and

Wellness Center, and the UTP Jenson Community Health and Wellness Center. UT Physicians is

an ideal setting for this research because UT Health and Science is the largest operator of

community-based primary and multispecialty health care clinics in the greater Houston area. The

clinics each serve a diverse population, and several of them are in medically underserved areas,

such as the Jenson and Victory Health and Wellness Centers. Additionally, all the clinics care for

patients of all ages but some, such as Bayshore and Bellaire Center for Healthy Aging, also have

gerontologists on staff and have a large elderly population.

**Procedures**

**Phase 1: Exploratory qualitative data collection.** This phase of the study used focus groups and individual interviews to develop a better understanding of the roles and activities of social workers in the primary care clinics. Furthermore, the qualitative questions explored facilitators and barriers to medical provider/social worker collaboration. A semi-structured interview guide was used (in Appendix C) to conduct the focus groups, one including nine social workers and the other, four medical providers. The social work focus group was held immediately following a monthly meeting in a UT Health Science Center conference room, located at 1200 Binz St, Houston, TX 77056 for maximum participation. The researcher provided lunch for the participants as an incentive to attend. Signed consent was obtained prior to data collection and all participants gave permission to be audio recorded. The provider focus group was held in the break room at UT Physicians Bayshore Family Practice, located at 11452 Space Center Blvd., Houston, TX 77059. Signed consent was obtained, and each respondent gave permission to be audio recorded. The focus groups were semi-structured and facilitated by this researcher, who operated the recording device, and took hand-written notes as necessary. Each focus group lasted approximately two hours.

Two licensed master social workers (LMSW), who were not familiar with the research or data were recruited to assist with the qualitative data analysis. The researcher coded the transcribed data, then each member of the analysis team independently reviewed the data and identified themes and subthemes. The themes were then compared, and differences reconciled through email and Skype meetings. The two outside analysis team members each received a $20 Amazon gift card upon completion of their tasks as a token of appreciation.

**Phase 2: Sequential mixed methods.** *Part 1: Qualitative.* This part of the study was used to inform and refine an instrument to measure knowledge of social work roles for use in the quantitative portion of this study, and only social workers included in this part. The Knowledge of Social Work Roles scale was developed by this researcher informed by professional clinical experience and from literature: *Integrated Behavioral Health in Primary Care* (Hunter, Goodie, Oordt, and Dobmeyer, 2009) and *Transformative Social Work Practice* (Schott and Weiss, 2016). A total of 30 brief-patient scenarios were given to each member of the focus group to accept, omit, or refine for the final version of the scale. After discussion, the focus group settled on 15-items, and composed 5 of their own, bringing the total to 20-items on the completed scale. After the focus group, the completed version of the scale was again checked and approved by the Director of Social Work for face validity.

        **Phase 2, Sequential Mixed Methods.** *Part 2: Quantitative.* Qualtrics was used to distribute the surveys through an email distribution list. Because physicians, in general, have a low response rate to surveys, a multimodal approach was used to increase response rate with a goal of 60% (Fincham, 2008) which was not met, as discussed below. An introductory email was sent to prospective participants one week before the survey launched to inform providers of the study. According to Cunningham et al. (2015) personalization of introductory emails can increase response rates and therefore Dr. Thomas Murphy, the Chief Medical Officer for Community Based Clinics sent the introductory email on December 13, 2017. As he is a well-known physician in the UT system, it was hoped that his support of this study would encourage other providers to participate. An email announcing the opening of the survey was sent to providers on December 15, 2017 with reminder emails sent in weekly intervals from December 22 to January 26, 2018. The online survey was closed approximately six-and a half week after its

launch, on January 31, 2018, as shown in Table 1 below. In addition, clinic managers verbally announced and reminded providers of this study, and it was presented at the monthly staff meeting at each clinic by the clinic managers, and at team huddles (when held) by the clinic managers.

Table 1

*Methodology of Survey Distribution*

| Timeline | Survey Endorsement | Survey Implementation |
|---|---|---|
| Week 0 | Introductory email sent by Dr. Murphy and study announced by clinic managers. | |
| Week 1 | | Primary email invitation to participate sent by Dr. Murphy. |
| Week 2 | | Follow up email sent by researcher. |
| Week 3 | | Distribution of paper surveys to clinics (with SASE). |
| Week 4 | Verbal reminder by clinic manager. | Follow up email sent by researcher. |
| Week 6 | Verbal reminder by clinic manager. | Follow up email sent by researcher, announcing study ending soon. |
| Week 6.5 | | Survey closed. |

To increase the rate of response, paper surveys with self-addressed stamped envelopes and hand-written 'thank you' notes were distributed to four of the clinics, which have many providers on staff. The envelopes were addressed to return to the University of Houston Graduate College of Social work, to this researcher's attention. Informed consent was obtained either electronically by checking a box acknowledging consent prior to completing the survey, or by checking a box on the paper survey. Figure 4 shows the total provider population and the projected response rate.

Figure 4

*Projected Survey Response*
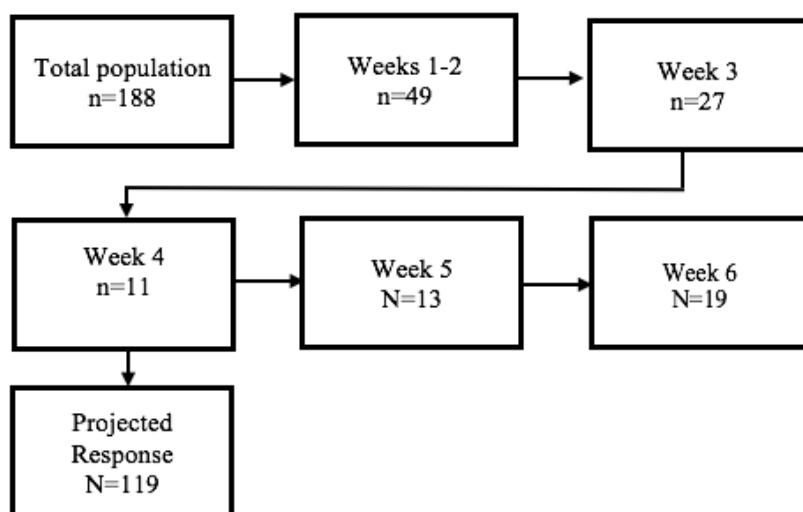


According to Fincham (2008), online surveys without follow up reminders have a total response rate of 25-30%. Including email reminders can yield a 15-25% of the adjusted population with each follow up email. Furthermore, according to Fincham, if the desired number of respondents cannot be reached with email reminders, multimodal approaches (email plus paper surveys) can increase the total response to above 70%, reducing the non-response bias significantly.

Qualtrics, was used to distribute the self-administered survey to the research participants through email. Approval for this study was obtained prior to data collection, and is in Appendix C. The surveys were anonymous, and all data is kept in password protected files. As an incentive for completing the survey, participants were given the opportunity to enter a drawing for one of ten $50 Amazon gift cards. If they chose to enter the drawing, they were asked to provide an email at the end of the survey, and the gift cards were delivered via email. which were delivered via email. As anonymity could not be ensured to enter the drawing for the gift cards, only participants who wished to enter the drawing were asked to provide their preferred email after the survey. The provided emails were only used for selecting recipients for the incentives and

were electronically destroyed after the gift cards were delivered. The estimated time to complete the survey was approximately thirty minutes, as tested by the researcher and three research assistants prior to data collection. The average time for respondents to complete the survey was twenty-three minutes.

**Measures**

**Dependent variables**: The six dependent variables tested in Hypothesis 1 were: the composite score of the Index for Interdisciplinary Collaboration for providers, and each of the five dimensions of interdisciplinary collaboration subscales: interdependence; newly created professional activities; flexibility; shared ownership of goals; and reflection on process. Hypothesis 2 examined the relationship of the independent variable with satisfaction with collaboration. Finally, Hypothesis 3 examined the mediation effect of satisfaction with interdisciplinary collaboration (between medical providers and social workers) on the dependent variables from Hypothesis 1.

*The dimensions of interdisciplinary collaboration.* The five dimensions are defined below and were measured using Bronstein's (2002) Index of Interdisciplinary Collaboration (Appendix G). The Index for Interdisciplinary Collaboration is a 42-item 5-point likert-type scale ranging from (1) strongly agree to (5) strongly disagree that measures professional interactions in an interdisciplinary setting, including knowledge of roles. The overall measure has five subscales:  interdependence (items 1 to 13), newly created professional activities (items 14 to 19); flexibility (items 20 to 24); shared ownership of goals (items 25 to 32); and reflection on processes (items 32 to 42). Prior reliability analysis for internal consistency revealed that items on the scale overall had an alpha coefficient of .92. The scale was developed for use with social work professionals, thus the wording is tailored to that population. The researcher obtained

permission to customize the scale for use on a different professional population, (medical providers), without changing substantive terminology. Dr. Bronstein then reviewed and authorized its use. The modified version of the quantitative survey was then made available to the medical providers. Due to the reverse Likert-values between the Index of Interdisciplinary Collaboration (1=strongly agree; 5=strongly disagree) and Knowledge of Social Work Roles Scale (1=never; 5=always), the Index for Interdisciplinary Collaboration for Providers was reverse scored from the original scale, so that the direction was consistent, and the Cronbach's alpha was .79. This scale can be found in Appendix H.

*Interdependence*. This is defined as group members relying on one another while simultaneously maintaining a level of autonomy in working towards shared goals. Bronstein (2003) explained that it is necessary to have a sufficient understanding of not only their own roles on the team, but also the roles and responsibilities of others. For example, some of the questions include: "I utilize (social work / non-social work) professionals for their particular expertise"; "Professionals in my setting utilize social workers for a range of tasks"; and "My colleagues and I believe we could not do our jobs as well without the assistance of social workers." This subscale has an alpha coefficient of .78 (Bronstein, 2002).

*Newly created professional activities*. These are any actions or plans that are coordinated and executed to meet shared goals through collaboration with other team members. Newly created professional activities can change as needed (through reflection on process) to meet established and/or new goals. Newly created professional activities directly impact patient care by providing the framework that supports goal achievement. For example, social workers may be involved in follow-up with non-compliant diabetic patients to achieve an overarching practice goal of lowering average blood glucose level. Examples of items that measure newly created

professional activities are: "Distinct new programs emerge from the collective work of colleagues from other disciplines," and "Working with colleagues from other disciplines leads to outcomes that we could not achieve alone." This subscale was shown to have an alpha coefficient of .75 (Bronstein, 2002).

*Flexibility*. Flexibility is defined as the ability of team members to resolve conflicts and obstacles to goal attainment by revising the expectations and activities of a role. Bronstein (2003) suggested that this may include a "blurring" of roles as needed. For example, a social worker may perform the duties of other professionals in the practice, such as assisting the provider during a mental status or depression screen to help meet a patient's immediate needs. Successful collaboration depends on the power balance of the group, and flexibility allows roles to change to meet the needs of the group, the organization, the context of the situation, or specific patient needs. Examples of items that measure this subscale include "I am willing to take on tasks outside of my job description when that seems important," and "I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines." This subscale has an alpha coefficient of .62 (Bronstein, 2002).

*Collective ownership of goals*. This refers to the collective responsibility among the group members for the process of goal attainment. From identifying the issues, collective brainstorming for solutions, to the implementation and revision of actions and goals, all team members should be fully engaged and feel important in the process. Although each team member is responsible for different aspects of a shared goal, each person has a stake in the outcome. Shared ownership of goals, where relevant, includes the patient's ownership over health goals, such as a healthy weight, or smoking cessation. Some of the items to measure this include "Clients/patients participate in interdisciplinary planning that concerns them" and "Colleagues

from all professional disciplines take responsibility for developing treatment plans." This subscale has an alpha coefficient of .80 (Bronstein, 2002).

*Reflection on process*. This relates to the team members' reflective observations of the process of the collaboration. This step is a necessary element to help evaluate the process of working together and decide what, if any, changes should be made to the process or group composition to improve it. Reflection on process can be formal or informal and should happen regularly. An example of a formal reflection on process is a scheduled meeting that presents benchmarks aimed for and achieved as well as a review of the efficacy of the process, while making any necessary adjustments.  An informal example is an impromptu meeting to adjust procedures as they are immediately identified through practice. Examples of questions from this subscale include "I am optimistic about the ability of my colleagues from other disciplines to work with me to resolve problems," and "My social work colleagues are as likely as I am to address obstacles to our successful collaboration." This subscale has an alpha coefficient of .82 (Bronstein, 2002).

**Satisfaction with interdisciplinary collaboration.** This criterion was measured by the following question, created by this researcher for this study:

1.  How satisfied are you with the collaboration that takes place between medical providers and social workers?

This was rated on a 5-point Likert scale where 1=very dissatisfied; 2-dissatisfied; 3=neither; 4=satisfied; 5=very satisfied.

**Independent variables:**

*Knowledge of social work roles*. This variable is operationally defined as a clear understanding of the social worker's responsibilities and duties as defined by the profession and

the specific function of the collaborative process. Familiarity with professional roles helps

determine how one works within their professional boundaries and with other team members.

Additionally, a good understanding of roles can affect how much perceived value is placed on

different team members, specifically social workers. Without a clear understanding of one's own

role and the roles of others on the team, the other variables cannot be met, and can potentially

cause a breakdown in collaboration. Thirty brief patient scenarios, consisting of both appropriate

and inappropriate referrals, were created to measure knowledge of social work roles, and were

derived from this researcher's clinical expertise as a medical social worker, and from

*Transformative Social Work Practice* (Schott and Weiss, 2016) and *Integrated Behavioral*

*Health in Primary Care* (Hunter, Goodie, Oordt, and Dobmeyer, 2009). Additionally, this

instrument was checked for accuracy by the LCSW supervisor at UT Physicians. The thirty items

were then introduced to the social work focus group, where it was further developed and refined.

Social workers were asked to rate the items by importance and provide feedback on what should

be included in the final version of the scale. Finally, the social workers decided on fifteen of the

thirty items to be included, reworded a few items, and composed five of the patient scenarios

bringing the total number of items on the final version to twenty. Examples included specific

types of presenting problems, such as: 1) A patient with a newly diagnosed chronic illness; and

2) a patient with suspected alcohol abuse. The final version of the scale, located in Appendix H,

was again reviewed and approved for accuracy by the LCSW supervisor after the focus group.

Medical providers were asked to rate the scenarios (1=never; 2=rarely; 3=sometimes;

4=often; 5=always) in which they would involve a social worker, and social workers were asked

to rate the scenarios which they consider appropriate for social worker referral. As the total

social worker response rate was only ten, out of a total population of twelve, these data were not

included in the quantitative strand of the study and was only used for the pilot. Social work roles that were piloted in the qualitative strand and presented in the quantitative strand are below. After the focus group discussions with the social workers, and the piloting of the Knowledge of Social Work Roles Scale, several items on the scale were changed according to feedback. The complete original measure is in Appendix E and the revised measure is located in Appendix I.

*Control variables:* The following demographic information was collected in the survey and controlled for: age, gender, professional designation or role, clinic location and previous experience with collaboration with social work. Questions regarding gender, age, previous experience and professional designation were answered by predetermined categorical selections, and clinic location was filled in by the respondent. These measures can be found in Appendix D.

**Protection of Human Subjects**

Approval from the Committee to Protect Human Subjects at the University of Houston and University of Texas Health and Science Center was obtained prior to data collection and is located in Appendix C. As the researcher is a doctoral student at the University of Houston Graduate College of Social Work, the University of Houston served as the primary manager of the IRB application.

**Data Analysis**

**Phase 1 Exploratory Qualitative.** A qualitative software program, NVivo for Mac, developed by QSR International, was purchased and used for qualitative data management and analysis. The interviews were professionally transcribed, and the research assistant was tasked to compare the transcriptions to the written notes of the focus groups to check the quality of the transcriptions.

All qualitative data were carefully examined, including the handwritten notes from the focus group. The researcher then used NVivo software to conduct a thematic analysis. A list of tentative nodes was developed and were used to group the data based on concepts that arose during the review process. The coded data were further analyzed for emerging themes, sub-themes and patterns. The research assistant and two external volunteer reviewers examined the coded data to check for accuracy and trustworthiness. During this phase, the secondary coders identified several items for further review. A web-conference was held to resolve any differences and reach a final decision on themes and several changes were made to the codes based on this collaboration. Coded data were then grouped together by thematic category and analyzed further to abstract meaning from the data. The themes were then defined/described, and illustrated with quotes from the original interviews, and organized in a visual matrix. The qualitative strand process (Phase I) is illustrated in Figure 5.

Figure 5

*Qualitative Data Analysis Procedure*
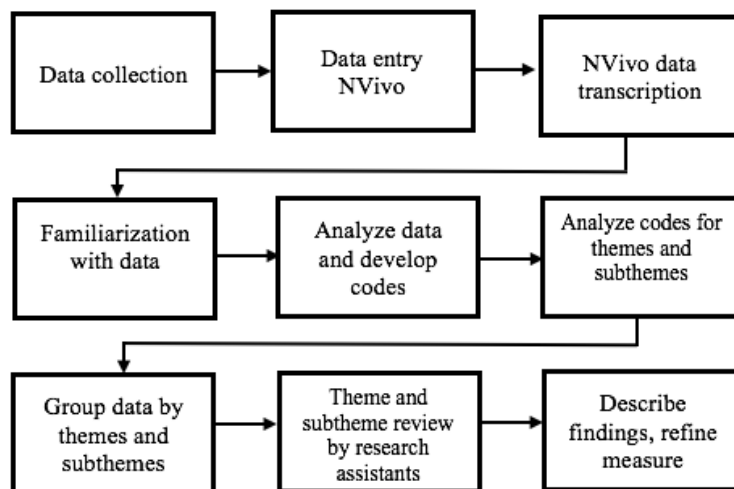
**Phase 2 Sequential Mixed Methods**

*Part 1, Qualitative.* The qualitative portion of this study refined the scale used to measure knowledge of social work roles, which was piloted in the quantitative strand, as described in the measures section.

*Part 2, Quantitative.* As illustrated below in Figure 6 quantitative data was entered into SPSS for statistical analysis. Pearson's correlation was used to test the direction and strength of the linear relationship between each of the dimensions of interdisciplinary collaboration (interdependence, flexibility, newly created professional activities, reflection on process, and collective ownership of goals) and knowledge of social work roles.

Figure 6

*Quantitative Data Analysis Procedure*
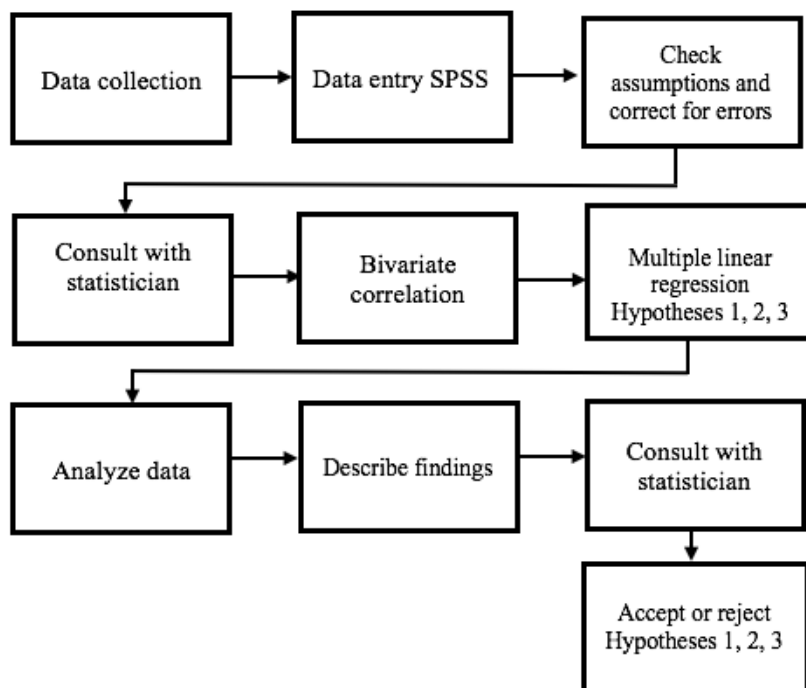
Multiple linear regression analysis was then used to test the relationship between the five dimensions of interdisciplinary collaboration and knowledge of social work roles, controlling for demographic variables. The equation of multiple linear regression is illustrated below, where Y represents the criterion, *a* represents the intercept, *b* represents the unstandardized regression coefficient, X represents factors and *ei* represents the difference between the predicted and observed values (error term):

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e_i$$

*Interdisciplinary collaboration = a + b_1 knowledge of social work rolesX_1 + b_2 GenderX_2 + b^3 ageX_3 + b_4 clinic locationX_4 + b_5 professional designationX_5 + b_6 previous-experienceX_6 + ei*

Multiple regression was also used to analyze the relationship between the independent variable, knowledge of social work roles, and the dependent variable, satisfaction with collaboration. Lastly, multiple linear regression was used to test whether satisfaction with collaboration mediated the relationship between knowledge of social work roles and each of the dimensions and the composite score of interdisciplinary collaboration. According to Baron and Kenny (1986), total mediation is present when the independent variable no longer effects the dependent variable after the mediator has been controlled for. Additionally, the following conditions must be met: 1) the independent variable significantly influences the dependent variable in the first regression equation; 2) the independent variable significantly influences the mediator in the second regression equation; and 3) the mediator significantly influences the dependent variable.

According to Field (2009) the sample size is determined by the number of cases by each predictor. It was determined that 10 to 15 cases are needed for each predictor, making the desired sample size 60 to 90 cases. Abu-Bader also described the use of a power analysis to determine

required sample size and stated that different statistical software will often produce different sample results. Using SPSS Sample Power, a sample size for one predictor variable, effect size of .15, and $\alpha$ = .05, minimum required sample size is calculated at n=47 (Abu-Bader, 2106). Because the total provider population for recruitment was relatively small, the researcher conducted a power analysis using G*Power software. Alpha was set at .05 ($\alpha$ = .05), making results statistically significant only if $p \leq .05$. The Effect size was set at .15 ($f^2$ = .015), Power was set at .8 (1-$\beta$ err prob = 0.8), and the number of predictors set at 6 (knowledge of social work roles, gender, age, clinic location, professional designation, and previous experience with collaboration). Calculating required sample size with a two-tail test, the ideal sample was calculated at n=89.

*Assumptions.* According to Abu-Bader (2016) multiple regression has the following assumptions that must be met for the results to be valid:  Normal distribution; normality of residuals; linearity; homoscedasticity; no auto correlation; and multicollinearity.

*Normal distribution.* Residuals are the difference between the observed value and predicted value of the dependent variables. The shape of the distribution of the residuals should come close to the shape of a normal curve, and if perfect the difference will be zero. The shape of the distribution of the criterion was determined by generating a histogram and comparing it to a normal curve. A Q-Q plot was generated for each factor to examine the residuals.

*Linearity.* The relationship between the dependent variables and independent variables is assumed to be linear. This was determined for the independent variable and each of the dimensions of interdisciplinary collaboration by generating a scatterplot for each dependent variable with the independent variable.

*Homoscedasticity*. The error term should be the same across all values of the variables, knowledge of social work roles, (independent variable), and each dimension of interdisciplinary collaboration, (dependent variables), or should be normally distributed. This assumption was determined by creating a plot of the residuals, to check the distribution of the scores.

*Autocorrelation*. Autocorrelation occurs when the residuals are not independent from each other, indicating a factor is missing from the mode. This assumption was tested using the Durbin-Watson test for residual independence, which should fall between 1.5 and 2.5.

*Multicollinearity*. When this is present, two or more predictor (knowledge of social work roles, gender, age, professional designation, years in practice, satisfaction with interdisciplinary collaboration) variables are highly correlated and are assumed to measure the same thing. Multicollinearity was tested using the Tolerance / Variance Inflation Factors (VIF) of the independent variables. VIF values should be less than 1.0

**Conclusion**

The study was designed to explore the relationship between knowledge of social work roles and the five dimensions of interdisciplinary collaboration in an integrated primary care setting. An exploratory qualitative, plus sequential mixed methods (qualitative + quantitative) design was used; the qualitative portion in phase 1 explored the barriers and facilitators to collaboration as experienced by the participants interviewed and in phase 2, qualitative interviews were used to refine an instrument used to measure knowledge of social work roles quantitatively. The quantitative part of this study piloted the scale refined in the qualitative strand to measure knowledge of social work roles, and the Index of Interdisciplinary Collaboration (Bronstein, 2002) to measure the five dimensions of interdisciplinary collaboration to determine the affect role knowledge has on collaboration. Finally, the quantitative portion also

assessed whether knowledge of social work roles increased satisfaction with collaboration, and if satisfaction with collaboration resulted in an increase in the amount of interdisciplinary collaboration occurring in the primary care clinics. The results are presented in the following chapter.

**Chapter IV**

**Results**

The purpose of this study was to explore the relationship between knowledge of social work roles and the five dimensions of interdisciplinary collaboration discussed in Chapter 3, and as measured by the Index of Interdisciplinary Collaboration (IIC, Bronstein, 2002). An exploratory qualitative, plus sequential mixed methods (qualitative + quantitative) design was used. The qualitative portion focused on developing a better understanding of the duties and roles of the social worker in the community-based primary care clinics, as well as the barriers and facilitators to collaboration. An instrument to quantitatively measure knowledge of social work roles on interdisciplinary primary care teams was also presented, discussed, and refined. After which, the quantitative portion piloted the scale created by this researcher to measure knowledge of social work roles and its impact on the five dimensions of interdisciplinary collaboration.

**Exploratory Qualitative Results.** As described in Chapter 3, the qualitative data was collected in semi-structured focus groups and individual interviews. A total of ten social workers and fifteen medical providers were interviewed. The first focus group consisted of eight social workers and the second consisted of four medical providers. Due to their lack of availability for focus groups, telephone or in person interviews were held with two social workers and eleven medical providers.  All 10 of the social workers were female, with an average age of 31 years old. The youngest was 26 and the oldest was 48 years old. Four social workers were African American, three were white, and three were Latinx. Of the medical providers, the average age was 42 years old; the oldest was 73 and the youngest was 32 years old. Eleven of the medical providers were medical doctors, two were nurse practitioners, two were physician assistants, and

one was a registered nurse. Seven of the medical providers identified as white, four as Asian American, three as African American, and one as Latinx. Three of the medical providers stated they did not have access to a social worker on-site, eleven were co-located with a social worker. The characteristics are shown in Table 2 below.

Table 2

*Qualitative Participant Characteristics (n=25)*

| Category | Values | Providers n=15 | Percent | Mean | Social Workers n=10 | Percent | Mean |
|---|---|---|---|---|---|---|---|
| Gender | Male | 8 | 53.3 | | 0.0 | 0.0 | |
| | Female | 7 | 46.7 | | 10 | 100 | |
| Age | 20-29 yrs. | 0 | 0.0 | | 4 | 40.0 | |
| | 30-39 yrs. | 4 | 26.6 | 42 yrs. | 5 | 50.0 | 31 yrs. |
| | 40-49 yrs. | 7 | 46.6 | | 1 | 10.0 | |
| | 50-59 yrs. | 3 | 20.0 | | 0 | 0.0 | |
| | 60-69 yrs. | 0 | 0.0 | | 0 | 0.0 | |
| | 70 yrs. and above | 1 | 6.6 | | 0 | 0.0 | |
| Race/ethnicity | Asian | 4 | 26.6 | | 0 | 0.0 | |
| | African Am. | 3 | 20.0 | | 4 | 40.0 | |
| | Latinx | 1 | 6.6 | | 3 | 30.0 | |
| | White | 7 | 46.6 | | 3 | 30.0 | |
| Professional Designation | MD | 11 | 73.3 | | | | |
| | Nurse Practitioner | 2 | 13.3 | | | | |
| | Physician Assist. | 1 | 13.3 | | | | |
| | Registered Nurse | 1 | 1.1 | | | | |
| | Licensed Clinical Social Worker | | | | 3 | 30.0 | |
| | Licensed Master Social Worker | | | | 7 | 70.0 | |
| Social worker on site | Yes | 11 | | | | | |
| | No | 3 | | | | | |

**Qualitative Research Question.** What is known about the different professional roles on the interdisciplinary teams and what are the facilitators and barriers to collaboration?

There were four main topics of discussion in qualitative interviews: 1) introduction to clinical sites; 2) professional roles of interdisciplinary care team members 3) facilitators to collaboration; 4) and barriers to collaboration. The introduction portion of the focus groups was intended to spur conversation among the respondents and encourage open communication. From the group discussion and interview responses, 10 themes and sub-themes were identified. The

topic of interdisciplinary care team roles yielded two themes, knowledge of social work roles and

other provider roles. Knowledge of social work roles had four sub-themes, education, social

work referrals, value of social work and role boundaries. This is illustrated in Figure 7 below.

Figure 7

*Role Knowledge Themes and Subthemes*
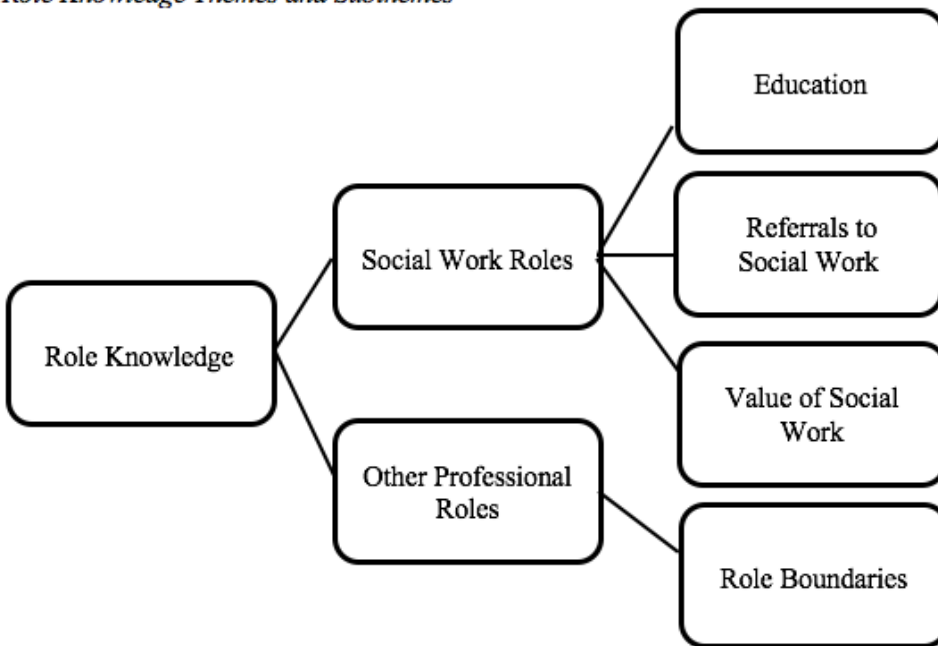


Questions related to barriers and facilitators each generated two themes. The themes,

administrative leadership and interpersonal relationships emerged, and a sub-theme, policy, was

tied to administrative leadership. The discussion regarding facilitators identified the following

two themes, co-location and interpersonal relationships, as shown in Figure 8.

Figure 8

*Barriers and Facilitators Themes and Subthemes*
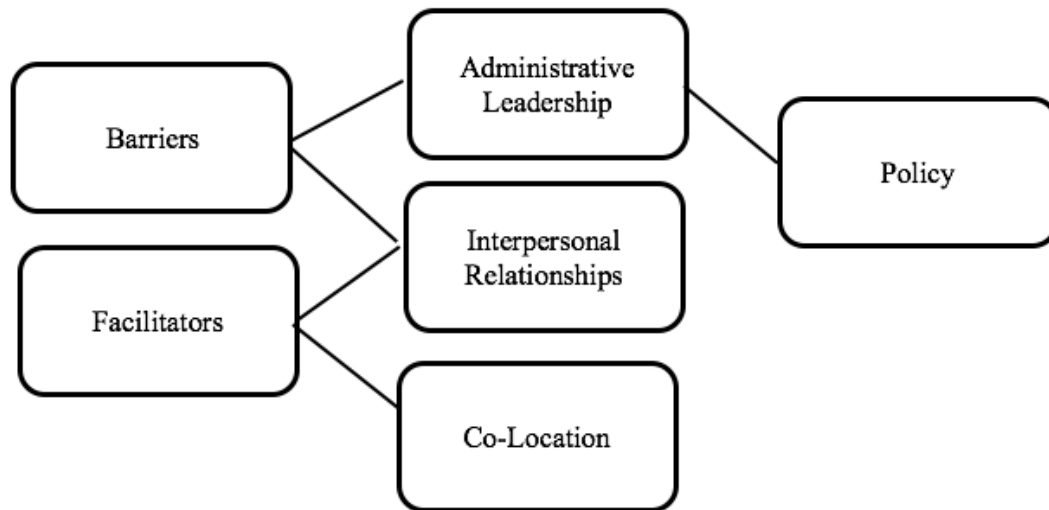


**Themes and sub-themes**

    *Role Knowledge.* Three main themes and one sub-theme were discovered during data analysis.

    *Social Work Roles.* Interestingly, the social workers interviewed agreed that not only did they feel the providers did not know what social workers do, they also did not have a good understanding of their own clinical roles when they were new to the clinics. On whether medical providers understood the social worker role, one social worker commented, "I worked with him for 3 months, and we had a meeting, and I was like, "do you know what I do?" He could not tell me one thing that I did. He had no clue what I was doing there." Another stated, "When I was first at the clinic, I did nothing that was on my job description with the exception of 'establish rapport with patients.' Regarding their own knowledge of their clinical roles on the interdisciplinary team, the social workers were just as unaware as the providers. One stated,

"When I first got this job and we didn't really know what this job was" and another said, "Um, I

now know, six-months in I feel like I do. I think it took a few months to feel confident."

Similarly, the medical providers felt they did not have a good understanding of what purpose the

social workers served on the interdisciplinary care teams. One provider stated, "When they first

came, we didn't know how to use them." The providers, however, did not let their lack of

knowledge stop them from working with the social workers. One provider stated, "I still get a

little confused, but I just go to her for everything." Another stated, "There is always barriers to

care. I might not know 100% of what social workers are supposed to do, but that doesn't keep

me from asking her for help." Yet another provider added,

> I probably don't know the entire scope of what they are capable of, so my method
> is, when in doubt, if it is something that I think is socially related that I can send
> to them, whether I know for sure if they can help the patient or not, I always feel
> they have enough resources so that if they cannot help them directly, they can at
> least direct them to some community resources where they can get some help.

These data suggest that even without a clear picture of what social workers do on

interdisciplinary primary care teams, the providers were eager to find ways to work with them

and include them in patient care, as discussed in more detail in Chapter 5.

*Education.* Defined as the process of giving or receiving information, this theme emerged

as being extremely significant to the majority of both provider and social worker respondents as

it relates to social work role knowledge. Education about social work roles was seen as a crucial

element that helped providers learn the social workers' clinical role on the interdisciplinary care

teams. Of the twelve who discussed education, one provider stated, "It would be necessary to just

provide some basic education to the physicians on what social workers do." Seven of the

providers offered ideas on how to increase knowledge of social work roles, such as, "If the social

workers wanted to have some sort of in-service on all the things they can do, that would be

helpful." A few others suggested offering brief instruction during clinic meetings and several

discussed how the social worker helped them gain a better understanding of how the social

workers can help them with patient care. One stated, "When she got hired, she came around and

introduced herself and kind of stuck her head in a couple of times to make it known that she's

there and the kind of things she can help with, so that's been pretty helpful." Most social workers

interviewed also identified education as a way to improve role knowledge and were pro-active in

offering it in their clinics. One stated, "I did an in-service at our monthly meeting about our

suicide and crisis referrals," and other conveyed, "I had a meeting with them and I had to meet

with them maybe two or three times before they finally got it." Finally, education on social work

roles did not stop with improving the providers' understanding, as one social worker noted,

> Dr. [redacted] was having me talk to one of his residents, that you know, the
> students that come in and follow the doctors. He said, 'could you tell him what
> social workers do? Because honestly, when social workers first came here I had
> no clue what social workers did.'

The above statement indicates the need for educating persons that are not yet part of

interdisciplinary care teams, but who may be in the future.

*Social work referrals.* The social workers identified lack of referrals and inappropriate

referrals as a problem that arose from a poor understanding of social work roles. Seven of the ten

social workers responded offering examples of some of the referrals they received which were

considered to be misdirected. For example, one stated, "I was mostly doing DME [durable

medical equipment] orders for the first six months," another echoed, "Transportation and DME.

Fill out this form, fill out that form. That is not working to the top of our degree. There are

referral coordinators and community health workers who help with that." Several of the

providers recognized they were underutilizing the social workers due to an insufficient

understanding of social work roles. One provider said, "I know that she can do more than what I send her." Recognizing an underutilization of the social worker, another provider stated, "Most of the time I ask for help with patients who have socioeconomic needs. But I think they can do more . . . I am still learning."

*Value of social work.* Although most providers and social workers identified problems that emerged from the lack of role knowledge, both groups overwhelmingly recognized the value of social work in interdisciplinary primary care teams. One provider stated, "They [social workers] are very knowledgeable. They really help provide comprehensive patient care. They help us solve social issues which are beyond our control but have a huge medical impact on patient health." Adding to that, another provider said, "I think they've become pretty indispensable," and yet another, "Social work, it's like crucial. I could not function in my clinic, with my patient population without social work." In all, eleven of the providers said they regard social workers as an important part of the interdisciplinary care team. Social workers also recognized the value they bring to the clinics. One of the social workers stated, "What we offer is value-added services that directly benefit our patients." Another social worker said, "I think we have been a great help in the clinics, and I really feel valued by the whole team." This suggests that when social workers are valued by interdisciplinary team members, they also consider their contribution to the team as valuable.

*Other Professional Roles*. When discussing what other clinical staff should know about other professional roles, the providers interviewed found it to be unimportant for social workers to understand the providers' duties that were not directly related to patient care. Nine of the providers found it to be inconsequential and the remaining six were unsure. One provider stated, "I don't think it is necessary for the social workers to know other non-clinical aspects of our

roles. They are familiar enough with what we do in the clinic, and how it relates to the patient

care plan." Another provider stated, "Not at all. It's not important. If it isn't necessary for our

collaboration with patient care, it isn't necessary for the social workers to know our other

duties." Conversely, the social workers not only believed knowledge of provider roles to be

important, but that other professional roles were also important to collaboration. One social

worker's answer expressed the sentiment of the how the majority of the social workers

responded, "It's important to know everything providers do, really, what everyone does, because

it's important to have a good understanding of the whole clinical picture. If we don't understand

what everyone's role is that could have a negative effect on collaboration."

*Boundaries.* When discussing knowledge of other professional roles, the social workers

discussed overlapping of boundaries as being a significant problem related to lack of knowledge.

One social worker commented, "At my clinic the case managers kind of saw themselves as social

workers, so it has been interesting learning how to detangle that." Another stated,

> Traditionally there's an expectation of a case manager and a social worker that is
> very different from here, like in the hospital setting. When you combine the two
> in the community-based clinics, the lines get very crossed, especially if you come
> from a hospital.

Another social worker discussed the confusion between her role and the community health

worker's role, "I do think there is some overlap, but the community-health worker got a lot of

referrals that really should have gone to me. There was so much confusion." The providers did

not offer much discussion regarding boundaries but the three who did express the need for

flexible boundaries. One provider stated,

> You do what you need to do to get the patient taken care of. Did I go to medical
> school, residency, and all that training to fill out a prior auth [sic] for medication
> submitted to insurance]? Of course not. On the other hand, my patient needs to get
> their medicine. So, you do what you need to do to make sure the patient gets taken
> care of, even if it is outside of your clinical scope. And it's just – that's the job.

Another provider simply stated, "Sometimes you are crossing over boundaries, like they sort of overlap. It's necessary sometimes to take care of the patients."

**Barriers.** The qualitative data analysis found the following two themes and one subtheme.

*Administrative leadership.* This theme was identified by the majority of respondents in both groups as a barrier. Administrative leadership was defined as the administrative directors overseeing the new projects which implemented the interdisciplinary collaboration program involving social workers in the primary care clinics. One provider noted, "I don't even think they [administration] knew what social workers should be doing when they hired them." Similarly, another provider stated, "There was no direction whatsoever. They just dropped them (social workers) in the clinics and expected we'd just somehow know what to do." Four of the social workers discussed lack of planning, one noted, "Our administration has not done the greatest job in getting buy-in before the implementation." Another agreed, "The other part is the lack of guidance, or a plan in place by the administration. It's been hard for me, for the POA [practice office manager], or the project manager to understand my role as a social worker."

*Policy.* Related to administrative leadership, lack of policy was also identified by both groups as causing a significant barrier to collaboration. According to the respondent, the policies and procedures are implemented by the administrators of the programs. Most typically, responses referred to the lack of guidelines on social work clinical roles. One provider stated, "When they (social workers) were first placed in the clinics, there was no clear guidance on how to use them, I mean, what to refer to them." During one focus group, a social worker stated, "There are either no policies in place for all the clinics, or they haven't been implemented effectively. We just

don't know what they are." Another social worker stated, "There was never any understanding of

workflow stuff, of the referrals and such. It's as simple as saying, 'first you do this, then you do

this." During a telephone interview, one provider noted,

> There has to be protocols, clear protocols for all of the clinics to follow. If that
>
> doesn't happen, no one will be working within their scope of practice and to the
>
> top of their ability. It has to be consistent across all the practices, with clear
>
> expectations for each of the team members.

*Interpersonal relationships.* Interpersonal relationships were identified as both a barrier

and a facilitator by eight of the fifteen providers, and six of the ten social workers. One social

worker noted, "Some providers don't get along, they don't like working with each other and it

interferes with collaboration and patient care." Similarly, one medical provider stated,

> I've worked with nurses and medical assistants, and I feel like it has a lot to do
> with the dynamic of the personalities you work with. When you work with people
> you can communicate with effectively, it's not just based on your job roles, it's
> based on those personalities. Sometimes, that can be a barrier.

 Another provider reiterated, "I think communication style is important, from the very beginning,

it is just different personality styles that ever one has. Some people don't get along because they

can't communicate effectively. That impacts collaboration."

**Facilitators.** Thematic analysis discovered the following two themes in facilitation: co-

location and interpersonal relationships.

*Interpersonal Relationships.* As noted above, interpersonal relationships were seen as a

potential facilitator to collaboration. Seven social workers and 13 providers discussed how their

relationships with coworkers helped advance collaboration and a sense of cohesiveness. In some

cases, relationships that had started off tense, developed into strong alliances over time. One

provider stated, "I have a good team, so they are open to any suggestions and anything I bring up they are open to it and vice versa." On the same subject, one social worker noted,

> And then over the last two, almost three years, we've just developed a relationship. I think I've shown her what I can do, and she's shown me what she does and through that, and through also being two people that get along very well, we've come to a place where we work well together.

Yet another said,

> I have the good fortune of working with a doctor who really, the main doctor I work with all the time has been wonderful in the understanding of what I am there to do and makes it a priority to make sure that my input, my intervention is a normal part of what happens with patient care in our clinic.

It is evident from the above statements that interpersonal relationships not only helped build comradery, but also helped expand provider knowledge of social work roles.

*Co-location*. Nearly all of the participants identified co-location as being a significant facilitator to collaboration. All ten of the social workers found sharing clinical space to be important to collaboration; one stated, "It helps that we are all centrally located, all in one office." Another social worker added,

> Providers come and talk to us, they know where to find us if they have questions and are not really sure if it is a case manager or social work. We're all in the same space, so that really has a lot of good things about it.

Most of the social workers felt that co-location helped them develop positive relationships with the medical providers, and the clinic staff, thus improving collaboration. Correspondingly, the providers identified co-location as an important factor. Of the fifteen providers interviewed, eleven identified co-location as an important part of successful collaboration. One doctor stated, "I just love that we are in the same office, and I can see her. And we can just look at each other and talk about stuff, that is the best thing ever." Another added

> The fact that they're there, in the clinic, is most definitely helpful. The fact that they have a permanent position in the clinic where we see patients. They are directly a part of that - that, patient centered medical home. Um, instead of calling or sending an order through, and having them get back with the patient a day or a week later. Having them there in the clinic is a good asset.

Not every clinic has a social worker physically located on site, therefore several of the clinics share one. Two of the providers interviewed do not have social workers on site full-time. One of those providers suggested a way to improve collaboration in his clinical setting, "It would be nice to have one in my clinic. Get me a social worker."

**Exploratory Qualitative Summary**

Although a focus of the qualitative portion was to further develop a scale to measure knowledge of social work roles in the interdisciplinary primary care teams, this portion of the study also deepened the understanding of the barriers and facilitators to collaboration in the clinical settings. One of the most interesting findings was regarding "other professional role" knowledge. According to the research presented in Chapter 1, having a good understanding of all the professional roles on an interdisciplinary care team is necessary for a "blurring" of boundaries. Although respondents in both groups agreed they do "what needs to be done" to ensure good patient care, both didn't see the need for increased knowledge to facilitate flexibility. Both groups felt that knowing one's own role was paramount to a well-functioning team. Overall, the social workers felt that blurred boundaries resulting from a lack of knowledge leads to under-utilization of professional skills and resources. In addition, the medical providers felt that every team member is more satisfied if they are using the skills they were trained for. For interdisciplinary care teams, utilizing resources translates into empowering all team members to work at the top of their professional license, which ensures efficiency and cost effectiveness.

Interpersonal relationships, identified by a majority in both groups as a facilitator and barrier, was described as being a significant factor in role education. As interpersonal relationships developed, team members talked more openly about cases and engaged in collaborative problem solving. Positive relationships facilitate communication, which can in turn increase understanding of professional duties and roles. This can also be connected to another observed facilitator, co-location. For interpersonal relationships to develop and expand, proximity to one's team members is necessary.

Lastly, administrative policy was identified by the majority of both social workers and medical providers as a significant barrier. The respondents discussed having no set policies, or clear understanding of how the interdisciplinary teams were to function when they were implemented. As discussed in Chapter 1, strong administration coupled with coherent and disseminated policy is necessary for an interdisciplinary team to function within and at the top of their abilities. Although the research presented in Chapter 1 discussed the need for a strong team leader, both social workers and medical providers identified administrative directors as a critical element to overall team functions.

All the identified facilitators and barriers directly connect to the importance of social work role knowledge in integrated, interdisciplinary healthcare settings. Role knowledge exists on all levels of interdisciplinary care, individual, interpersonal, and organizational. As discussed in Chapter 1, organizational (or administrative) support for interdisciplinary collaboration sets the stage for a cross-discipline approach in healthcare. From interdisciplinary education programs to formation of policy, an adept administrative body is the key to developing, implementing, and evaluating effective programs.

**Sequential Mixed Methods, Quantitative Results**

As previously described, part 1 of this phase used qualitative interviews to refine a scale to measure the knowledge of social work roles. This scale was piloted in the quantitative part, described below.

*Preliminary Analysis.* The next two sections detail the results of the descriptive analyses; percentages and frequencies for demographic information, and respondent characteristics. As described in chapter 3, quantitative data was collected using the online data platform, Qualtrics and by distribution of paper surveys, which were provided to the clinics with self-addressed stamped envelopes. Of the possible one hundred eighty-eight providers in the study population, a total of one hundred five responded, with eighteen found ineligible to participate due to the following reasons: 1) ineligible professional role, n=12; and 2) excessive missing data, n=6. Lastly, one outlier response was discovered during analysis and removed, leaving a total of eighty-six accepted surveys. The following figure illustrates the survey response.

Figure 9

*Quantitative Survey Response*
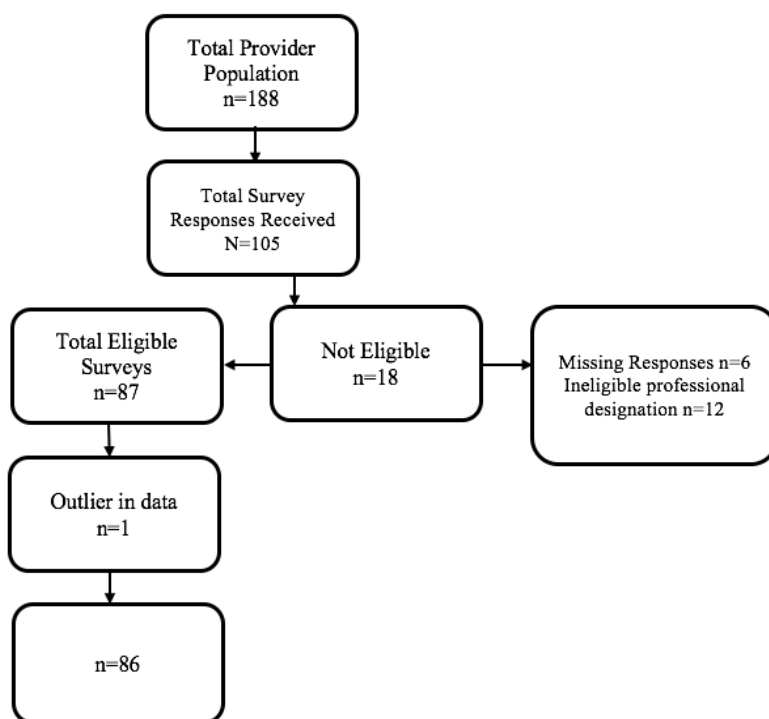


A total of seventy-nine surveys were collected using Qualtrics, and a total of twenty-six paper surveys were returned by mail. As explained in Chapter 3, the researcher used a multi-modal approach to data collection to increase the response rate. The most responses by far were collected during the first week of the study, with the numbers fluctuating from single to double digits throughout the remaining six and a half weeks.

*Descriptive Statistics.* Nearly 83% of the survey respondents were female, and 17% were male. The largest age group in the survey was the 30 to 40-year-old group, which accounted for 30% of the sample. Only one respondent was at or over age seventy, and three were in the 20 to 30-year-old group. The 40 to 50-year-old group comprised 30% of the sample and the remaining 26% fell into the 50 to 60-year-old group. Both age and gender were controlled for in the analysis. Of the nineteen clinics, providers from fifteen returned surveys. Due to employee

retention, some of the clinics are currently without a designated social worker and must share access with another clinic. Therefore, the locations were then reduced into two categories for analysis: Those with a designated social worker on site, and those without a designated social worker, and then controlled for.

The Bayshore and Sienna clinics received the largest number of responses; Sixteen were received from Bayshore and 13 from Sienna, for an approximate combined 29%. The remaining 71% of responses were relatively evenly distributed among the remaining twelve clinics. Medical doctors comprised the largest group of respondents, around 35%, followed by registered nurses (30%). The smallest groups were psychologists (6%) and licensed professional counselors (3%). Most respondents have been at their position for one to three years, and around 8% have held their positions for ten years or longer. Race and ethnicity was not collected in this strand of the study. For data analysis, a correlation was computed to determine which professions tended to be more alike in their responses. Psychologist and licensed professional counselors grouped together, Nurse practitioners and registered nurses were more similar to physician assistants, with medical doctors standing alone. For the ease of analysis, this variable was collapsed into two categories: Medical doctors and other professions. Table 3 shows the demographics of survey respondents.

Table 3

*Quantitative Participant Characteristics (n=86)*

| Characteristic | | Frequency | Percent |
|---|---|---|---|
| Gender | M | 15 | 17.2 |
| | F | 72 | 82.8 |
| Age | 20-29 yrs. | 3 | 3.4 |
| | 30-39 yrs. | 28 | 32.2 |
| | 40-49 yrs. | 26 | 29.9 |
| | 50-59 yrs. | 23 | 26.4 |
| | 60-69 yrs. | 6 | 6.9 |
| | 70 yrs. and above | 1 | 1.1 |
| Professional Designation | Medical Doctor | 29 | 34.5 |
| | Psychologist | 5 | 5.7 |
| | Nurse Practitioner | 13 | 14.9 |
| | Physician Assistant | 10 | 11.5 |
| | LPC | 3 | 3.4 |
| | Registered Nurse | 26 | 29.9 |
| Length of Employment | 1 to 3 yrs. | 56 | 64.4 |
| | 3 to 5 yrs. | 15 | 17.2 |
| | 5 to 10 yrs. | 9 | 10.3 |
| | More than 10 yrs. | 7 | 8.0 |
| Previous Collaboration with a Social Worker | Yes | 69 | 80.2 |
| | No | 17 | 19.8 |
| Clinical Site with Designated Social Worker | Yes | 79 | 53.3 |
| | No | 8 | 46.6 |

**Hypothesis 1**

*Research question 1*. What is the relationship between the knowledge of social work roles and the five dimensions of interdisciplinary collaboration (interdependence, newly created professional activities, flexibility, shared ownership of goals, reflection on process)?

*Specific Aim 1.* To examine the association between knowledge of social work roles and the dimensions of interdisciplinary collaboration (interdependence, newly created professional activities, flexibility, shared ownership of goals, reflection on process).

*Hypothesis 1.* There is a direct positive relationship between knowledge of social work roles and each of the dimensions of interdisciplinary collaboration.

*Hypothesis 1 assumptions.* To test hypothesis 1, analysis of the correlations and a regression analysis were performed controlling for age, gender, professional designation, previous experience, and clinic location. The regression model was examined for the following conditions: Autocorrelation was tested using the Durbin-Watson test for residual independence, which should fall between 1.5 and 2.5. The test was 1.551, with Variance Inflation Factor (VIF) of approximately 1, indicating autocorrelation was not present. A scatterplot was used to test for homoscedasticity, examining the standardized predicted values and the standardized residuals. The data exhibited random scatter, indicating this assumption was not violated. Multicollinearity was tested by evaluating the Tolerance/Variance Inflation Factors (VIF) of the independent variables. VIF values should be less than 10, and closer to 1, which it was at approximately 1, showing multicollinearity was not present. To evaluate whether residuals were normally distributed, a Q-Q plot was performed. The values appeared to "hug" the normal line, demonstrating normal distribution. Plots of the independent variable and dependent variable were used to evaluate whether there is a linear relationship. The data appeared linear with scores on dimensions of interdisciplinary collaboration (a total sum of the five subscales) tending toward responses of "agreement" as knowledge of social work roles increased. The subsequent analysis found all data were within the guidelines of SDR values, in the range of +/-3 standard deviations. The leverage values were less than .2, and Cook's Distance values were less than 1.

*Hypothesis 1 analysis and results.* Analyses were conducted to test the reliability of the Knowledge of Social Work Roles scale, and the revised Index of Interdisciplinary Collaboration (Bronstein, 2002). The Cronbach's alpha for the 20-item Knowledge of Social Work Roles was .88. Frequencies were also analyzed on the response rates for each of the items. The 20-item scale has brief patient-scenarios for which providers were asked to rate the likelihood they would

refer that patient to the social worker, on a Likert-type scale where 1=never and 5=always. Of the 20-items, five were reverse scored as inappropriate referrals. The mean response on the total combined items was approximately 3.2, indicating an "about half the time" response on most items. Only one item received over 50% "always" response rate, 74.4% of providers indicated they would always involve a social worker with suspected child or elder abuse (*M*= 4.37). The second largest response, with a mean of 3.77 (44%) was for a patient presenting with passive suicidal ideation. Several of the items in which a social work referral would be appropriate were not considered by most providers. The items with the lowest scores were: 1) A patient's sedentary lifestyle is contributing to complications with chronic illness (*M*= 2.47, 2.3%); A patient with diabetes is routinely noncompliant (*M*=2.57, 4.7%); A patient's sedentary lifestyle is contributing to complications with chronic illness (*M*= 2.47, 2.3%); A patient who frequently visits the emergency room (*M*= 2.56, 7%); and a patient who frequently misses medical appointments (*M*= 2.58, 7%). The frequencies on all items are below in Table 3.

Table 4

*Descriptive Statistics for Knowledge of Social Work Scale (n=86)*

| Item | Mean | SD |
|---|---|---|
| A patient with diabetes is routinely non-compliant. | 2.53 | .979 |
| High score on a depression screen. | 3.33 | 1.38 |
| Patient with need for durable medical equipment. | 2.97 | 1.37 |
| A patient's sedentary lifestyle is contributing to complications with chronic illness. | 2.42 | 1.07 |
| A patient is grieving the recent loss of a loved one. | 3.47 | 1.24 |
| A patient describes marital or family problems. | 3.36 | 1.24 |
| A patient who frequently visits the emergency room. | 2.52 | 1.05 |
| Suspected child or elder abuse. | 4.36 | 1.22 |
| A patient with transportation problems. | 3.58 | 1.25 |
| A patient with a newly diagnosed chronic illness. | 2.49 | 1.76 |
| A patient with suspected alcohol abuse. | 3.24 | 1.31 |
| A patient who has questions about palliative or hospice care. | 3.69 | 1.26 |
| A patient who is having a difficult time coping with acute stress. | 3.56 | 1.07 |
| A patient who is angry due to a long wait time. | 1.85 | 1.12 |
| A patient who frequently misses medical appointments. | 2.55 | 1.07 |
| A patient who needs a behavioral health referral. | 3.42 | 1.31 |
| A patient expressing extreme emotions (such as anger, anxiety, sadness) that is interfering with the medical visit. | 3.21 | 1.38 |
| A patient with passive suicidal ideation. | 3.73 | 1.41 |
| A patient with financial needs. | 3.78 | 1.19 |
| Biopsychosocial assessment request for a patient with unknown /unmet needs. | 3.28 | 1.30 |

Interdisciplinary collaboration was measured using the Index of Interdisciplinary Collaboration for Providers (IIC-P), which was modified from the Index of Interdisciplinary Collaboration (Bronstein, 2002), as explained in Chapter 3. The original and modified versions of this scale are located respectively in Appendices F and G. Reliability statistics were computed for the revised-version of this scale, on each of the subscales and on the composite score. The dimension, collective ownership of goals was found to be reliable (8 items; $\alpha = .77$). Cronbach's alphas for independence (13 items), newly created professional activities (6 items), and reflection on process (10 items) were correspondingly .75, .74, and .72. Flexibility, with 5-items, was

found to have a low reliability ($\alpha = .48$). The overall measure had an Cronbach's alpha of .88, indicating the overall instrument as reliable.

Knowledge of social work roles was positively correlated with the composite score of interdisciplinary collaboration and four of the five subscales when examined independently; which implies that as knowledge of social work roles increases, interdisciplinary collaboration increases. The subscale measuring flexibility was not significantly related to knowledge but did not impact the significance when included in the composite score. The relationships were found to be significant at $p < .05$. The strongest relationships were found between knowledge of social work roles and newly created professional activities, as well as reflection on process, as shown in Table 5 below.

Table 5

*Regression Results for the Dimensions of Interdisciplinary Collaboration (n=86)*

| | R | F | (df) | SE | ß | sig |
|---|---|---|---|---|---|---|
| Index of Interdisciplinary Collaboration Composite Score | .281 | 5.29 | (6,79) | .126 | .445 | .000*** |
| Interdependence | .261 | 4.64 | (6,79) | .041 | .332 | .000*** |
| Newly Created Professional Activities | .263 | 4.70 | (6,79) | .019 | .448 | .000*** |
| Flexibility | .106 | 1.56 | (6,79) | .014 | .259 | .171 |
| Collective Ownership of Goals | .159 | 2.49 | (6,79) | .024 | .367 | .029* |
| Reflection on Process | .227 | 3.87 | (6,79) | .032 | .318 | .002* |

Note: a. Predictor: Knowledge of Social Work Roles
   b. Constant: Age, gender, clinic location, professional designation, previous experience with collaboration
   c. $p < .05*$, $p < .001**1$, $p < .000***$

Multiple linear regression was used to evaluate the relationship between the knowledge of social work roles and a composite score of the IIC-P, then each of its dimensions. The following items were controlled for: Age, gender, professional designation, previous collaboration with social workers, and clinic location. The results of the regression indicated knowledge of social work has a positive relationship with interdisciplinary collaboration ($R^2 = .29$, $F(6,79) = 5.29$, $p = <.000$). The results indicated a higher score on the Knowledge of Social

Work Roles scale significantly predicts a higher score on the IIC-P ($\beta = .45$, p<.000). When the dimensions were tested independently, four of the dimensions were found to have a positive relationship with knowledge of social work roles; flexibility was not significant related. The data are shown in the figure below.

Table 6

*Regression Results for the Dimensions of Interdisciplinary Collaboration (n=86)*

| Model 1 | Overall Index | Collective Ownership | Reflection on Process | Inter-dependence | Newly Created Activities |
|---|---|---|---|---|---|
| | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ |
| | 6.73, .34 | 2.5, .16 | 3.87, .22 | 4.64, .26 | 4.71, .26 |
| Knowledge of SW Roles | B (SE) | B (SE) | B (SE) | B (SE) | B(SE) |
| | -.58(.13)*** | .08(.02)* | .10(.03)* | .14(.04)*** | .09(.02)*** |
| Age | | | | | |
| | .80-(.40) | -.06(.31) | .29(.42) | .07(.54) | .33(.25) |
| Gender | | | | | |
| | 4.51(5.37) | -.09(1.02) | .86(1.36) | -.09(1.74) | .33(.80) |
| Professional designation | 1.3(4.33) | -.88(.82) | -.49(1.09) | -.48(1.40) | -.07(.64) |
| Clinic location | -8.94(3.73) | .22(.71) | 2.61(.94) | 4.09(1.21) | .76(.55) |
| Previous experience | -2.52(4.38) | -.29(.83) | -.6(1.11) | 1.29(1.42) | .04(.65) |

Note: a. Predictor: Knowledge of Social Work Roles
     b. *p<.05\*, p<.001\*\*, p<.000\*\*\**

*Hypothesis 1 summary.* According to the correlation and regression analyses, the relationship between the dimensions of interdisciplinary collaboration as a whole and knowledge of social work roles is significant. The analysis demonstrated significance in four of the five dimensions when tested individually. The regression analysis indicated that as knowledge of social work roles increases, scores for the Index of Interdisciplinary Collaboration for Providers likewise increase; therefore Hypothesis 1 is supported for the composite score and four of the five dimensions and the null hypothesis is rejected.

**Hypothesis 2**

**Research question 2**. Does the knowledge of social work roles lead to an increase in satisfaction with interdisciplinary collaboration?

*Specific Aim 2*. To examine the association between the knowledge of social work roles, and satisfaction with collaboration.

*Hypothesis 2*. There is a direct positive relationship between knowledge of social work roles and satisfaction with interdisciplinary collaboration.

*Hypothesis 2 assumptions*. Testing satisfaction with collaboration for outliers found all SDR values within the range of +/-3 standard deviations, leverage values less than .2 and Cook's Distance values less than 1. The Durbin-Watson statistic was 1.8 pointing to independence of the results. A scatterplot was used to test knowledge of social work roles and satisfaction with collaboration for homoscedasticity, and found this assumption was not violated. Residuals were checked for the normality assumption using a Q-Q plot, where the observed value of each score was plotted against the expected value from the normal distribution. Although there were some slight deviations from the normal line, there was nothing to indicate the residuals were not normally distributed. A histogram showed the data to be left-skewed indicating a larger number of occurrences in the higher values of the scale. Because the data has an upper boundary and is polytomous, the likelihood of skewed distribution is increased. Given that the Q-Q plot was normally distributed, the assumption of normality for the individual dependent variables was not necessary and transforming the data could be problematic because certain conditions must be met for transforming (K. Basinger, personal communication, April 3, 2017; D. Rogers, personal communication, April 5, 2017).  So, it was determined that the satisfaction variable could be entered into the model without transformation. Knowledge of social work roles and satisfaction

with collaboration were plotted to evaluate whether there is a linear relationship. The fit line indicated a positive linear relationship of moderate strength.

*Hypothesis 2 analysis and results.* Overall, respondents tended to fall into the "extremely satisfied" and "satisfied" categories (71%). Fifteen-percent indicated they were neither satisfied nor dissatisfied with collaboration with social workers, and the remaining 15% responded they were either extremely disappointed (1.2%) and disappointed (14%). When asked about satisfaction with the patient-outcomes of interdisciplinary collaboration, 45% answered they were extremely satisfied, and 36% were satisfied with outcomes resulting from social worker-medical provider collaboration, 15% were neither satisfied nor dissatisfied with outcomes, and 4% were either dissatisfied or extremely dissatisfied. In a similar fashion, when medical providers were asked about how important they believe social workers are in their practice, an overwhelming majority indicated social works are "very important" (94%), just 5% marked "moderately important," and 1% found social workers to be slightly important in the primary care clinics.

Bivariate analysis found the relationship between knowledge of social work roles to be significantly related to satisfaction with collaboration ($r = .308$, $p<.01$). Controlling once again for age, gender, professional designation, clinic location, and previous experience with collaboration, the relationship was found to be significant (.02(.96), $p<.02$), indicating that as knowledge of social work roles increase, satisfaction with collaboration also increase, as shown in Table 7.

Table 7

*Regression Results for Satisfaction with Collaboration (n=86)*

| Model 1 | Knowledge of Social work roles | Age | Gender | Professional designation | Clinic location | Previous experience |
|---|---|---|---|---|---|---|
| **F, r²** | | | | | | |
| 2.43, .16 | **B (SE)** | **B (SE)** | **B (SE)** | **B (SE)** | **B(SE)** | **B(SE)** |
| Satisfaction with collaboration | 22(.01) * | .11(.11) | -.14(.35) | .12(.29) | .50(.25) | -.08(.29) |

*Note:* a. *Predictor: Knowledge of Social Work Roles*
　　 b. *Constant: Age, gender, professional designation, clinic location, previous experience with collaboration*
　　 c. *p<.05*, p<.001**, p<.000****

**Hypothesis 2 summary.** The relationship between satisfaction with collaboration and knowledge of social work roles is significant ($p< .05$), indicating that as knowledge of social work roles increases, satisfaction with collaboration increases accordingly. For this reason, Hypothesis 2 is supported, and the null is rejected.

**Hypothesis 3**

**Research question 3.** Does satisfaction with collaboration mediate the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration?

**Specific Aim 3.** To determine if satisfaction with interdisciplinary collaboration mediates the relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration.

**Hypothesis 3.** The relationship between knowledge of social work roles and the dimensions of interdisciplinary collaboration is partially mediated by satisfaction with interdisciplinary collaboration.

**Hypothesis 3 assumptions.** Testing for outliers find all SDR values within the desired range of +/-3 standard deviations, leverage values less than .2, and Cook's Distance values less than 1, indicating no multicollinearity. The Durbin-Watson statistic was 1.4, showing independence of the residuals. A scatterplot was used to check for homoscedasticity, showing no

evidence of violation. Residuals were checked for normality using a Q-Q plot, indicating the

residuals are approximately normally distributed. Finally, satisfaction with collaboration and

interdisciplinary collaboration are plotted to evaluate whether there is a linear relationship. The

fit line indicates a positive slope, and the relationship appeared linear. The positive relationship

implies that as scores on satisfaction with collaboration increases, so do scores on

interdisciplinary collaboration.

 *Mediation model.* For this analysis, satisfaction was added to the model to test for

mediation of the relationship between knowledge of social work roles and the dimensions of

interdisciplinary collaboration. The constant variables remained the same: age, gender,

professional designation, clinical site, and previous experience with collaboration. The model for

this analysis is presented below.

Figure 10

*Satisfaction with Collaboration Mediation Model*
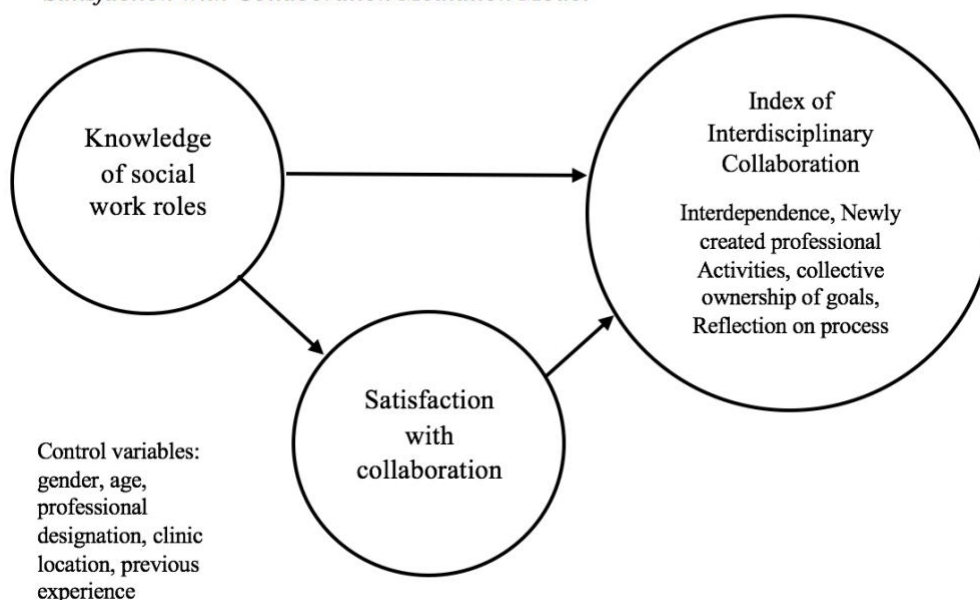


 *Hypothesis 3 analysis and results.* Analysis in Hypothesis 1 established a positive

relationship between knowledge of social work roles, and four of the dimensions of

interdisciplinary collaboration. A positive relationship was also established between knowledge

of social work roles and the composite score of the Index of Interdisciplinary Collaboration for

Providers. When tested independently, flexibility was not significant, therefore it was omitted

from this analysis. In addition, analysis in Hypothesis 2 showed a positive relationship between

knowledge of social work roles and satisfaction with interdisciplinary collaboration. Testing path

c, regression analysis showed a positive relationship between satisfaction with collaboration, and

four of the dimensions of interdisciplinary collaboration, and with the composite score of the five

dimensions. This is displayed below in Table 8.

Table 8

*Regression Analysis of Satisfaction with Collaboration on the Dimensions of Interdisciplinary Collaboration (n=86)*

| Model 1 | Composite Index Score | Collective Ownership | Reflection on Process | Inter-dependence | Newly Created Activities |
|---|---|---|---|---|---|
| | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ |
| | 4.31, .5 | 1.24,.09 | 3.12, .20 | 3.23, .2 | 3.61, .22 |
| Satisfaction with Collaboration | $B$ (SE) | $B$ (SE) | $B$ (SE) | $B$ (SE) | $B$(SE) |
| | 4.23(1.24)*** | .72(.33)* | 1.06(.42)* | 1.13(.55)* | .96(.25)*** |
| Age | .97(1.26) | -.06(.31) | .31(.43) | .15(.56) | .34(.25) |
| Gender | .75(4.1) | -.23(1.06) | .74(1.38) | -.32(1.81) | .24(.82) |
| Professional designation | -2.87(3.28) | -.1.03(.86) | -.69(1.12) | -.73(1.46) | -.25(.66) |
| Clinic location | 5.86(2.9) | -.04(.76) | 2.2(.99)* | 3.70(1.3) | .36(.59) |
| Previous experience | -3.29(3.30) | -.48(.86) | -.59(1.12) | -1.6(1.48) | -.12(.67) |

Note: a. Predictor: Satisfaction with Collaboration
   b. Constant: Age, gender, professional designation, clinic location, previous experience
   c. $p < .05$*, $p < .001$**, $p < .000$***

The relationship between knowledge of social work roles and the composite score, which

included all five of the dimensions, was tested adding satisfaction with collaboration as a

mediator. The test revealed no change in significance, indicating satisfaction with collaboration

is not a mediator of this relationship. Similarly, each of the dimensions found significant in

Hypothesis 1 were again analyzed with satisfaction with collaboration entered as a mediator.

Although there were some slight differences in the coefficients, there was no significant effect,

indicating satisfaction was not a mediator of the relationships between the dimensions of

interdisciplinary collaboration and knowledge of social work roles. This is shown in the

following table.

Table 9

*Knowledge of Social Work Roles and Satisfaction in Predicting the Dimensions of Interdisciplinary Collaboration (n=86)*

| Model 1 | Composite Index Score | Collective Ownership | Reflection on Process | Inter-dependence | Newly Created Activities |
|---|---|---|---|---|---|
| | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ | $F, r^2$ |
| | 6.96, .384 | 2.44, .18 | 3.87, .22 | 4.2(.21) | 5.6, .34 |
| Knowledge of SW Roles | $B$ $(CI)$ | $B$ $(CI)$ | $B$ $(CI)$ | $B$ $(CI)$ | $B(CI)$ |
| | .38(.20,.56)*** | .07(.03, .12)* | .08(.02, .15)* | .08(.04, .21)*** | .07(.22, 1.19)*** |
| Satisfaction w/Collaboration | 2.8(.5, 5.12) | .45(-.19, 1.09) | .76(-.09, 1.6) | .68(-.42, 1.8) | .70(03, .11) |
| Age | .50(-5.1, 9.1) | -.11(-.73, .52) | .2(-.62, 1.03) | -.004(-1.08, 1.07) | .26(-.21, .73) |
| Gender | 1.8(-1.8, 2.8) | -.03(-2.04, 1.99) | .97(1.7, 3.63) | .01(-3.45, 3.5) | .43(-.1.09, 1.94) |
| Professional designation | -2.34(-8.2, 3.9) | -.93(-2.56, .70) | -.58(-2.73, 1.57) | -.56(-3.4, 2.2) | -.16(-1.38, 1.07) |
| Clinic location | 6.01(.76, 11.2) | -.01(-1.45, 1.43) | 2.23(.33, 4.12) | 3.7(1.29, 6.21) | .40(-1.09, 1.94) |
| Previous experience | -2.15(-8.3, 3.9) | -.26(-1.9, 1.39) | -.34(-2.5, 1.84) | -1.2(-4.1, 1.59) | .09(-1.14, 1.33) |

Note: a. Predictor: Knowledge of Social Work Roles
    b. Mediator: Satisfaction
    c. Constant: Age, gender, professional designation, clinic location, previous experience
    d. $p < .05*, p < .001**, p < .000**$

**Hypothesis 3 summary.** Multiple linear regression was used to test if satisfaction with

collaboration was a mediator of the relationship between knowledge of social work roles and the

interdisciplinary collaboration, first as a composite of the dimensions, and then with the five

dimensions independently. Although the results of the regression indicated knowledge of social

work roles was a significant predictor of the IIC-P composite and four of the dimensions, there

was no change to the significance level when satisfaction was included as a mediator; therefore Hypothesis 3 is not supported, and the null hypothesis cannot be rejected.

**Chapter Summary**

Results of regression analyses indicated that knowledge of social work roles is a significant predictor of interdisciplinary collaboration. Specifically, this study demonstrated that as one's knowledge of social work roles on interdisciplinary primary care teams increases, interdisciplinary collaboration also increases. As proposed in Chapter 1, role knowledge appears to be an essential component of successful interdisciplinary collaboration. With respect to knowledge of social work role's effect on satisfaction with collaboration, the data showed as social work role knowledge increases, the level of satisfaction increases accordingly. Satisfaction among team members will be further explored in Chapter 5.

Finally, when tested as a mediator, satisfaction with collaboration was not determined to be a significant influence on the model. Although the analysis revealed slight changes in the beta coefficient for the IIC-P composite score, and four dimensions (interdependence, shared ownership of goals, newly created professional activities, and reflection on process) there was no significant change in the significance level when satisfaction was added as a mediator. The fifth dimension, flexibility, showed no significance with or without the mediator. The significance of these results, including the limitations and future direction, will be discussed in Chapter 5.

**Chapter V**

**Discussion**

### Introduction

This study utilized a mixed method, qualitative and quantitative design to explore the

knowledge of roles and the barriers and the facilitators to interdisciplinary collaboration, with a

focus on medical providers and social workers, at community-based primary care clinics in the

greater Houston area. This study also investigated the relationship between knowledge and

satisfaction and, finally, satisfaction as a mediator of knowledge and interdisciplinary

collaboration, both as an aggregate and with each individual dimension. Results found that

knowledge of social work roles is a significant predictor of interdisciplinary collaboration.

Knowledge was found to be significantly related to four of the dimensions of interdisciplinary

collaboration including newly created professional activities, interdependence, collective

ownership of goals, and reflection on process. A significant relationship was found between

knowledge of social work roles and satisfaction with collaboration. Finally, this study showed no

indication that satisfaction mediates the relationship between knowledge of social work roles and

interdisciplinary collaboration, or with each separate dimension.

### Discussion of findings

Although research has been conducted regarding the significance of role knowledge in

interdisciplinary collaboration, there has been no research that specifically focused on the role of

social workers. Unlike nurses, and physicians, the role of the social worker on the integrated

primary care team is more nuanced. Consider nurses - when asked "what does a nurse do?" most

respondents would be able to define some of the duties that are ascribed to medical nurses.

Indeed, research by Furegato and Prestupa (1999) that asked respondents that question found that

most recognized nurses as someone who is responsible for patient care. Wood (2016) studied

nursing students' attitudes towards their profession at the first, second, and third years. Again,

many of the characteristics identified were "caring," and "promotes health." It seems the same

kind of certainty is often not found when asking "what do social workers do?" Indeed, as

discussed in Chapter 2, many medical professionals not only underestimate social workers'

scope of practice, but also their academic abilities (Keefe et al., 2009). This, in part, may be due

to the vast array of specializations in the field as well as the diverse professional roles available

to licensed social workers. Most can easily identify social workers as working in communities,

helping children and families, and assisting disenfranchised individuals. The primary mission

statement of social work as defined by the NASW is "to enhance human well-being and help

meet the basic human needs of all people with particular attention to the needs and

empowerment of people who are vulnerable, oppressed, and living in poverty" (NASW, 2017).

Professional stereotyping can lead to misconceptions about the scope and value of certain

professions and negative stereotypes regarding social workers are held by many non-

professionals.  An internet search engine with the words, "social work" and "stereotype" reveals

the negative views held of social workers as "child-snatchers" or "do-gooders" (Murray, 2018).

Research by LeCroy and Stinson (2004) examined the stereotypes regarding social workers held

by the public. The researchers conducted a telephone survey to assess attitudes and beliefs about

social workers. Although respondents did believe social workers help and provide comfort to

people, there were several misconceptions regarding social work practice. Nearly a quarter

believed that social workers only work with people receiving welfare benefits and take children

from their parents (35%). Overall, social workers were seen as favorable by a majority of

respondents; however, this study demonstrated the misconception about the profession as a

whole. It is reasonable to conclude that the misconceptions held by the public may also be held by other professionals.

Carpenter et al. (2003) argued that stereotypes held about certain professions can hinder interprofessional collaboration. Keefe, Geron, and Enguidanos (2009) examined the perceptions that physicians and nurses have regarding social workers and found the majority did not adequately understand social work. Some doctors reported no previous experience working with social workers and those with experience reported favorable attitudes toward social workers but were still unclear on their professional capacity. Although social workers have been present in the health field for decades, the venture into private primary care is still considered by some a rather novel realm (DeCherrie, Soriano and Hayashi, 2012).   In the current study, the majority of social workers and medical providers interviewed agreed that the medical providers did not have an adequate understanding of the social work role on the integrated care team, which led to the underutilization and misuse the social worker's skills. This research is consistent with the literature regarding the misconceptions and lack of knowledge of social work roles (LeCroy and Stinson, 2004; Keefe, Geron and Enguidanos, 2009; Lesser, 2000; Salvatore, 1998). This clearly highlights the need for more education regarding the roles of social workers on interdisciplinary primary care teams.

Other studies on role knowledge in interdisciplinary care teams have identified role education as an important aspect of interdisciplinary collaboration. Tomson et al. (2015) reported that when health professionals are knowledgeable of the other professionals' roles and scope of practice, they show a higher level of collaboration with those team members. Conversely, role ambiguity can result in dysfunction on the interprofessional team, and a deduction in performance (Kahn, 1964, as cited in Schuler, Aldag, and Brief, 1977). Bodenhiemer (2007)

identified knowledge of roles as one of the factors that are associated with improved work performance, alongside a clear division of responsibilities. Furthermore, according to Begley (2008), when interdisciplinary healthcare team members know and understand each other's roles, they can collaborate more effectively. The findings presented in this study support that argument.

In many instances, this study demonstrated the ability of the social workers and medical providers to overcome the lack of role knowledge and find meaningful ways to work together to advance patient care. Interpersonal relationships were identified by this research as a significant aspect to overcoming the lack of knowledge. The study's findings demonstrated that as interpersonal relationships between the providers and the social workers strengthened, the knowledge gap was partly filled. This suggests that as relationships grow, communication improves, which is consistent with prior research. Lee and Doran (2017) looked at the relationship between interpersonal relationships and communication. They note the dearth of research regarding communication within interdisciplinary healthcare teams, but also found that good interpersonal relationships among coworkers appears to foster communication. This is particularly important, as effective communication is recognized as a key factor in patient safety (Moore, Leahy, Sublett and Lanig, 2013; Laschinger and Leiter, 2006).

This study supports the importance of education in building relationships, advancing mutual respect, and increasing collaboration, which also has been shown in other research (Nester, 2016; Reeves, Pierrer, Goldman, Freeth & Zwarenstein, 2013). Several respondents in the qualitative interviews discussed ways in which they had provided or received brief education on the roles of social work, thus improving collaboration. Social workers and medical providers who participated in this study also indicated more education is needed to help inform the function of social workers on primary care teams. Research has shown that interprofessional

education is vital to team alliance, improving communication, increasing mutual respect, and even reducing previously held stereotypes regarding different professions (Thomson et al., 2015). It was also suggested that interdisciplinary communication depends on a good understanding of each other's roles and functions as well as functions on the team. Long et al. (2014) reports that interprofessional education is not a prevalent part of curriculum in health professions, which leads one to the conclusion that perhaps shared early education among MSW and medical students may become a pivotal instrument in promoting collaboration later on in professional practice.

The locality of social workers and medical providers is important for effective collaboration. When team members are co-located, they are more likely to interact and become familiar with one another. Consequently, this can increase knowledge of roles on the team. Xrychis and Lowton, (2008) reported that co-location is fundamental to encourage open communication and familiarization with roles. Netting and Williams (1996) stated that distance between team members hindered communication and the development of relationships. Likewise, they reported that social workers should be visible to providers to be fully utilized. This study was consistent with those findings. Medical providers in this study revealed that co-location encouraged open communication and cultivated interpersonal relationships. The social workers interviewed stated they could easily communicate with the providers regarding their skills and services. An added benefit to co-location was identified by the respondents to this study. Specifically, availability due to co-location increased their synchronous collaboration; providers could directly involve the social workers in consultations with their patients when needed, alleviating the referral gap.

This study demonstrated that as knowledge social work increased, satisfaction increased. Further, satisfaction has been researched in the context of job satisfaction among health care workers impacting patient satisfaction. Satisfaction, however, is largely subjective and can be difficult to measure. According to Lawler and Hall (1970), satisfaction was positively related to perceived autonomy and the extent the responsibilities were accordant with the employee's training and values. In addition, empowerment is seen as a key motivator in employee performance and job satisfaction. Koeberg (1999) wrote of that empowerment "is a process that expands and individual's power, as opposed to merely a state of being" (pg. 74). According to Koeberg (1994), employee empowerment has been attributed to increased job satisfaction and work productivity. Empowerment also has been described as a determinant of satisfaction and commitment among health professionals (Alexander, 1982; Herrenkohl, 1999; Laschinger, 1999). As discussed previously, satisfaction with one's work colleagues and work duties lead to further engagement in the workplace (Avery, McKay and Wilson, 2007). And satisfaction, argue Deci and Ryan (2000), is linked with the perceived value of one's work. Self Determination Theory suggests that people who are empowered by autonomy and intrinsic motivation are more likely to see value in their work, thus increasing motivation. They argue when workers have a greater sense of autonomy, they are less likely to deviate from protocols, and feel more connected to their colleagues and workplace. This also leads to greater engagement in collaboration, a sense of ownership and satisfaction in their work (Deci, Olafsen and Ryan, 2017).

A sense of autonomy, value, ownership in achieving goals, relatedness to colleagues and more satisfaction with duties align directly with the dimensions of interdisciplinary collaboration. The dimension of interdependence requires a level of autonomy and a sense of

reliance on colleagues to achieve shared goals. A sense of autonomy and reliance on colleagues promotes innovative solutions to problems and novel approaches to goal attainment. Organizational elements that facilitate intrinsic motivation, such as positive feedback, providing challenges, and encouraging self-and-team reliance are the factors that aid in the creation and evaluation of newly created professional activities. The findings of the current study not only established support that a positive relationship exists between the knowledge of social work roles and satisfaction with collaboration, but also that role knowledge is paramount to interdisciplinary collaboration, over satisfaction. This finding encourages new research to examine how knowledge of roles affects empowerment, and in turn, can enhance satisfaction, autonomy and engagement in interdisciplinary collaboration.

This research found a relationship between the Index of Interdisciplinary Collaboration for Providers (IIC-P) composite score and four of the five dimensions when tested independently. Although this does not directly indicate overall job satisfaction, interdisciplinary collaboration is an essential function of integrated care, and it is likely that satisfaction with collaboration would also be related to job satisfaction. In healthcare settings, job satisfaction and employee autonomy has been shown to have a positive effect on patient satisfaction, patient engagement in their health management (Lynch, Plant and Ryan, 2005), and patient health outcomes (Moreau and Mageau, 2012). Furthermore, research has found that healthcare professionals' satisfaction with certain aspects of their job can influence patient satisfaction with their care (Janicijevic, Seke, Djokovic and Flilpovic, 2013). Although the researchers point out that the impact is relatively mild, they note that it is still something to consider when aiming to increase patient satisfaction. As explained in Chapter 2, patient satisfaction will be an important criterion for determining reimbursement schedules for medical services, thus, the healthcare

industry is focusing more on improving the patient experience. Although this research measured satisfaction with collaboration, it points to the need for further research on the effect satisfaction with collaboration has on overall job satisfaction, and how that influences patient satisfaction.

Of similar interest, interventions modeled to improve patient coping skills, problem solving, and social support are related to patient satisfaction and patient activation. Patient activation is the level of a patient's skills, awareness and engagement in managing their own health care (Carman, Dardess, Maurer, Sofaer, Adams, Betchel et al., 2013). More importantly, patient activation has been shown to be related to better health outcomes, in both healthy individuals by way of prevention, and in chronically ill patients through effective disease management (Greene & Hibbard, 2012; Hibbard & Greene, 2013; Mosen, Schmittdiel, Sobel, Remmers and Bellows, 2007). Studies looking at interventions to increase patient activation have shown that brief behavioral health interventions aimed at alleviating psychosocial problems can improve a patient's involvement in their care (Chen, Mullins, Novak and Thomas, 2016; Coventry, Lovell, Dickens, Bower, Chew-Graham, McElvenny, Hann et al., 2015), and social workers are especially suited to deliver these types of interventions. As discussed in the literature review, a clear majority (nearly 80%) of patients visiting their primary care provider have comorbid mental health problems further complicated by social issues (Bikson, McGuire, Blue-Howells and Seldin-Sommer, 2009; Craig et al., 2016). Doctors are time-pressed and are less likely to probe for psychosocial problems (Rinfrette, 2009; Rock and Cooper, 2000), thus opening the door to social workers to address these issues. Moreover, research suggests that patients often will not disclose these types of problems to their primary care are more likely to openly share these issues with social workers (Craig, Bejan and Muskat, 2013; McGuire et al.,

2005). As discussed in Chapter 2, social workers are more likely to identify psychosocial needs (Mizrahi and Abramson, 2000), which makes them central to providing comprehensive care.

Organizational and administrative support are perhaps one of the most important frameworks upon which interdisciplinary collaboration rests. Organizational support theory (Eisenberger, Huntington, Hutchison and Sowa, 1986) suggests employees are influenced in part by the perceived value they feel the organization places on their contributions. Organizational support theory (OST) has been studied to help explain dynamics between the employee and organizational relationships. In brief, OST proposes that employees who feel their contributions and well-being are valued on the organizational level, in turn, feel more satisfied with their jobs. Furthermore, research suggests when there is open communication on the intra-organizational levels regarding policies and procedures, employee performance is enhanced (Kacmar, Witt, Zinuska and Gully, 2003). Considering this, one could conclude the opposite, that lack of intra-organizational communication can negatively affect employee performance. Other research suggests that administrative support can either facilitate or impede interdisciplinary collaboration. Organizational procedures, such as implementation of programs, can impact the dynamics of the interdisciplinary team (Sanchez, Thompson and Alexander, 2010). Additionally, the implementation of interdisciplinary healthcare teams requires well-defined roles and responsibilities, otherwise role confusion can cause discontinuity on collaborative efforts (Bronstein, 2003). The findings in the current study support the idea that strong administrative and organizational support is needed to foster collaboration on the teams. Specifically, both medical providers and social workers in this study reported a lack of perceived organizational support as a significant barrier. The respondents felt that there was no routine dissemination of policy and procedures and no clear channels of communication for directing their concerns.

Interdisciplinary collaboration, however, does not solely depend on organizational structure, but is a dynamic process that involves many other factors, as explored and presented in this study.

**Contributions of this Study**

This research is significant because the rising cost of healthcare in the United States is placing a substantial burden on an already strained healthcare system. Spurred in part by the Patient Protection and Affordable Care Act (ACA), healthcare reform is focused on value-based health care services rather than fragmentation and overutilization. To improve quality of and access to healthcare, CMS has adopted the "Triple Aim," designed to achieve three main goals: Increase access for patients; improve population health; and curb rising healthcare costs (CMS, 2017). Although there is much political debate and uncertainty regarding the future of the ACA, much of the research on the effectiveness of integrated primary care (Reckery, Gettenberg, Ross, Kopke, Soriano and Ornstein, 2014; Strandberg-Larsen and Krasnik, 2009) suggests that, at the very least, some of the changes it has sparked are likely here to stay. As the population in the United States ages, more patients will present with multiple and complex health needs, which are best addressed by an interdisciplinary healthcare team that includes social workers (Todahl et al., 2006; Rowe et al., 2017).

This study is innovative because the effect of *knowledge of roles* has not previously been examined as a significant factor contributing to interdisciplinary collaboration. Although existing research supports the position that knowledge of roles is important in collaboration, there are no previous studies on other professional's knowledge of social work roles on the interdisciplinary health care team. Clearly, a lack of role knowledge is a significant barrier to collaboration (O'Brien, Heyworth and Meyer, 2005) and can have a negative impact on patient care. This study directly identified lack of social work role knowledge among the interdisciplinary primary

care team as a barrier to the dimensions of interdisciplinary collaboration. An important finding in this study is that as knowledge increased, so did interdisciplinary collaboration and satisfaction with collaboration. According to O'Dononue et al., (2005), integration rests on the ample comprehension of each team member's scope of practice to be fully integrated. As demonstrated in this study, integration did not fully occur until the medical providers achieved an adequate understanding of the breadth of their social work colleagues' scope of practice.

**Implications for policy.** From a macro perspective, more evidence establishing the benefits patients receive from integrated care is necessary to promote social work incorporation on interdisciplinary primary care teams. Although patient outcomes were not directly examined in this study, the qualitative data indicated that medical providers felt that collaboration with social workers improved patient care, thus adding value to the services provided. This supports the overall argument for strong policies that support collaboration on the governmental and organizational levels. For example, Légaré et.al. (2011) argue that organizational policies and norms directly influence individual team members, and that organizational policies also are influenced by broader healthcare systems. This implies that policies implemented by macro systems, such as the Centers for Medicare and Medicaid can, at the very least, indirectly influence interdisciplinary health care on the micro level through the organizational, or mezzo level. Légaré et al., further observe that macro systems' support of mezzo systems' goals is necessary for successful interdisciplinary collaboration in healthcare settings.

**Implications for education and practice.** Social work education will need to rise to the challenge of preparing social workers for integrated primary care, with changes in course offerings. Courses on epidemiology, chronic disease management, and brief targeted interventions using cognitive behavioral therapy and motivational interviewing that are

appropriate for use in primary health care settings are necessary additions to the curricula. Additionally, Interdisciplinary Professional Education programs (IPEs) that focus on the different professional roles on interdisciplinary primary care teams are equally important. As discussed earlier, research has found that healthcare professionals who are familiar with the responsibilities and scope of practice of their colleagues and who are trained to work on interdisciplinary teams show a greater level of collaboration and mutual respect (Tomson et al., 2015). Interdisciplinary education that places different professions in the same setting is fundamental to promoting interdisciplinary collaboration in practice.

This study also promotes the need for intra-organizational education programs designed enhance and promote role knowledge on interdisciplinary primary care teams. Although formal educational and field placement programs are important for providing real-world experiences that will increase predisposition towards interdisciplinary collaboration, social workers entering integrated primary care settings should also be proactive in providing information related to the breadth and scope of their practice expertise to help other team members use their skills and knowledge effectively. Findings of this study suggest the importance of well-defined job descriptions as determined by the clinical setting. Because different clinics may serve different populations, (i.e., pediatric, Medicare, Medicaid, private insurance) the duties and scope of practice may differ depending on the patient population or clinical setting. The qualitative portion of this study found that the social workers initially had confusion regarding their own roles when first placed in the clinics, which highlights the need for clear job descriptions, and training for social workers in addition to other members of the interdisciplinary team. Interdisciplinary collaboration is stressed as an important part of most professional practices, yet there are few interdisciplinary education programs that place students from different disciplines

in the same classroom (Long, Dann, Wolff and Brienza, 2014). As the patient-centered medical home model of integrated care is expected to outlive the ACA (2010), interdisciplinary education should be stressed in graduate programs and in medical school. Classes that expose medical students to social workers early in their education can help advance knowledge and dispel many of the myths or stereotypes that may be held by each profession. Several studies have suggested that interdisciplinary education programs can reinforce interprofessional collaboration and appreciation for each team member's contribution to the practice. For interdisciplinary education programs to be successful, however, researchers note that groups must have equal status, have institutional support, and work together on a common goal (Barnes et al., 2000; Thomson, Outram, Gilligan, and Levett-Jones, 2015).

Although satisfaction with collaboration was found to be significantly related to interdisciplinary collaboration, the mediation analysis did not support satisfaction as a mediator of the relationship between knowledge of social work roles and interdisciplinary collaboration. This suggests that knowledge is of primary importance and should therefore be the point of intervention in creating training and education programs, regardless of satisfaction with collaboration. On macro, mezzo, and micro levels, social work education needs to focus on the specific clinical roles and scopes of practice of integrated social work, and also provide more specific functions as they relate to different patient populations. Social work education programs can provide an overview of integrated care, and other aspects of care that are important to different patient demographics. At the mezzo level, new-hire orientations can provide a more detailed responsibilities of social work duties and scope of practice as determined by specific clinic populations.

Healthcare in the United States is beginning to change from an acute-care, treatment model to a prevention and management model, in which patients are active participants in making healthcare decisions, and more emphasis will be placed on the psycho-social aspects of health and wellbeing (Benjamin,2011; Marvasti and Stafford 2012). This poses distinct implications for social work because patients who visit primary care clinics are more likely to have social and behavioral problems that negatively impact their health (Netting and Williams, 2000). Although social workers are uniquely qualified to address the bio-psycho-social aspects of patient care, many primary care providers have not directly worked with social workers until one is placed alongside them in the clinic. Although the inclusion of social workers on the primary care team can help save both time and money by helping identify and address the non-medical aspects of care (Clark and Foster, 2011; Andrews and Kuhn, 2005), if a medical provider is not knowledgeable about the social work role, it will not be utilized effectively. The focus on knowledge of social work roles can help develop IPE programs on the professional level, including social workers, medical residents, nursing residents, and other healthcare providers. Awareness of the misconceptions medical professionals hold regarding social work roles can help IPEs address them earlier on in the integration process, thus avoiding misunderstandings in clinical practice.

According to Tamayo, Besoaín-Saldanña, Aguirre, and Leiva (2017) medical education has traditionally focused on individual performance and with the changing structures of the healthcare system, this needs to be broadened. The authors note that interdisciplinary collaboration should occur at different stages of professional development and education. In most metropolitan areas in the United States, there is ample opportunity for university medical systems to join forces with other related professional academic programs to collaborate on

strategies to improve population health, and integration. Interprofessional scholarship between graduate and Ph.D. level social workers and other health care academics can also help advance practice and encourage organizational support for interprofessional work.

**Recommendations for Future Research**

As discussed in Chapter 1, as the population ages, more individuals will be living longer, and with multiple chronic health conditions (Berkman et al., 2005). Research discussed earlier in this chapter (Bronstein et al., 2015; Andrews, Darnell, McBride and Gehlert, 2013; Blue-Howells, McGuire and Nakashima, 2008; Goldberg et al., 2013), has shown that the inclusion of social work in primary care can lead to reduced costs and better patient outcomes. Future research exploring the direct costs to patients who receive social work services in primary healthcare can provide a better understanding of the direct economic benefits of social work integration.

To support macro policy promoting interdisciplinary collaborations in primary care, research needs to be conducted to provide additional strong evidence of the health benefits patients receive from integrated primary care. According to the American Hospital Association (2006), most older adults receive most of their care from a primary care physician and, as people continue to live longer, they often have multiple chronic conditions (He et al., 2005). Additionally, many older adults present with psychosocial problems that can complicate illness, such as mental health diagnoses or financial problems (Netting and Williams, 2000). Social workers are trained to provide biopsychosocial assessments and interventions and, according to Mizrahi and Abramson (2000), social workers are more likely than physicians to identify psychosocial problems. For social workers to be universally recognized as an integral part of

integrated primary care, research demonstrating direct health benefits to patients needs to be conducted.

Interdisciplinary professional education programs designed to cultivate positive attitudes towards interdisciplinary collaboration and dispel myths among medical students and social work students should be tested to determine the effectiveness of these programs. Programs designed to advance the understanding of other professions' unique contributions to the field of interdisciplinary health care are needed to help health professionals understand the best ways in which they can work together to advance positive health outcomes.

Many patients with behavioral health problems first seek help from their primary care doctors (Gray, Brody and Hart, 2000). Unfortunately, when referred to an outside establishment for mental health, few patients follow through (Sweeney et al., 1994). Since social workers make up the largest group of mental health and substance abuse service providers in the U.S. (SAMHSA, 2014), their unique view of health from a holistic and contextual perspective, makes them well-suited to fill gaps that exist between primary care and comprehensive mental health services. Many patients who present with psychosocial stress, depression, and anxiety may not be appropriate for a psychotherapy referral and may, instead, benefit from a brief intervention. Research estimates that nearly one half of outpatient visits are complicated by mental health problems, such as depression and anxiety (Kroenke, 2003). Brief mental health interventions delivered by qualified social workers can be a cost-effective way to provide effective services in the primary care setting. Research examining the efficacy of brief-solution focused interventions for treating non-complicated mental health problems is needed to further demonstrate the importance of social workers in integrated primary care.

Additional research is needed to further validate and test the Knowledge of Social Work Roles Scale, which was developed for this study. As mentioned previously, different clinical populations can in part determine the specific duties social workers performed on an integrated primary care team. Creating or adding dimensions to measure the different basic responsibilities that are determined by clinical setting along with the more general functions of integrated social work may improve the measure and make it more suitable to a range of primary care settings.

As discussed in Chapters 1 and 2, the traditional model of fee-for-service model has been replaced by a value-based model which has altered the way health care facilities are reimbursed for services. Specifically, reimbursement no longer depends on the number of tests and procedures but, instead, are based on patient outcomes. In turn, delivering better care and improving patient outcomes will depend on addressing the non-medical and social determinants of health. This, however, poses a new challenge, as healthcare costs decrease, so will payments to healthcare centers which means new funding mechanisms will be required to support non-revenue generating interdisciplinary care team members, such as social workers. Despite the fact that social workers do not generate revenue, research has shown that the inclusion of social workers in primary care adds value. For example, Enguidanos (2006) found disease management skills for chronically ill patients were improved with social work interventions in primary care. Similarly, Rock and Cooper (2000) discovered that behavioral health interventions applied by social workers in primary care resulted in reduced scores on depression and anxiety scales. Importantly, the current study adds to the literature by demonstrating the perceived value of social workers by other team members. Currently, federal funding, specifically the Medicaid 1115 transformation wavier, provides a significant share of the revenue which pays for the healthcare transformation initiatives that are placing social workers and other value-added

services in primary care settings. The Medicaid 1115 waiver was largely dependent on the universal adoption of Medicaid Expansion, which presumed that as the funding ends, the expansion of coverage would pick up the increased costs. According to a study by The Center for Public Policy Priorities (2016), Texas providers are at risk of losing $11.9 million in waiver funds when federal funding expire. Given the uncertainty of future funding, there is an increased need for novel approaches to fund the inclusion of social workers on integrated primary care teams. This is particularly important because employing social workers in primary care has been shown to improve patient health outcomes, while reducing costs (Bronstein et al., 2015; Andrews, Darnell, McBride and Gehlert, 2013; Blue-Howells, McGuire and Nakashima, 2008; Goldberg et al., 2013). This makes social workers a crucial part of reaching the health care goals established by CMS.

Further research is called for to examine the significance of flexibility as an individual dimension of interdisciplinary collaboration, and to potentially develop a more reliable measure. As defined in Chapter 3, flexibility is the ability of interdisciplinary team members to resolve obstacles to goal attainment by modifying the expectations and activities of a specific role, suggesting a sort of "blurring" of roles as needed (Bronstein, 2003). The literature in Chapter 2 also supports the idea that flexible boundaries are necessary for interdisciplinary collaboration. Indeed, some data in the qualitative strand of this study suggested flexibility of roles is an assumed aspect of interdisciplinary collaboration. Although respondents discussed the importance of establishing expected functions, they also noted the importance of "doing what you need to do to get the patient taken care of" even if it falls outside of your expected duties. This points to the perceived importance of flexibility, warranting further research on how flexibility is determined, and how it is perceived on interdisciplinary care teams. This also raises

additional questions about how flexibility should be measured across settings and professions. Unlike other research carried out in this area, this study did not find a significant relationship between flexibility, and knowledge of social work roles, or flexibility and satisfaction with collaboration. This discrepancy could be due problems with the measurement, as mentioned in Chapter 3, this subscale had a low coefficient alpha and therefore may not have been reliable for this setting. Although this result was not anticipated, this research still supports flexibility as an important factor for future research on interdisciplinary collaboration.

Finally, findings from this study suggest a link between interpersonal relationships, interdisciplinary collaboration, increased role knowledge and satisfaction with collaboration. Interpersonal relationships helped the social workers and medical providers overcome inherent professional differences that can highlight power differentials. As discussed in Chapter 2, power differentials can hinder interdisciplinary collaboration by reinforcing the formation of rigid hierarchies (Gillespie, et al., 2010) in which one profession dominates the team. Although the current study did not address hierarchies as a barrier, this calls for further research to examine the relationships between interpersonal relationships and power differentials on interdisciplinary primary care teams.

**Limitations**

**Generalizability.** As this study is confined to the University of Texas (UT) Physicians community-based primary care and multispecialty clinics, it may not be generalizable to other types of specialized medical practice, such as neurology or hospital social work. Additionally, since the data was collected at multiple locations operated by one entity and located in one metropolitan area, it may not be generalizable to other medical practices due to differences in geographical location, administration, and corporate structure.

**Sample size**. Because the total population of social workers in the UT community-based primary care and multispecialty clinics is low, (less than one per clinic, with nineteen clinics), they were not included in the quantitative portion of the study. Although the social workers are included in the qualitative strand, the quantitative portion of the study focused only on the medical providers, making a direct comparison unachievable. Additionally, the power analysis computed a sample size of n=89 was necessary for this study. A sample size of n=86 was achieved, which is very close to the calculated size, but may have resulted in a sample size that was underpowered for analyses. In spite of this, however, significant findings were detected so the smaller sample did not appear to impact analyses.

**Measures.** Satisfaction with collaboration was determined by one item asking respondents to rate their personal satisfaction with interdisciplinary collaboration between social workers and medical providers. This may not be a suitable or reliable way to determine satisfaction, and therefore may have affected the results. Additionally, flexibility as an individual measure did not appear to be a reliable or valid measurement of the construct. The original subscale had an alpha coefficient of .62 (Bronstein, 2002), indicating an overall weak measure and the reliability was even worse for this study (alpha=.48), making findings related to flexibility questionable.

**Response bias.** Although the quantitative data was collected anonymously, some of the respondents are personally acquainted with the researcher, therefore may have attempted to answer questions in what they perceive as a favorable way. Additionally, because the researcher is a clinical medical social worker in a UT Physicians community-based primary and multispecialty care clinic, she is acquainted with all the social workers and many of the medical providers at UT Physicians. This also may have affected how they responded in the focus

groups. And although the focus groups were confidential, anonymity to the researcher was not possible. This limitation was controlled by asking each respondent to answer the questions in a truthful manner, not how they feel they should answer, but this may not have prevented social desirability. Additionally, the quantitative data may have a non-response bias, as the individuals who chose to participate in this study may have significantly different views on knowledge of social work roles and interdisciplinary collaboration than those who chose to not respond.

**Interdependence of variation.** The medical providers who took part in this study may have had positive attitude toward interdisciplinary work with social workers. Those who may have held less favorable attitudes may have been less likely to participate, thus skewing the results.

**Researcher bias.** This study was conducted by a doctoral student who works as a social worker at UT Physicians Bayshore, and thus may be biased in her views regarding integrated primary care, and interdisciplinary work with medical providers. To help lessen the influence of bias, the researcher kept a written journal of her research activities, and personal reflections. Furthermore, the data collected in the focus groups was checked for trustworthiness by volunteer licensed master social workers who were unfamiliar with the study, the data, and not known to the researcher. Finally, the researcher discussed her employment and potential bias in a disclosure statement.  Furthermore, all qualitative questions were examined by the research committee to ensure they were neutrally stated.

## Conclusion

At the beginning of this project, the Patient Protection and Affordable Care Act (ACA, 2010) seemed like a certainty; at the conclusion, its future is unclear. Nevertheless, many of the changes initiated by the ACA (2010), such as the patient-centered medical home (PCMH), and

interdisciplinary, integrated health care teams, are likely to remain (T. Murphy, personal communications, January 2017, October 2017, December 2017). The PCMH places an emphasis on providing comprehensive, patient-focused health care while, at the same time, increasing access and reducing costs. Integrated primary care that addresses the psychosocial concerns in addition to the physical has been shown to improve patient health, while reducing costs. Even without the expansion of Medicaid creating a trove of newly insured individuals, Medicare spending is expected to rise to nearly 20% of the federal budget by 2027 (CMS, 2017), placing a significant burden on our healthcare are system. This calls for novel approaches to addressing the complex needs of contributing this strain.

This study illuminates the need for research focused on the responsibilities and functions of social workers on integrated, interdisciplinary primary care teams. As discussed earlier in this chapter, certain functions are dependent on specific patient populations. Both strands of this study support the need for more specific education on the scope of practice and the specific roles social workers perform on integrated care teams.

Patients who see their primary care providers often have co-occurring conditions, complicated by psychosocial problems (Greenlund et al., 2012), which are more likely to be identified by social workers (Abramson and Mizrahi, 2003). This research has joined the argument for an increased need for social work integration in primary care due to the imminent strains our healthcare system is facing. Because Medicare spending currently tops 14% of the federal budget and it is only expected to grow (CMS, 2017), it adopted a triple aim as a way to improve patient outcomes, and reduce costs (CMS, 2017), by increasing access to healthcare, improving the patient experience, and reducing per captia costs. For this to be achieved, it will

require more than a medical approach, creating new opportunities for social work in integrated

primary care.

Notably, this study established the connection between role knowledge and

interdisciplinary collaboration, specifically in reference to social work roles on integrated

primary teams. Knowledge of social work roles was positively related to interdisciplinary

collaboration and significant relationships were found between knowledge of social work and

four of the dimensions of interdisciplinary practice.  This creates a ripe terrain for more research

on interdisciplinary collaboration and innovative education programs designed to meet the needs

of future health care professionals. Because specific responsibilities can differ depending on

patient population, more research needs to focus on the variety of roles and interventions that

social workers implement. Education materials, on the micro, mezzo, and macro levels are

needed that promote knowledge particular to the different primary care settings.

Social work as a profession is in a unique position to develop and define its role in

integrated healthcare. Changes in primary care, such as the creation of the patient-centered

medical home offer a tremendous opportunity for social work to develop new education and

training programs based on the integrated care model, to prepare social workers for the

burgeoning need. The PCMH is a model of care that incorporates comprehensive outpatient

needs to improve patient outcomes by addressing a multitude of needs. Social workers

understand that social, psychological, and behavioral aspects are a considerable factor in patient

health outcomes. For the PCMH to achieve the triple aim of improving access to care, improving

patient experience and outcomes, and reducing per capita costs, it is critical that the

biopsychosocial aspects of health also be addressed. According to the NASW, the primary aim of

social work is to "enhance human-wellbeing and to help meet the basic human needs of all

people . . . (NASW Code of Ethics, 2017, Para 1). Social workers are particularly suited to providing the holistic approach that is called for in integrated primary care. This research is particularly meaningful as it helps establish the importance of social workers in integrated, interdisciplinary primary care practice.

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**Appendix A**

**UT Physicians Community-based Primary Care and Multidisciplinary Clinics – Greater Houston Area**

| Clinic Name | Location | Medical providers | Social workers |
|---|---|---|---|
| UT Physicians at The Heights | 925 N. Shepherd Dr. Houston, TX | 11 | 1 |
| UT Physicians Comprehensive Sickle Cell Center | 1200 Binz St. Houston, TX | 11 | 1 |
| UT Physicians Family Medicine at TMC | 6410 Fannin St. Houston, TX | 11 | 1 |
| UT Physicians Primary Care at Smith Tower | 6550 Fannin St. Houston, TX | 2 | |
| UT Physicians Health & Wellness Center at Jensen | 2620 E. Crosstimbers Dr. Houston, TX | 2 | 1 |
| UT Physicians Health & Wellness Center at Victory | 7364 Antione Dr. Houston, TX | 5 | 1 |
| UT Physicians Community Health & Wellness Center Beaumont | 3610 Stagg Dr. Beaumont, TX | 6 | 1 |
| UT Physicians Bellaire Family Medicine | 5420 Dashwood St. Bellaire, TX | 10 | 1 |
| UT Physicians Dashwood Multispecialty | 5420 Dashwood St. Bellaire, TX | 4 | |
| UT Physicians Pediatric & Teen Clinic at Dashwood | 5420 Dashwood St. Bellaire, TX | 5 | 1 |
| UT Physicians Pediatric Primary Care at Dashwood | 5420 Dashwood St. Bellaire, TX | 2 | |
| UT Physicians Bayshore Family Practice | 11452 Space Center Blvd., Houston, TX | 18 | 2* |
| UT Physicians Bayshore Multispecialty Practice | 11476 Space Center Blvd., Houston, TX | 17 | 2** |
| UT Physicians Community Health & Wellness Center Southwest | 10623 Bellaire Blvd. Houston, TX | 6 | 1 |
| UT Physicians Center for Healthy Aging | 6700 W. Loop South Bellaire, TX | 7 | 1 |
| UT Health & Wellness Center Rosenberg | 5115 Avenue H Rosenberg, TX | 7 | 1 |

| | | | |
|---|---|---|---|
| **UT Physicians Sienna at Village** | 8810 Highway 6 Missouri City, TX | 23 | 1 |
| **UT Physicians Greens Clinic** | 245 W. Greens Rd. Houston, TX | 16 | 1 |
| **UT Physicians Health Center at Cinco Ranch** | 23923 Cinco Ranch Blvd,. Katy, TX | 19 | 1 |

*\* The researcher is a social worker at Bayshore Family Practice, which shares with Bayshore Multispecialty Practice.*

*\*\*The researcher is a social worker at Bayshore Multispecialty Practice, which shares with Bayshore Family Practice.*

## Map of Locations in the Greater Houston Area
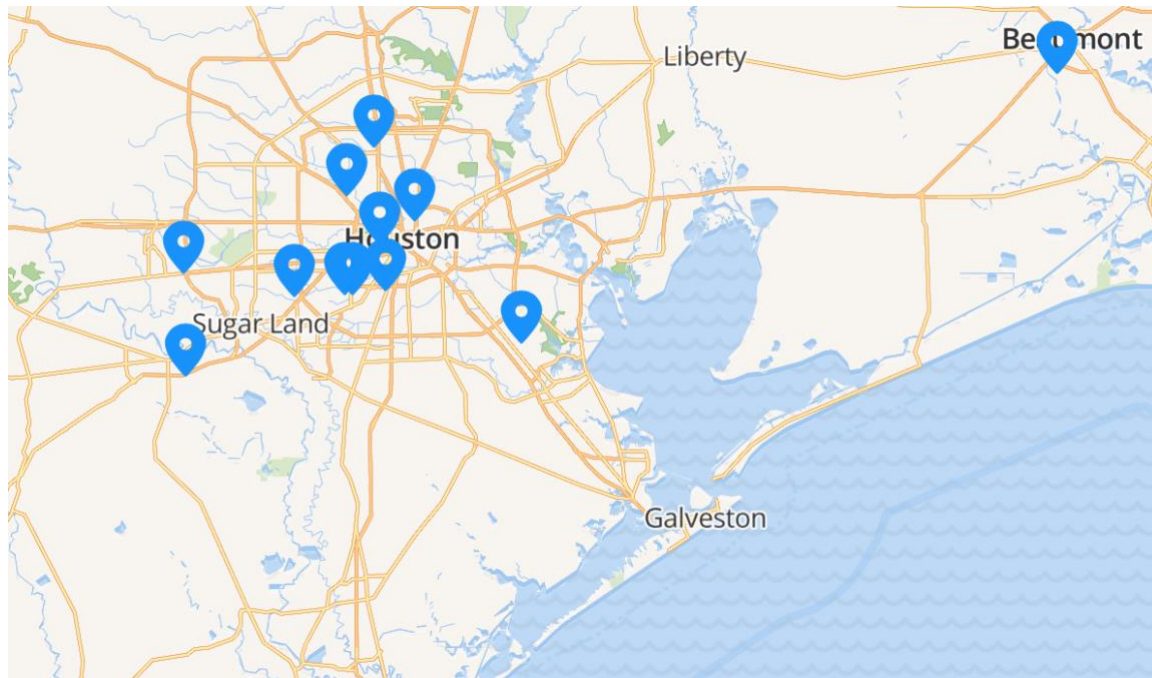
**Appendix B**

**UNIVERSITY OF HOUSTON CONSENT TO PARTICIPATE IN RESEARCH**

**TITLE: Knowledge of social work roles in community-based interdisciplinary primary care practice**

You are being invited to participate in a research project conducted by Christine Bakos-Block, LMSW from the University of Houston Graduate College of Social Work. This project is a pilot study for dissertation. The dissertation chair for this project is Susan Robbins, PhD, LCSW, of the University of Houston Graduate College of Social Work.

**NON-PARTICIPANT STATEMENT**

Your participation in this project is voluntary. You may refuse to participate or withdraw from participation at any time, and without penalty. You may refuse to answer any questions without penalty. You may also withdraw your permission to have your answers included in this study. The procedure involves completing an online survey that will take approximately 20 minutes. Your responses will be confidential, and we will not collect identifying information such as your name, email address, or IP address.

All information collected is confidential and will be stored in a password protected electronic format. To help protect your confidentiality, the survey will not contain information that will personally identify you. The results of this study will be used for scholarly purposes and may be shared with University of Houston Graduate College of Social Work and University of Texas Health Science Center for academic purposes. Two Amazon gift cards in the amount of $150 will be offered as an incentive to completion, to be awarded by drawing from participant emails. If you would like to be entered into the drawing, you may provide your preferred email

when prompted after the survey is completed. All emails will be kept confidential and destroyed

after the gift cards are awarded.

If you have any questions about this study, please contact Christine Bakos-Block at crbakos-

block@uh.edu.

**PURPOSE OF THE STUDY**

The purpose of this study is to develop a better understanding of social work roles in

primary care and examine whether knowledge of social work roles is associated with higher

perceived level of collaboration, greater flexibility, higher numbers of newly created professional

activities, greater collective ownership of goals, and higher levels of reflection on process. In

addition, it will examine whether knowledge of social work roles moderates the relationships

between each of the other variables and perceived level of interdisciplinary collaboration.

**PROCEDURES**

You are one of approximately 98 respondents who will be asked to participate in this

project. As a participant in this study, you will be asked to complete questionnaires to the best of

your ability. When you have completed the questionnaires, your participation in the study will be

concluded. The total time to complete the survey is approximated at 30 minutes.

**CONFIDENTIALITY**

Your participation in this project is confidential. You will not be required to sign your

name to consent to participate in this study, as your participation will be considered consent.

**RISKS**

The questionnaire will require approximately 45 minutes to complete. There is no known

risk or pain associated with this study.

**BENEFITS**

While you will not directly benefit from this study, your participation will help researchers understand the factors associated with multidisciplinary integration in a community-based primary healthcare practice.

**ALTERNATIVES**

Non-participation is the only alternative for this project.

**PUBLICATION STATEMENT**

The results of this study may be published in professional and/or scientific journals. It may also be used for educational purposes for professional reasons. No individual participants will be identified.

**Appendix C**

**IRB Approval**



APPROVAL OF SUBMISSION

September 12, 2017  Christine Bakos-Block  crbakos-block@uh.edu  Dear Christine Bakos-Block:  On September 12, 2017, the IRB reviewed the following submission:

| Type of Review: | Initial Study |
|---|---|
| Title of Study: | KNOWLEDGE OF SOCIAL WORK ROLES IN INTERDISCIPLINARY PRIMARY CARE TEAMS: A MIXED METHODS STUDY |
| Investigator: | Christine Bakos-Block |
| IRB ID: | STUDY00000499 |
| Funding/ Proposed Funding: | Name: Unfunded |
| Award ID: | |
| Award Title: | |
| IND, IDE, or HDE: | None |

| Documents Reviewed: | • Interview and Focus group Guide, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); • Emails to participate .pdf, Category: Recruitment Materials; |
|---|---|
| | • Knowledge of Social Work Roles, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); • HRP-502a Signed Consent.pdf, Category: Consent Form; |
| | • HRP 503 BAKOS BLOCK 2017 (2).pdf, Category: IRB Protocol; • HRP-502e Electronic consent.pdf, Category: Consent Form; |
| | • Index of Interdisciplinary Collaboration for medical providers, Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); |
| | • Perceived level of collaboration , Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); |
| | • Demographic questions , Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); |
| | • Murphy letter of support, Category: Letters of Cooperation / Permission; |
| | • Index of Interdisciplinary Collaboration , Category: Study tools (ex: surveys, interview/focus group questions, data collection forms, etc.); |
| Review Category: | Expedited |
| Committee Name: | Not Applicable |
| IRB Coordinator: | Danielle Griffin |

The IRB approved the study from September 12, 2017 to September 11, 2018, inclusive.

To ensure continuous approval for studies with a review category of "Committee Review" in the above table, you must submit a continuing review with required explanations by the deadline for the August 2018 meeting. These deadlines may be found on the compliance website (http://www.uh.edu/research/compliance/). You can submit a continuing review by navigating to the active study and clicking "Create Modification/CR."

For expedited and exempt studies, a continuing review should be submitted no later than 30 days prior to study closure.

If continuing review approval is not granted on or before September 11, 2018, approval of this study expires and all research (including but not limited to recruitment, consent, study procedures, and analysis of identifiable data) must stop. If the study expires and you believe the welfare of the subjects to be at risk if research procedures are discontinued, please contact the IRB office immediately.

Unless a waiver has been granted by the IRB, use the stamped consent form approved by the IRB to document consent. The approved version may be downloaded from the documents tab.To document consent, use the consent documents that were approved and stamped by the IRB. Go to the Documents tab to download them.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.

Sincerely,

Office of Research Policies, Compliance and Committees (ORPCC) University of Houston, Division of Research  713 743 9204  cphs@central.uh.edu
http://www.uh.edu/research/compliance/irb-cphs/

Dr. Christine Bakos-Block UT-H - MS - DSRIP

September 07, 2017 HSC-MS-17-0685 - *KNOWLEDGE OF SOCIAL WORK ROLES IN INTERDISCIPLINARY*

*PRIMARY CARE TEAMS: A MIXED METHODS STUDY*

The above named project is determined to qualify for exempt status according to 45 CFR 46.101(b)

***CATEGORY #2*** *: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:*

*a. information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; AND ,*

*b. any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.*

*(NOTE: The exemption under Category 2 DOES NOT APPLY to research involving survey or interview procedures or observation of public behavior when individuals under the age of 18 are subjects of the activity except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.)*

**CHANGES:** Should you choose to make any changes to the protocol that would involve the inclusion of human subjects or identified data from humans, please submit the change via iRIS to the Committee for the Protection of Human Subjects for review.

**INFORMED CONSENT DETERMINATION:**

Signed Informed Consent Required

**INFORMED CONSENT:** When Informed consent is required, it must be obtained by the PI or designee(s), using the format and procedures approved by the CPHS. The PI is responsible to instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document. Please note that only copies of the stamped approved informed consent form can be used when obtaining consent.

**HEALTH INSURANCE PORTABILITY and ACCOUNTABILITY ACT (HIPAA):**

Exempt from HIPAA

\_\_\_\_\_ _____ _____

**STUDY CLOSURES:** Upon completion of your project, submission of a study closure report is required. The study closure report should be submitted once all data has been collected and analyzed.

Should you have any questions, please contact the Office of Research Support Committees at 713-500-7943.

**Appendix D**

**DEMOGRAPHIC INFORMATION / SCREENING QUESTIONS**

1. Please select your gender: M/F/Other

2. Please state your age:

   20 to 29 years
   30 to 39 years
   40 to 49 years
   50 to 59 years
   60 to 69 years
   70 and above

3. Clinic location:

4. Please select your position in the clinic:

   MD/DO
   PhD
   Nurse Practitioner (NP)
   Physician Assistant (PA)
   Registered Nurse (RN)
   LCSW
   LPC/LMFT
   LMSW
   Other, please specify _____

5. How long have you been employed at UT Physicians?

   1 to 3 years
   3 to 5 years
   5 to 10 years
   More than 10 years

6. Have you previously worked in an interdisciplinary practice with social workers or

   medical providers? Yes/No

**The following question will be asked to medical providers only:**

7. In the past 12 months, have you had contact with the social worker at your clinic

   regarding any aspect of patient care?

**Appendix E**

**Social Work Roles in Primary Care**

The purpose of this scale is to assess which clinical cases social workers are referred to or collaborated with in the patient-centered medical home. Please rate how often you would include the social worker for each of the following brief patient scenarios.

**Please answer 1=never; 2=rarely; 3=sometimes; 4=often; 5=always**

1. Patient with diabetes is non-compliant.

2. High score on a depression screen.

3. Patient has need for durable medical equipment. *

4. A patient's sedentary lifestyle contributing to chronic health condition.

5. A patient grieving the recent loss of a loved one.

6. Patient describes marital or family problems.

7. A patient who frequently goes to ER.

8. Suspected elder or child abuse.

9. A patient has transportation problems. *

10. Patient with newly diagnosed chronic illness.

11. Patient with suspected alcohol abuse.

12. Patient may need palliative care.

13. Patient having difficulty coping with acute stress.

14. Patient upset due to long wait. *

15. Patient frequently misses appointments.

16. Patient needs referral to a behavioral health specialist. *

17. Patient with extreme expression of emotions, such as anxiety, anger, or sadness

    interfering with medical appointment.

18. Pt with expression of suicidal ideation.

19. Unknown patient needs, request biopsychosocial assessment.

20. A patient is a high fall risk.

21. A patient needs provider services. *

22. A patient who has questions about their medication. *

23. A patient seeking substance abuse/dependence treatment.

24. A patient who needs an order for home health. *

25. A patient who needs help with an advance directive.

26. A patient who can't afford their medication.

27. A patient who is routinely non-compliant with medical directions.

28. Appointment reminders. *

29. Help filling out a disability form. *

30. A patient who needs services Medicare does not cover (such as hearing aids,

dentures).

*these items to be reverse coded

**Appendix F**

**Knowledge of Social Work Roles in Interdisciplinary Primary Care Teams
Focus Group Interview Guide**

**Introduction:** This survey intends to assess and build a framework of the activities and roles of social work in community-based primary care interdisciplinary teams. This framework will be used to assess knowledge of social work roles in the second part of this study.
The interview questions will be used to guide the facilitator through a semi-structured focus group and allows for the facilitator to change and modify questions as deemed necessary.

| 1. Welcome<br><br>All Groups | I want to thank you for coming today. My name is Christine Bakos-Block and I will be the facilitator for today's group discussion. I am a doctoral researcher at the University of Houston Graduate College of Social Work.<br><br>I invited you to take part in this group discussion because you are providers / social workers at University of Texas Physicians community-based clinics. This study is not currently funded by any other organization, and what we learn from this discussion will be used in my dissertation research and may be submitted for publication. |
|---|---|
| 2. Rules<br><br>All Groups | Before we begin, I would like to go over a few things.<br>1. I am going to ask you some questions. We do not have to go in a particular order, but we want everyone to take part in the discussion. We ask that only one person speak at a time.<br>2. We have composed questions to start with but may introduce questions not previously recorded if we feel more information is needed on a topic we didn't anticipate.<br>3. Feel free to treat this as a discussion and respond to what others are saying, whether you disagree or agree. We are interested in your opinions and whatever you have to say is fine with us. There is no right or wrong response. We are just asking for your opinions based on your personal experience, and we are here to learn from you.<br>4. If there is a question you do not wish to answer, there is no obligation to, you may simply skip that question without explanation.<br>5. We will treat your answers as confidential. We are not going record anything that could identify you and we are only going to use participant ID, the numbers printed on the card on the table before you, to identify who is speaking when taking notes. We ask each of you to respect the privacy of everyone here, and not to share or repeat what is said here in any way.<br>6. We are tape recording the discussion today and also taking notes, because we don't want to miss any of your comments. However, once we start the tape recorder we will not use anyone's name and |

| | |
|---|---|
| | we ask that you do the same. Is everyone OK with this group discussion being recorded? (Verbal consent will be obtained. If a participant does not want to be recorded, she/he can leave at this time with no repercussion).<br>7. We anticipate this group discussion will take about 2 hours, based on the number of participants. If at any time you need to leave, you may do so without repercussion.<br><br>Does anyone have any questions before we start?<br>(Begin Recording) |
| 3. Introduction to Discussion Topics<br><br>All Groups | We are going to ask questions pertaining to the following topics: the social work role in primary care practice, and barriers and facilitators to collaboration. We will spend about 30 minutes discussing each topic area before moving onto the next topic. As this is a semi-structured group discussion, questions may change depending to the information being gathered. |
| 4. Group Discussion - Topic 1 (30 minutes)<br><br>Social Workers | Topic 1: Introduction to clinical sites<br>1. What patient population is primarily served at your clinical site?<br>2. What social work activities do you engage in at your clinic? (for social workers)<br>3. Can you give me some examples?<br>4. In what ways do you receive referrals? / How are they communicated to you? |
| 4. Group Discussion – Topic 1 (30 minutes)<br><br>Medical Providers | 1. What patient population is primarily served at your clinical site?<br>2. What types of patient needs do you involve the social worker in, or refer to the social worker?<br>3. Can you give me some examples?<br>4. What types of patient needs does the social worker contact you about?<br>5. In what ways do you receive and prefer to receive communication from the social worker? |
| 5. Group Discussion - Topic 2 (30 minutes)<br><br>Social Workers | Topic 2: Barriers to collaboration<br>1. What barriers did, and do you encounter in regard to collaboration with medical professionals in your clinical setting?<br>2. What barriers did you and do you encounter to collaboration with medical providers in your clinical setting?<br>3. How have barriers been overcome, if at all? |

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| | 4. Do you feel open about discussion barriers with the medical providers? |
| 5. Group Discussion – Topic 2 (30 minutes)<br><br>Medical Providers | 1. What barriers did you and do you encounter in regard to collaboration with social workers in your clinical setting?<br>2. What barriers did you and do you encounter to collaboration with social workers in your clinical setting?<br>3. How have barriers been overcome, if at all?<br>4. Do you feel open about discussing barriers with the social workers? |
| 6. Group Discussion – Topic 3 (15 minutes)<br><br>Social Workers | Topic 3: Facilitators to collaboration<br>1. What things have helped or enhanced collaboration with medical providers in your clinical setting? |
| 6. Group Discussion – Topic 3 (15 minutes)<br><br>Medical Providers | 1. What things have helped or enhanced collaboration with social workers in your clinical setting? |
| 7. Group Discussion – Topic 4 (30 minutes)<br><br>Social Workers | Topic 4: Knowledge of interdisciplinary care team professional roles<br>1. Do you feel the medical providers have a good understanding of your role on the patient care team?<br>2. If so, how was this achieved?<br>3. Do you feel you have a good understanding of other providers' roles on the primary care clinic?<br>4. Can you elaborate? |
| 7. Group Discussion – Topic 4 (30 minutes)<br><br>Medical Providers | 1. Do you feel the social workers have a good understanding of their role in the primary care clinic?<br>2. Do you feel that you have a good understanding the social work role on the patient care team?<br>3. If so, how was this achieved?<br>4. Do you feel the social workers have a good understanding of the other provider roles on the patient care team?<br>5. Can you elaborate? |
| 8. Final Thoughts (15 minutes)<br><br>Both Groups | We have covered all the areas of discussion we wanted to cover. Does anyone have any final thoughts about collaboration between social workers and primary care providers they'd like to add? |

| 9. Review and wrap-up (5 minutes) | Thank you for coming and participating in our discussion today. We hope you enjoyed the discussion. If you have any concerns, please contact the researcher, Christine Bakos-Block at the information provided on this business card (hand out business cards). If for some reason you'd like to withdraw your portion of the discussion, please contact the researcher with the participant ID assigned to you.<br><br>If you'd like to read the final results, please contact the researcher for a copy of the results after the study has concluded.<br><br>Again, thank you. |
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**Appendix G**

**Index of Interdisciplinary Collaboration (IIC, Bronstein, 2002)**

**DIRECTIONS:  With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements by marking the appropriate number. Please answer all questions to the best of your ability.**

(1) Strongly disagree (2) Somewhat disagree (3) Neither agree nor disagree (4) Somewhat Agree (5) Strongly Agree

1.  I utilize other (non-social work) professionals for their particular expertise.

2.  I consistently give feedback to other professionals (medical providers) in my setting.

3.  Other (non-social work) professionals in my setting utilize social workers for a range of tasks.

4.  Teamwork with professionals from other disciplines is not important in my ability to help clients.

5.  My colleagues from other professional disciplines and I rarely communicate.

6.  The colleagues from other disciplines with whom I work have a good understanding of the distinction between my role and their role(s).

7.  My colleagues from other disciplines make inappropriate referrals to me.

8.  I can define those areas that are distinct in my professional role from that of professionals from other disciplines with whom I work.

9.  I view part of my professional role as supporting the role of others with whom I work.

10. My colleagues from other disciplines refer to me often.

11. Cooperative work with colleagues from other disciplines is not a part of my job description.

12. My colleagues from other professional disciplines do not treat me as an equal.

13. My colleagues from other disciplines believe that they could not do their jobs as well without the assistance of social workers.

14. Distinct new programs emerge from the collective work of colleagues from other disciplines.

15. Organizational protocols reflect the existence of cooperation between professionals from different disciplines.

16. Formal procedures / mechanisms exist for facilitating dialogue between professionals from different disciplines (i.e. staff meetings, rounds, etc.)

17. I am not aware of situations in my agency in which a coalition, task force, or committee has developed out of interdisciplinary efforts.

18. Working with colleagues from other disciplines leads to outcomes that we could not achieve alone.

19. Creative outcomes emerge from my work with colleagues from other professions that I could not have predicted.

20. I am willing to take on tasks outside of my job description when that seems important.

21. I am not willing to sacrifice a degree of autonomy to support cooperative problem solving.

22. I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.

23. The professional colleagues from other professions with whom I work stick rigidly to their job descriptions.

24. My non-social work professional colleagues and I work together in many different ways.

25. Professionals from other disciplines with whom I work encourage family members' participation in the treatment process.

26. My colleagues from other disciplines are not committed to working together.

27. My colleagues from other disciplines work through conflicts with me in efforts to resolve them.

28. When colleagues from different disciplines make decisions together they go through a process of examining alternatives.

29. My interactions with colleagues from other disciplines occurs in a climate where there is freedom to be different and to disagree.

30. Clients/patients/students participate in interdisciplinary planning that concerns them.

31. Colleagues from all professional disciplines take responsibility for developing treatment plans.

32. Colleagues from all professional disciplines do not participate in implementing treatment plans.

33. Professionals from different disciplines are straightforward when sharing information with clients/ patients/ students.

34. My colleagues from other disciplines and I often discuss different strategies to improve our working relationships.

35. My colleagues from other professions and I talk about ways to involve other professionals in our work together.

36. My non-social work colleagues do not attempt to create a positive climate in our organization.

37. I am optimistic about the ability of my colleagues from other disciplines to work with me to resolve problems.

38. I help my non-social work colleagues to address conflicts with other professionals directly.

39. My non-social work colleagues are as likely as I am to address obstacles to our successful collaboration.

40. My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies, and stereotypes.

41. My colleagues from other professions and I do not evaluate our work together.

42. I discuss which professionals from other disciplines the degree to which each of us should be involved in a particular case.

**Appendix H**

**Index of Interdisciplinary Collaboration (IIC, Bronstein, 2002) for Medical Providers (IIC-P)**

**DIRECTIONS:  With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements by marking the appropriate number. Please read the questions carefully and answer all questions to the best of your ability.**

(1) Strongly agree (2) Agree (3) Neither agree nor disagree (4) Disagree (5) Strongly disagree

1. I utilize social work professionals for their particular expertise.

2. I consistently give feedback to social workers in my setting.

3. Medical providers in my setting utilize social workers for a range of tasks.

4. Teamwork with social workers is not important in my ability to help clients.

5. The social workers with whom I work have a good understanding of their roles in my setting.

6. I have a good understanding of the distinct roles of social work in my setting.

7. My colleagues from social work approach me with unimportant information regarding patient care.

8. I can define those areas that are distinct in the professional role of social workers from other disciplines with whom I work.

9. I view part of my professional role as supporting the role of others with whom I work.

10. My colleagues from social work approach me often to discuss patient care.

11. Cooperative work with social workers is not a part of my job description.

12. I feel that I treat my social work colleagues as equals.

13. I believe that I could not do my jobs as well without the assistance of social workers.

14. Distinct new programs emerge from the collective work of medical providers and social workers.

15. Organizational protocols reflect the existence of cooperation between professionals from different disciplines.

16. Formal procedures / mechanisms exist for facilitating dialogue between professionals from different disciplines (i.e. staff meetings, rounds, etc.)

17. I am not aware of situations in my agency in which a coalition, task force, or committee has developed out of interdisciplinary efforts.

18. Working with colleagues from social work leads to outcomes that we could not achieve alone.

19. Creative outcomes emerge from my work with social workers that I could not have predicted.

20. I am willing to take on tasks outside of my job description when that seems important.

21. I am not willing to sacrifice a degree of autonomy to support cooperative problem solving.

22. I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.

23. The social workers with whom I work stick rigidly to their job descriptions.

24. My social work professional colleagues and I work together in many different ways.

25. Social work professionals with whom I work encourage family members' participation in the treatment process.

26. My colleagues from social work are not committed to working together with other disciplines.

27. Social workers in my setting work through conflicts with me in efforts to resolve them.

28. When colleagues from different disciplines make decisions together they go through a process of examining alternatives.

29. My interactions with social work professionals occurs in a climate where there is freedom to be different and to disagree.

30. Patients participate in interdisciplinary planning that concerns them.

31. My colleagues from social work, take responsibility for developing treatment plans.

32. Colleagues from all professional disciplines, including social work, do not participate in implementing treatment plans.

33. Social work professionals are straightforward when sharing information with patients.

34. My social work colleagues and I often discuss different strategies to improve our working relationships.

35. My social work colleagues and I talk about ways to involve other professionals in our work together.

36. My social work colleagues do not attempt to create a positive climate in our organization.

37. I am optimistic about the ability of social workers in my setting to work with me to resolve problems.

38. I help my social work colleagues to address conflicts with other professionals directly.

39. My social work colleagues are as likely as I am to address obstacles to our successful collaboration.

40. My colleagues from social work and I talk together about our professional similarities and differences including roles, competencies, and stereotypes.

41. My colleagues from social work, and I do not evaluate our work together.

42. I discuss with social workers the degree to which they should be involved in a particular case.

**Appendix I**

**Social Work Roles in Primary Care Scale**

The purpose of this scale is to assess which clinical cases social workers are referred to or collaborated with in the patient-centered medical home. Please rate how often you would include the social worker for each of the following brief patient scenarios.

**Please answer 1=never; 2=rarely; 3=sometimes; 4=often; 5=always**

1. Patient with diabetes is non-compliant.

**1=never        2=rarely        3=sometimes        4=often        5=always**

2. High score on a depression screen.

**1=never        2=rarely        3=sometimes        4=often        5=always**

3. Patient has need for durable medical equipment. *

**1=never        2=rarely        3=sometimes        4=often        5=always**

4. A patient's sedentary lifestyle contributing to complications with chronic illness.

**1=never        2=rarely        3=sometimes        4=often        5=always**

5. A patient grieving the recent loss of a loved one.

**1=never        2=rarely        3=sometimes        4=often        5=always**

6. Patient describes marital or family problems.

**1=never        2=rarely        3=sometimes        4=often        5=always**

7. A patient who frequently visits the emergency room.

**1=never        2=rarely        3=sometimes        4=often        5=always**

8. Suspected elder or child abuse.

**1=never        2=rarely        3=sometimes        4=often        5=always**

9. A patient has transportation problems. *

**1=never        2=rarely        3=sometimes        4=often        5=always**

10. A Patient with newly diagnosed chronic illness.

**1=never        2=rarely        3=sometimes        4=often        5=always**

11. A Patient with suspected alcohol abuse.

**1=never        2=rarely        3=sometimes        4=often        5=always**

12. A Patient who has questions about palliative or hospice care.

**1=never        2=rarely        3=sometimes        4=often        5=always**

13. A Patient who is having a difficult time coping with acute stress.

**1=never        2=rarely        3=sometimes        4=often        5=always**

14. A Patient is angry due to a long wait time. *

**1=never        2=rarely        3=sometimes        4=often        5=always**

15. A Patient who frequently misses appointments.

**1=never        2=rarely        3=sometimes        4=often        5=always**

16. A Patient who needs referral to a behavioral health specialist. *

**1=never        2=rarely        3=sometimes        4=often        5=always**

17. Patient with extreme expression of emotions, such as anxiety, anger, or sadness

interfering with medical appointment.

**1=never        2=rarely        3=sometimes        4=often        5=always**

18. A patient with passive suicidal ideation.

**1=never        2=rarely        3=sometimes        4=often        5=always**

19. A patient with financial needs.

**1=never        2=rarely        3=sometimes        4=often        5=always**

20. Biopsychosocial assessment request for a patient with unknown / unmet needs.

**1=never        2=rarely        3=sometimes        4=often        5=always**