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# Interdisciplinary Collaboration in the Homecare Setting

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INTERDISCIPLINARY COLLABORATION IN THE HOMECARE SETTING

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
College of Health Sciences
Department of Occupational Science and Occupational Therapy

Erica J. Arndt
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**EASTERN KENTUCKY UNIVERSITY**
**COLLEGE OF HEALTH SCIENCES**
**DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY**

This project, written by Erica J. Arndt under direction of Anne Fleischer, Faculty Mentor, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF OCCUPATIONAL THERAPY

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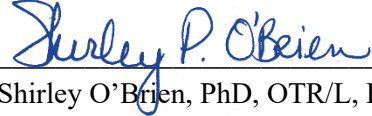Committee Member

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Certification

We hereby certify that this Capstone project, submitted by Erica J. Arndt, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Occupational Therapy degree.

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# Executive Summary

**Background:** Communication among interdisciplinary team members is a key component in providing quality care to patients. In the homecare setting, there are unique challenges to ensure effective communication occurs.

**Purpose:** To compare perceived interdisciplinary collaboration and work engagement between a team of homecare clinicians who were involved with identifying why critical clinical and social information is not communicated with a team of homecare clinicians who were not involved

**Theoretical Framework.** The Person Environment Occupation Performance (PEOP) model provided the theoretical framework for this project.

**Methods.** A quasi-experimental interrupted time series design with an intervention and control group was used. The intervention included a focus group of healthcare clinicians who identified why critical clinical and social information is not communicated and developed a solution to improve communication. Control and intervention groups completed the Index of Interdisciplinary Collaboration (IIC) and Utrecht Work Engagement Scale (UWES) at weeks 1, 5 and 7.

**Results:** Intervention group increased their perceived interdisciplinary collaboration and work engagement as measured by the IIC and UWES.

**Conclusions:** Empowering homecare clinicians to develop strategies to improve interdisciplinary communication is beneficial to improve interdisciplinary collaboration and work engagement. Actively involving homecare clinicians in identifying issues and developing solutions may lead to improved collaboration and work engagement.

## Acknowledgements

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**CERTIFICATION OF AUTHORSHIP**

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*Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.*

Student's Signature: <u>*Erica J Arndt*</u>

Date of Submission: <u>1/23/2022</u>

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**Section One: Nature of Project and Problem Identification**

Within any medical care system, patients are often being cared for by many different providers who are consistently communicating and collaborating to provide the most effective treatment plan. When communication is ineffective, the risk for patient injury, medication errors, and delay in treatment increases (The Joint Commission, 2015). However, when communication is effective, information sharing, safety, collaboration, employee morale, and medical interventions are improved (O'Daniel & Rosenstein, 2008).

Effective communication has been associated with improved patient care and employee morale within a variety of settings (O'Daniel & Rosenstein, 2008); but little has been studied within a homecare setting. Homecare is different from other medical care settings because the healthcare providers are not physically together in the same building such as a skilled nursing facility or hospital. Because these homecare providers are not in the same physical space, communication occurs over-the-phone, through email and clinical documentation, rather than face-to-face conversations. Additionally, homecare clinicians do not have regular medical rounds at either the beginning or end of a shift to discuss critical medical and social information.

Clinicians in hospitals and skilled nursing facilities (SNF) can communicate and share critical clinical information more easily than homecare clinicians due to their physical proximity with each other. Due to less opportunity for physical interaction homecare clinicians do not participate in regular medical rounds like in a hospital or SNF facility. Homecare clinicians therefore often enter each patient's home not knowing what to expect during their home visit, such as challenging family dynamics or concerns with medication. To accommodate the lack of physical opportunity for communication, homecare clinicians need to develop a method of sharing critical clinical and social information. Examples include symptoms to monitor, side-

effects from medication changes, or signs of abuse in the home. There is a need for efficient and effective communication among homecare clinicians so they can provide quality homecare services.

## Problem Statement

Without effective communication, homecare clinicians arrive to visits without proper critical clinical and social information.

## Purpose

The purpose of this capstone project was to compare the interdisciplinary collaboration and work engagement between a team of homecare clinicians who were involved with identifying why critical clinical and social information is not communicated with a team of homecare clinicians who were not involved.

## Research Questions

The research questions that were addressed in this capstone project were:

(1) Will having homecare clinicians develop interdisciplinary communication strategies be associated with improved interdisciplinary collaboration as measured by the Index for Interdisciplinary Collaboration (IIC)?

(2) Will having homecare clinicians develop interdisciplinary communication strategies be associated with increased feelings of engagement among the homecare clinicians as measured by the Utrecht Work Engagement Scale (UWES)?

## Theoretical Framework

The Person Environment Occupation Performance (PEOP) Model explores the interaction of the intrinsic factors of the person/population, extrinsic factors of the environment and occupation and their impact on occupational performance and participation (Christiansen et

al., 2011; Cole & Tufano, 2020). The following provides further description of how the PEOP model can be applied to the homecare setting.

*Intrinsic Factors*

Homecare clinicians' intrinsic factors include cognitive, physiological, psychological, and spiritual capabilities. Cognitively homecare clinicians must have the ability to remember their professional training, communicate to patients, family, and other professionals, use technology, and modify treatment based on their patient observations. Along with cognitive skills, homecare clinicians need to possess the physiological capabilities to physically instruct and assist the patient in their home. Physiological capabilities such as having the strength and abilities required to assist patients with transfers and functional mobility during activities of daily living. Psychologically homecare clinicians' motivation and persistence are critical to providing quality care. A motivated clinician will seek out evidence and continuing education opportunities to provide effective treatments. Homecare clinicians demonstrate persistence as they work to assist patients in meeting their goals even when obstacles arise. The dedication to providing quality care, including interdisciplinary team (IDT) collaboration, can be influenced by spiritual factors including the sense of meaning and purpose homecare clinicians derive from providing patient care. These factors help to keep homecare clinicians engaged with their work including participating in IDT collaboration.

*Extrinsic Factors*

Extrinsic factors include the social support and social capital, as well as physical, built, and cultural environments where homecare services are provided. Homecare clinicians work within the patients' physical home and the agency's physical office. In addition to these physical spaces, homecare clinicians also work within built environments, such as Google Meet, phone calls, etc. When working with the patient withing their physical home, the therapist is also

entering into the patient's social support and cultural environments, which are ever changing. Some patients come from cultures that emphasize the inclusion of family in daily living tasks while others have strained family relationships that can be difficult to navigate for homecare clinicians. Like the patient's home, the social support and social capital along with the cultural environments are embedded within the agency and is reflected in the frequency and types of support and communication that occurs among the interdisciplinary team. For example, when a manager responds to emails or phone calls from homecare clinicians who need support or assistance in the field, this interaction encourages homecare clinicians to communicate their needs when they arise. Additionally, the agency's cultural environment is reflected in their support of educating their homecare clinicians and fostering a collaborative environment. For instance, the agency encourages participation in continuing education emphasizing strategies to improve independence and quality of life of the patients. Although collaboration among the homecare clinicians is difficult, the agency supports ideas generated by homecare clinicians to improve communication and collaboration.

### *Occupation*

The occupation explored was the homecare services provided. Specifically, how the interdisciplinary team (IDT) members collaborate with each other to provide efficient and effective homecare services. Collaboration is impacted by how critical clinical and social information is shared with the homecare clinicians.

### *Occupational Performance and Participation*

Occupational performance and participation result from the interaction of the intrinsic and extrinsic factors, and occupation. For example, within a supportive work environment--extrinsic factor, homecare clinicians can indicate their preferred mode of communicating--

intrinsic factor--critical clinical and social information leading to providing--occupational performance and participation--effective and efficient homecare services.

**Significance of the Study**

Little is known about how to improve communication among homecare clinicians. Action research has been shown to be effective in positively influencing communication while simultaneously gathering data. This research project applied action research as a process for improving interdisciplinary collaboration and work engagement within a homecare setting. The findings from this study will directly impact this homecare agency's ability to communicate within their teams and this process can be applied to other areas of need within the homecare agency. Effective and frequent communication tailored to the individual homecare clinician's preferences should lead to communicating critical clinical and social information prior to arriving to the patient's home, and lead to more effective treatment.

**Summary**

This project explored if having homecare clinicians develop communication strategies will lead to receiving critical clinical and social information prior to their homecare visit. The impact of developing communication strategies should lead to greater IDT collaboration as measured by the IIC and greater feelings of engagement as measured by the UWES. The PEOP model provided this researcher with a theoretical foundation to develop this project which led to targeting intrinsic and extrinsic factors of the homecare clinicians. The researcher assumes that if the homecare clinicians are involved in the process of identifying and solving barriers to delivering homecare services, the homecare clinicians will be able to provide effective and efficient homecare services and feel more engaged in their work.

**Section Two: Detailed Review of the Literature**

Research supports that effective interdisciplinary collaboration improves patient outcomes, enhances transfer of knowledge among clinicians, and improves clinician decision making (Morley & Cashell, 2017). To add to that body of research, literature will be presented that explains why communication is important in healthcare and how it impacts IDT collaboration. The literature will also explore how employee work engagement and IDT collaboration can be improved through using action research. Additionally, the Person Environment Occupation Performance (PEOP) model was used to assist the researcher in explaining the structure and intervention of this project. This model explores how the person or population interact with the environment and occupation to influence occupational performance and participation. Therefore, the PEOP model was applied in designing this project to target the intrinsic and extrinsic factors influencing IDT collaboration and work engagement.

**Collaboration in Healthcare**

*Importance of Communication in Healthcare*

Communication is important in healthcare as it informs clinicians of the status of their patients. Every clinician who interacts with a patient can gather important information and share it with other clinicians who provide care to that patient. Communication among disciplines is important as information gathered from a patient may be pertinent to more than one discipline providing care. Information could include high or low blood pressure readings that could impact each discipline differently. Nursing would need to know about high or low blood pressure readings to manage medication, notify the patient's doctor, and make recommendations such as proper hydration. Physical and occupational therapists would need to know about blood pressure concerns as it would impact the type and level of participation the patient could tolerate that day.

Knowing information regarding the patient's medical status could result in physical or occupational therapy rescheduling a visit rather than arriving to find the patient's home and discovering they are not able to participate. To understand what information is pertinent to each other's practice, homecare clinicians need understand each discipline's role (Donnelly et al., 2013).

It is beneficial to emphasize healthcare discipline's role and facilitate collaboration within healthcare provider's education. Bahnsen et al.'s (2013) study found healthcare students who were encouraged to communicate in a collaborative manner improved their knowledge of each discipline's scope of practice. As a result, the healthcare students discovered that they were more effective in solving healthcare related problems. Developing this skill early in a healthcare providers' career will lead to improved healthcare services (O'Daniel & Rosenstein, 2008).

### *How Communication Leads to Collaboration*

Birkeland et al. (2017) performed a study to understand homecare clinicians' perceptions of IDT by collecting and analyzing data from 7 small focus groups consisting of physical therapists, occupational therapists, nurses, social workers, and social educators. From the data, four themes emerged, which were associated with IDT collaborative approach: (a) "patients established what the goals of care would be so each discipline could develop an intervention to meet those goals"; (b) "use of IDT collaboration created a positive community among disciplines when providing care"; (c) "each discipline's unique skills led to patient care solutions reflecting effective collaboration"; and (d) "IDT collaboration required the assumption of shared roles to achieve the patient's common goal" (Birkeland et al., 2017, p. 198-199). Researchers found IDT collaboration led to greater understanding of each other's skills and roles in meeting the patient's goals.

**Engagement in Healthcare**

*Clinician Engagement with Identifying Problems and Developing Solutions*

Understanding clinicians' perception of IDT collaboration provides insight into how engagement with other disciplines impacts their work. Kippist & Fitzgerald (2014) explored how hybrid doctor-managers--a clinical doctor who is also filling the role of manager--engage other clinicians to meet organization objectives of providing efficient and effective healthcare. Hybrid doctor-managers (DM) found engaging clinicians in solving clinical and managerial challenges led to (a) improved respect for each other's discipline, (b) more collaboration, (c) changes in service delivery policies, and (d) greater feelings of work engagement among the clinicians. Similarly, in a study by Clark et al. (2008), they found clinicians were more engaged and the healthcare organization operations improved when:

(1) Managers led by example.

(2) Managers and clinicians had mutual respect.

(3) Managers and clinicians trusted each other.

**Person Occupation Environment Performance Model**

*Intrinsic Factors*

**Interdisciplinary Collaboration.** Homecare clinicians' ability to communicate effectively and efficiently varies from person-to-person. From a cognitive and psychological perspective, homecare clinicians may vary on their comfort level, willingness, motivation, and ability to use technology for communicating and collaborating about patient care. Additionally, when providing care to patients, there is not always an opportunity to stop and share information immediately. The lack of immediate communication could lead to a delay in sharing information or even the clinician forgetting to share the information once they have moved onto the next

patient. Another intrinsic factor that influences the clinicians' ability to participate effectively in interdisciplinary collaboration is spiritual. Homecare clinicians' spirituality includes the purpose and meaning they feel when helping patients meet their best potential. For that reason, many homecare clinicians go into the field of healthcare. Every homecare clinician has their own unique spiritual perspectives driven by meaningful experiences either personal or professional that influence how they provide patient care. Additionally, the spiritual factor that homecare clinicians derive meaning and purpose from can impact how they collaborate as a team when providing patient care.

**Healthcare Employee Work Engagement.** Homecare clinicians' work engagement can be observed by their enthusiasm, dedication, and absorption when working (Kulikowski, 2017). Engagement of healthcare workers in homecare can be influenced by their motivation to engage in communication and collaboration, which can wane when clinicians are overworked and become physically and mentally drained (Grama, 2020). When a homecare agency is understaffed, and patient census is high, which happened during the COVID-19 pandemic, there is pressure for current homecare clinicians to take on a higher patient caseload to meet the demand. When having to care for additional patients, homecare clinicians can feel physically and mentally drained. Under typical working conditions this can be overwhelming and exhausting. During the COVID-19 pandemics physical demands of wearing personal protective equipment (PPE) and the uncertainty of the risk to their own health added to the already present feelings of being overworked. Additionally, many clinicians have had to manage the demands in their personal life such as finding childcare while schools and daycares had been shut down.

*Extrinsic Factors*

**Interdisciplinary Collaboration.** In homecare, interdisciplinary collaboration does not often occur among homecare clinicians in person due to the nature of homecare services being provided in patients' homes. Homecare clinicians often use technology to collaborate as it is their main form of communication. Technology as a means of communication can be helpful to share information and collaborate quickly. However, there are challenges with relying on technology as it is not always reliable depending on service providers and geographical area. Additionally, frequent changes in management can influence how communication is shared including how often and what type of information is expected among homecare clinicians.

Homecare clinicians do not provide patient care in a shared physical space such as those providing care within a nursing home or outpatient clinic. As a result, there is limited opportunity for in-person interaction among the homecare clinicians. To remedy the lack of physical proximity, weekly or biweekly in-person meetings allow for homecare clinicians to collaborate and discuss shared patients' plan of care. However, meetings are canceled when homecare clinicians are on vacation, holiday, or unavailable due to high patient caseloads. In-person meetings have been nonexistent since COVID-19 and currently meetings are entirely virtual. Overall, homecare clinicians—before and during COVID-19—do not physically see each other unless they "cross paths" at a patient's home.

*Technology.* Prior to the COVID-19 pandemic, technology for communication was used in a limited compacity. Due to concerns from COVID-19, management has substituted in-person collaboration meetings with virtual meetings and its shortcomings are felt more since this is now the primary form of communication. Technology for collaborative purposes has been beneficial, but not without some limitations. The presence of technology has become a useful tool for

homecare clinicians to communicate while they are unable to meet in person. Technology allows for immediate sharing of information through electronic devices. Clinicians are provided with computers and cell phones for calls, emailing, and texting. However, clinicians' ability to communicate and collaborate may be disrupted due to limited internet and mobile service within a geographical area.

*Management Turnovers.* Management supports interdisciplinary communication and collaboration because it prevents patient rehospitalization; however, management has provided limited opportunities and recommendations for building homecare clinician relationships. One of the many reasons that these opportunities and recommendations have not been provided is due to the high turnover rate of the agency's homecare managers, leading to frequent changes in the method and frequency of communication.

**Healthcare Employee Engagement.** Homecare employee engagement can be influenced by several factors:

(1) Management does not communicate policy changes in a consistent method and does not reinforce policy changes within staff meetings.

(2) Homecare clinicians are expected to add more patients to their caseload when patient census is high.

(3) Homecare clinicians are unable to informally communicate with each other because they do not have a common workspace.

For instance, frequent changes to COVID-19 personal protective equipment (PPE) procedures can be overwhelming when they are communicated through long emails among many other management emails and are not reinforced during virtual staff meetings.

*High Patient Census.* When patient census is high and homecare agency is understaffed, homecare clinicians feel pressure from management to take on higher caseloads. Homecare clinicians may feel they do not have a choice but to see more patients due to the power dynamics between management and clinicians resulting in them feeling resentful and frustrated (Braedley et al., 2018; Grama, 2020).

*Lack of Employee Workspace.* The lack of a common physical work environment may limit the clinician's ability to communicate and collaborate with each other resulting in them feeling disconnected to the homecare agency. On the other hand, if the homecare clinicians interacted with each other more frequently formally and informally, they would feel more engaged and willing to collaborate with each other.

*Technology.* In homecare, the lack of a common physical work environment is replaced with a virtual environment using phone calls, virtual meetings, e-mails, and text messaging. Many homecare clinicians may become frustrated when technology glitches occur and/or their work is interrupted

### *Occupation: Homecare Services*

Homecare services are provided in patients' homes after a recent hospitalization or decline in function. The services are provided by a variety of homecare clinicians—nursing, occupational therapy, physical therapy, speech-language pathology, home health aides, and/or social workers—and include assessment and interventions within the patient's natural home environment.

### *Occupational Performance and Participation*

**Performance: Interdisciplinary Collaboration of Homecare Services.** Homecare clinicians' occupational performance will be influenced by each clinician's intrinsic and extrinsic

factors. Intrinsic factors include how the clinician communicates, their ability to use technology, and their confidence with how to use the technology. Extrinsic factors consist of the clinician's built environment; and the patient's cultural environment, social support and social capital. For instance, occupational performance occurs when homecare clinicians work within the built environment—extrinsic factor—to communicate critical clinical and social information—intrinsic factor—to a member of the IDT who is providing homecare services. The critical clinical and social information reflects the patient's cultural environment, social support and social capital.

**Participation: Using Communication Strategies to Coordinate Homecare Services.** Homecare clinicians' occupational participation is influenced by similar intrinsic and extrinsic factors as those that effect occupational performance. Occupational participation is when homecare clinicians use communication strategies to coordinate homecare services. For example, homecare clinicians use their cognitive and psychological skills—intrinsic factors—to learn how they and other homecare clinicians prefer information be sent to them using technology within a built environment—extrinsic factor—to coordinate homecare services for their patient.

**Action Research**

Action research is a process that can help homecare clinicians identify the problem, develop a solution, implement the solution, and evaluate if the solution did or did not work. The cycle repeats again once the evaluation process has been completed (Mackenzie et al., 2012). Action research is set apart from other research designs by including participants as active co-researchers (Mackenzie et al., 2012). This method allows those directly impacted by the problem to identify the problem and develop a plan to make the desired change (Wilding & Galvin, 2015).

Action research has been utilized within healthcare, including occupational therapy. Van Biljon et al. (2015) utilized a 5-step action research process to design, develop, refine, validate, and share an occupational therapy vocational profile tool. These researchers wanted to develop the vocational tool to provide the occupational therapists delivering rehabilitative services a way of reflecting on the services they provide to improve policy making and assist with future planning. The first step involved stakeholders designing a profile tool to evaluate their occupational therapy programs. The profile tool was then used in the workplace by stakeholders who then provided feedback and reflection on their experience using the profile tool to evaluate their programs. Using the feedback from the therapists, the vocational tool was modified and again was used in the workplace. This process continued until they had a vocational tool that met their needs.

This method of action research can also be used to improve documentation systems. Adaba & Kebebew (2018) applied the 5-step action research model to improve a health information system. First, the researchers interviewed the clinicians who use the health information system to gain an understanding of what improvements were needed. The researchers redesigned the health information system based on the clinicians' recommendations. The clinicians used the updated health information system then met with researchers again. During this second meeting, the clinicians provided additional ideas for how the health information system could be further improved. By including the clinicians in the process, not only did the health information system become more usable; but the researchers reported that the clinicians experienced a sense of ownership and connection to various hospital employees.

Action research can also be utilized to develop strategies to improve patients' access to their health information. Nielsen et al. (2018) performed an action research study to improve

accessibility and use of electronic health application for older persons with hearing impairments. Thirty-six persons with hearing impairment, 10 spouses, and 8 audiologists participated in 3 rounds of focus groups to provide information on what improvements could be made to electronic health application to meet their needs. Researchers found electronic health application had to be personalized to everyone based on their level of interest and ability to use the technology. Uncovering this information led to more personalized electronic health application experience for persons with hearing impairments.

### *Focus Groups*

Focus group is a common method used to gather information within an action research design (Adaba & Kebebew, 2018; Mackenzie et al., 2012; van Biljon et al., 2015). Focus groups generally consist of 7-12 individuals who have a common interest and characteristic, such as clinicians working in the same setting (Barbour, 2005). A focus group's purpose is to gain insight into participants' feelings, beliefs, attitudes, reactions, and experiences on the topic being explored (Côté-Arsenault & Morrison-Beedy, 2005; Gibbs, 1997). In order for a focus group to achieve its purpose, the environment needs to support participants so they feel comfortable, have a clear purpose, and include a facilitator who can respectfully keep group discussion focused (Côté-Arsenault & Morrison-Beedy, 2005).

There are many benefits to focus groups; however, there are some distinct limitations. One of the biggest limitations is that they can be time consuming (Tausch & Menold, 2016). Participating in a focus group typically requires those involved to volunteer their time: length and frequency. The length of a focus group can be as short as an hour or can be two or more hours. Depending on the research question, participants may be asked to participate in more than one focus group. The next limitation is responder's bias. This occurs when participants in the focus group feel social pressure that may limit the amount of participation or type of information

shared during the focus group. The last limitation is poorly prepared facilitator. Ill-prepared facilitator may lead to the focus group not defining the problem and/or developing solutions for the identified problem(s). This may be due to the inexperienced facilitator ability to formulate appropriate prompts, or their inability to limit conversation among participants that are passionate about the topic or dominate the discussion. (Côté-Arsenault & Morrison-Beedy, 2005).

**Summary**

Communication is an important component of IDT collaboration. Including homecare clinicians in developing improved communication strategies may facilitate the process of improving IDT collaboration and work engagement. Intrinsic factors---cognitive, psychological, and spiritual--and extrinsic factors—built environment, cultural environment, and social capital--influence homecare clinicians' abilities to engage in IDT collaboration. Homecare clinicians provide services in the community relying on virtual communication due to the limited in-person interaction they have with each other. Using the method of action research to develop mutually agreed upon communication strategies to relay critical clinical and social information can help homecare clinicians in coordinating homecare services.

<p align="center">**Section Three: Methods**</p>

**Project Design**

This study used a quasi-experimental interrupted time series design with a control group. Data was collected from the Team A--the intervention group, and Team B—the control group at three timepoints during the 8-week study.

**Setting**

This project took place at a homecare agency organization in New England. The homecare agency has five geographically defined teams. Each team is composed of a manager, nurses, occupational therapists, physical therapists, speech language pathologists, and a social worker. This homecare agency was chosen by this researcher due to her employment there.

**Inclusion Criteria**

Participants of this study were homecare clinicians on either Team A or Team B and were contracted to work a minimum of twenty-four hours a week.

**Exclusion Criteria**

Homecare clinicians who were hired on a per diem basis were excluded from participating in the study because they were not consistent members of the team.

**Data Collection**

*Recruitment Procedures*

Research was conducted in a homecare agency in the New England area. Two teams within the agency were chosen due to having a similar number and type of disciplines in their teams working in two unique geographical areas. Team A was assigned to the intervention group and Team B assigned to the control group.

Both Team A and Team B were sent an invitation to participate in the study. The invitation, sent via email, included (a) a description of the study, (b) a link to the informed consent, and (c) links to the two Qualtrics surveys. Homecare clinicians were provided anonymity by not collecting any identifying information such as discipline, age, email address. Since the researcher did not collect identifying information from the initial respondents, invitations to complete follow-up surveys during weeks 5 and 7 also included an informed consent (see Table 1). Participants were given one week to complete the surveys.

Team A homecare clinicians consented to participate in a focus group—intervention--at the same time they consented to complete the survey and were made aware that this focus group would occur during a regularly scheduled staff meeting. Team A was made aware that there were not obligated to attend this staff meeting if they did not want to participate in the focus group. Team B homecare clinicians were not provided an option to consent to participate in a focus group.

**Table 1: Data Collection Timeline**

|         | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| **Team A** | IIC + UWES | Focus Group |  |  | IIC + UWES | Follow-up meeting | IIC + UWES |  |
| **Team B** | IIC + UWES |  |  |  | IIC + UWES |  | IIC + UWES |  |

**Intervention**

*Action Research*

When designing the intervention for this study, the researcher assumed the roles of homecare clinician, leader, and researcher. As a homecare clinician, the researcher experienced the impact of not receiving critical clinical and social information prior to the homecare visits and experienced the frequent changes in management. Management turnovers resulted in numerous changes in how and when communication was given. The researcher along with the other homecare clinicians were feeling frustrated with lack of communication as well as inefficient communication that sometimes led to "wasted time". An example of lack of communication would be if a homecare clinician sent a patient to the emergency room and did not notify the next clinician who was schedule to see the patient in an hour. As a leader, the researcher approached the management about using an action research approach to receive homecare clinicians' input into how to improve communication and received support to use this

approach. This author designed the study to involve homecare clinicians in identifying and solving the day-to-day issues surrounding communication when providing homecare services.

The first step in the action research process was organize and lead a virtual focus group to (a) identify the homecare clinicians' perceptions for why critical clinician and social information is not received prior to their home visit, and (b) develop strategies to improve disseminating this information to each other.

**Focus Group.** During the focus group, participants from Team A explored extrinsic factors—built and natural environments--and intrinsic factors--cognitive and psychological--that impact how they communicate critical clinical and social information to each other. From this dialogue, participants developed the following strategies to improve communication of critical clinical and social information during the 4 weeks following the focus group:

1. If a message is urgent, they can call or text.

2. If a message is not urgent, they can email or use a group communication system email.

3. If there are special directions—such as patient's family member contact information—add it to the patient's face sheet in the electronic documentation system.

**Data Analysis**

Descriptive statistics were used to summarize the results of the IIC and the UWES using means, frequencies, and standard deviations. Graphs were created from the IIC and UWES data to compare Team A and Team B ratings before and after the intervention.

**Measurement Tools**

*Utrecht Work Engagement Scale*

The Utrecht Work Engagement Scale (UWES) measures clinicians engagement with their work and is organized by three characteristics: vigor, dedication, and absorption (Kulikowski, 2017). There is a UWES-17 with seventeen questions and a UWES-9 with nine questions. The UWES-17 was used in this study and will be referred to as UWES. The UWES was initially standardized on undergraduate college students and employees of public and private companies (Schaufeli et al., 2002), and later standardized with physicians and homecare workers (Schaufeli & Bakker, 2004). The UWES is comprised of seventeen questions asking for a response related to vigor, dedication, and absorption using a 7-point Likert scale ranging from 0 to 6. Zero represents never and six represents always. Kulikowski (2017) defines vigor as having high energy and being able to mentally adapt to challenges when working. Dedication is when a worker feels fulfilled by their work and is willing to do what needs to be done to make their work successful. Absorption is when workers are so immersed in what they are doing they do not mind doing more than what is typically required (Kulikowski, 2017).

Since its creation in 1999, the UWES has been translated into various languages and validated ( Montgomery et al., 2003; Seppälä et al., 2008; Schaufeli et al., 2003; Wan Sulaiman & Zahoni, 2016; Wickramasinghe et al., 2018). The scale was found to be a valid and reliable tool to measure work engagement using the subscales of vigor, dedication, and absorption (Wickramasinghe et al., 2018). All three subscales show high internal consistency with Cronbach's alphas of: 0.867 for vigor, 0.819 for dedication, and 0.903 for absorption and high test-retest reliability ($p < 0.001$) (Wickramasinghe et al., 2018). The Cronbach's alphas found in these studies show strong internal consistency reliability. Factorial validity of the UWES favored

the three-factor design using vigor, dedication, absorption, rather than a one-factor design applying work engagement (Kulikowski, 2017).

### *Index of Interdisciplinary Collaboration*

The Index of Interdisciplinary Collaboration (IIC) is 49-item scale survey that measures the perception of interdisciplinary collaboration (Bronstein, 2002). The IIC was initially standardized on medical social workers (Bronstein, 2002). Since the IIC was developed, it has been standardized on hospice nurses, physicians, chaplains, home health aides, physiotherapists, and teachers (Bode et al., 2016; Wittenberg-Lyles et al., 2010). The IIC has been found to be a valid and reliable tool to measure five components of interdisciplinary collaboration: (a) interdependence, (b) newly created professional activities, (c) flexibility, (d) collective ownership, and (e) reflection on the process. Reliability of the IIC is excellent with a Cronbach alpha of 0.93. Each component of the IIC has been documented to have Cronbach alpha of 0.75 or more indicating high internal consistency reliability (Bronstein, 2003 as cited in Oliver et al., 2007). IIC was determined to have face validity when implemented in a pilot study of 30 social workers; this means that the IIC questions make it clear to participants what the IIC was measuring (Bronstein, 2002).

### **Ethical Considerations**

### *Institutional Review Board*

Permission to perform this project was obtained from the Institutional Review Board (IRB) of Eastern Kentucky University. IRB number 4118.

### *Informed Consent*

When participants clicked on the link to the Qualtrics survey, they were brought to a screen with the informed consent. If the participant indicated that they wanted to participate, the

screen with the first survey appeared. The informed consent included that participation was voluntary and did not impact the participant's employment.

### *Confidentiality*

Participants were informed that results and information gathered during this project would be kept confidential. All data was de-identified. In other words, their names were not collected nor connected to any information gathered during the focus group or surveys.

## Section Four: Results and Discussion

The purpose of this capstone project was to compare the interdisciplinary collaboration and work engagement ratings between Team A, who was involved with identifying why critical clinical and social information is not communicated among the team members, with Team B who was not involved.

### Results

Demographic data such as, age, gender, professional discipline was not collected to maintain anonymity because each team had only one representative of some professional disciplines (see Table 2). Team A and Team B are comprised of a maximum of 20 homecare clinicians increasing the potential for homecare clinicians to be identified if demographic data were collected and there was not a large survey return rate (see Table 5). When exploring rate of survey return, fewer participants completed the UWES than the IIC from Team B at each data collection point (see Table 3 and Table 5). Only data collected from completed surveys were included in the data analysis. Incomplete survey data were excluded from the analysis.

**Table 2:  Team A and Team B: Disciplines Per Team.**

|                              | Team A      | Team B      |
|------------------------------|-------------|-------------|
| Nurses                       | 9           | 8           |
| Occupational Therapists      | 3           | 3           |
| Physical Therapists          | 7           | 7           |
| Speech Language Pathologists | 1           | 1 Per Diem  |
| Medical Social Worker        | 1 Per Diem  | 1 Per Diem  |

*Interdisciplinary Collaboration*

The number of participants who completed the IIC over the course of the project are displayed in Table 3. Team A consistently completed the online surveys at each data collection point except for week 7. Team B's completion of the online surveys at each data collection timepoint was less consistent.

**Table 3:  Index of Interdisciplinary Collaboration Survey Completion.**

|         |                | Week 1 | Week 5 | Week 7 |
|---------|----------------|--------|--------|--------|
| **Team A** | Total Received | 9      | 9      | 7      |
|         | Total Sent     | 20     | 20     | 20     |
| **Team B** | Total Received | 8      | 3      | 4      |
|         | Total Sent     | 18     | 18     | 18     |

**Team A: Index of Interdisciplinary Collaboration.** Figure 1 compares the IIC rating of each component in the IIC over time. Team A's rating of each component of the IIC increased over time. Team A's ratings of "Newly created professional activities" and "Reflection on process" changed the most over the course of the study (see Table 4).

**Figure 1: Team A: Index of Interdisciplinary Collaboration Mean Score Rating**
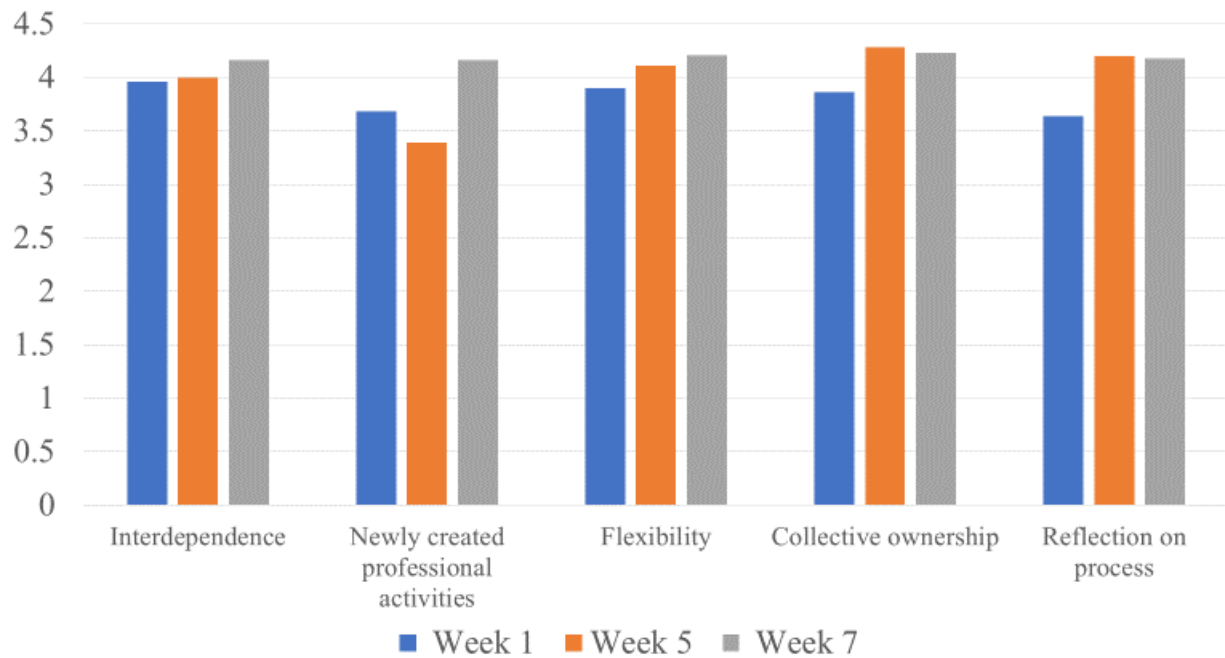


*Note.* The lowest possible score for each component was 1.0 and the highest score possible was 5.0 for perceived collaboration.

**Team B: Index of Interdisciplinary Collaboration.** Figure 2 provides the IIC mean score results for Team B. "Reflection on process" had the most change in mean score from week one to week seven, reflecting a positive change in this area. While the other four components: "Interdependence", "Newly created professional activities", "Flexibility" and "Collective ownership" changed minimally from week one to week seven. Scores for week five were not analyzed due to the low response rate.
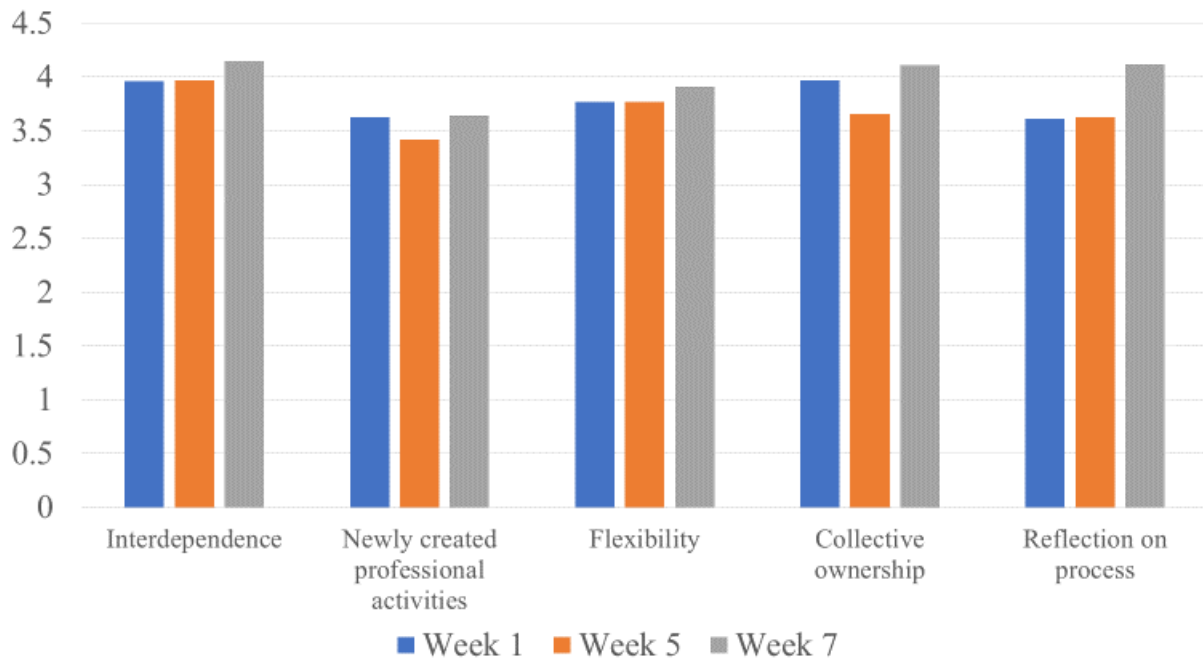
**Figure 2: Team B: Index of Interdisciplinary Collaboration Mean Score Ratings**



*Note.* The lowest possible score for each component was 1.0 and the highest score possible was 5.0 for perceived collaboration.

**Team A and Team B: Group Comparison.** Table 4 depicts the percent change for each component of the IIC for Team A and Team B. Both teams demonstrated improvement in each component, however Team A's percent change was greater than Team B. Specifically, Team A showed more positive change than Team B for the components of "Newly created professional activities," "Flexibility," and "Collective ownership." Both Team A and B had the same percentage of increase from week one to week seven for "interdependence" and "reflection on process".

**Table 4:  Team A and Team B: Percent change for each component of IIC**

|  | Team A (Intervention Group) | Team B (Control Group) |
|---|---|---|
| Interdependence | 5% | 5% |
| Newly Created Professional Activities | 12% | 1% |
| Flexibility | 8% | 4% |
| Collective Ownership | 9% | 4% |
| Reflection on Process | 13% | 13% |

*Utrecht Work Engagement Scale*

Table 5 depicts the number of clinicians that completed the UWES survey. Team A's

participation was consistent in completing the online surveys with minimal decline in week 7.

Team A participated almost twice as much as Team B at all data collection timepoints. During

week 5, only one participant from Team B completed the survey; therefore, this data point was

not analyzed due to limited representation.

**Table 5:  Utrecht Work Engagement Scale Survey Completion.**

|  |  | Week 1 | Week 5 | Week 7 |
|---|---|---|---|---|
| **Team A** | Total Received | 9 | 10 | 7 |
|  | Total Sent | 20 | 20 | 20 |
| **Team B** | Total Received | 5 | 1 | 4 |
|  | Total Sent | 18 | 18 | 18 |

**Team A: Utrecht Work Engagement Scale.** Figure 3 illustrates Team A's mean score

ratings in "Vigor," "Dedication," and "Absorption" as measured by the UWES. There were

greater increases in mean scores for "Vigor" and "Dedication" for Team A while "Absorption"

remained relatively unchanged (See Table 6).

**Figure 3:  Team A: Utrecht Work Engagement Scale Mean Score Ratings**
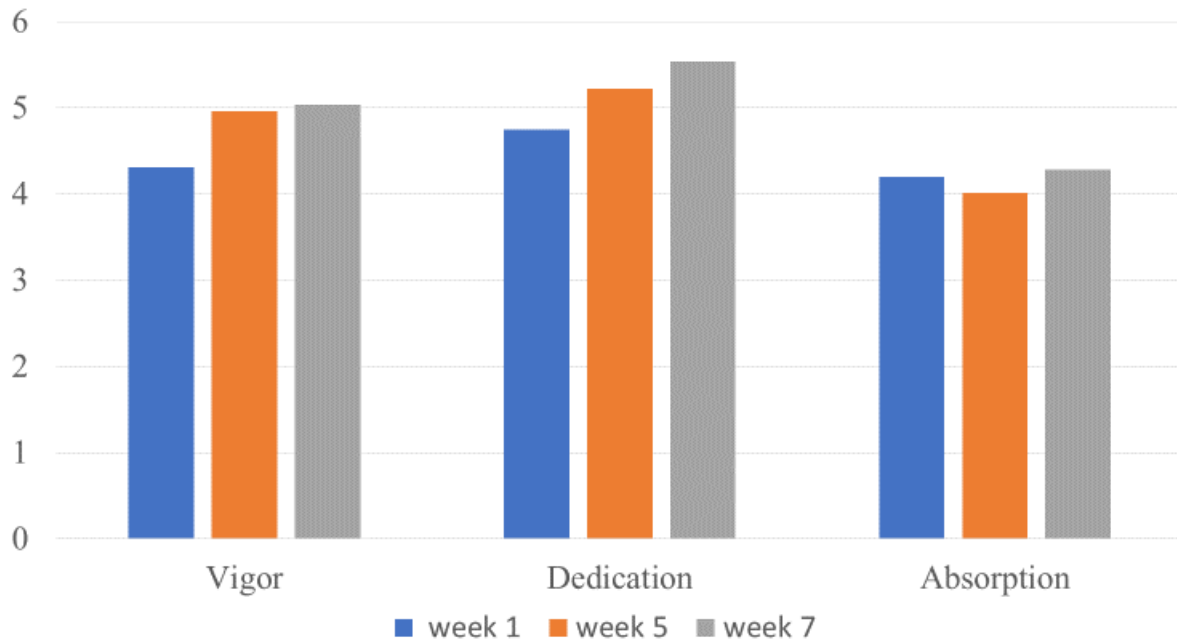


Figure 4 shows the mean scores for the subscales of the UWES for Team B. The ratings of "Vigor" increased minimally from week 1 to week 7. While ratings of "Dedication" had the largest increase for Team B. Similar to Team A, the rating of "Absorption" did not change for Team B (see Table 6).

**Figure 4:  Team B: Utrecht Work Engagement Scale Mean Score Ratings**
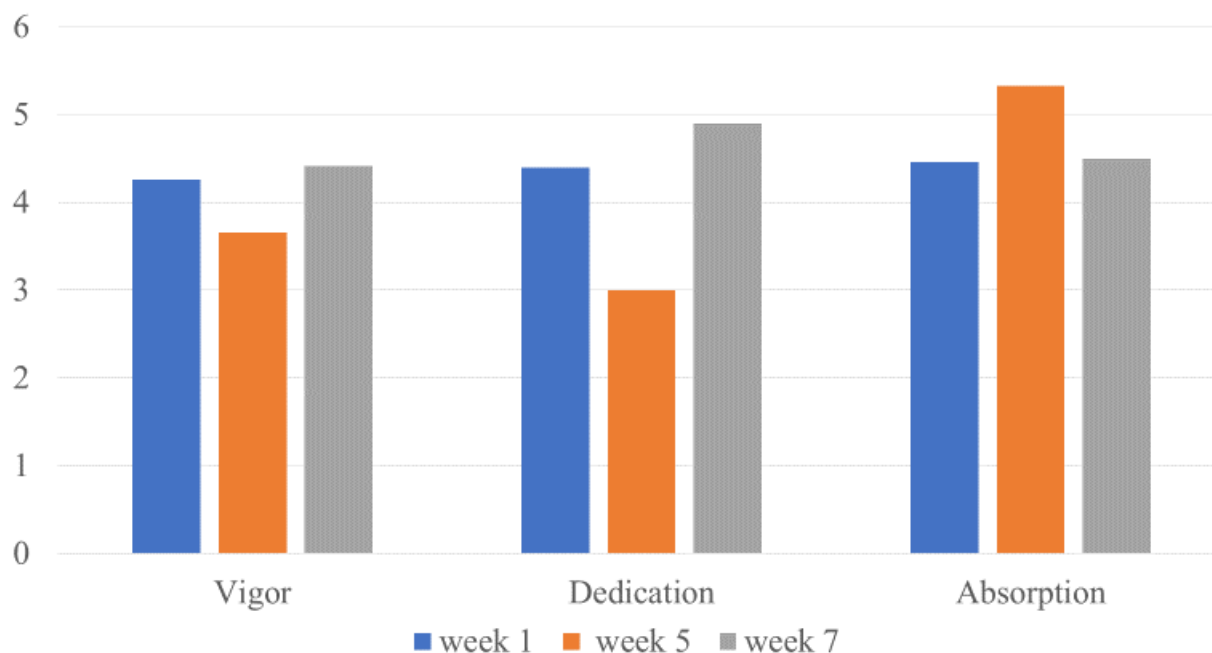


**Team A and Team B: Group Comparison.** As shown in Table 6, Team A "Vigor" and

"Dedication" ratings changed more than Team B ratings. Both teams had little change in the

category of "absorption".

**Table 6:  Team A and Team B: Group Comparison**

|  | Team A<br>Intervention Group | Team B<br>Control Group |
|---|---|---|
| Vigor | 15% | 4% |
| Dedication | 15% | 11% |
| Absorption | 2% | 1% |

**Discussion**

***Interdisciplinary Collaboration***

The first aim of this study was to determine if inclusion of homecare clinicians in

identifying communication problems and developing communication strategies to address these

problems would increase perceived interdisciplinary collaboration. The results indicate an

increasing trend of positive interdisciplinary collaboration for each type of communication among homecare clinicians who participated in the focus group.

**Newly Created Professional Activities and Reflection on Process.** The types of communication "Newly created professional activities" and "Reflection on process" demonstrated the largest positive change for Team A, the intervention group, as seen in Table 4. This is likely attributed to the new activity of participating in a focus group to develop improved communication strategies, which also required homecare clinicians to reflect on how they were collaborating with each other prior to participating in this study. Team B, control group, had minimal change in all communication types except for "Reflection on process" which showed 13 percent increase (see Table 4). This is likely due to Team B completing and reflecting on the IIC survey questions which required them to consider how they communicate with their colleagues.

**Flexibility.** Team A's ratings of "Flexibility" communication type steadily increased over the course of this project indicating a perceived positive change in their ability to compromise and manage conflict after participating in the focus group and follow-up meeting. Team B's rating of "Flexibility" remained essentially unchanged indicating they did not perceive a change in their ability to compromise and manage conflict.

**Collective Ownership.** Team A's rating of "Collective ownership" increased by 9 percent after participating in the focus group and follow-up meeting. Team A reflected an increase in the characteristic of feeling ownership of the new strategies adopted for improving communication. Although Team B indicated an increase of 4 percent for "Collective ownership", it was significantly less than Team A's ratings.

**Reflection on Process.** A similar trend to "Collective ownership" was also observed in the ratings of "Reflection on process". Team A's ratings in this area increased by 13 percent after

participating in the focus group and follow-up meeting. This may indicate Team A may be more

aware of the process they used when collaborating to develop strategies to improve

communication during the focus group. Team B's responses from week 1 to week 7 regarding

"Reflection on process" increased by 13 percent as well. It is possible both Team A and Team B

had a 13 percent increase in "Reflection on process" due to the nature of the questions

themselves presented in the IIC, which resulted in them reflecting the collaborative processes

used within the homecare agency.

### *Communication Strategies to Increase Work Engagement*

The second aim of this study was to explore if including homecare clinicians in

developing communication strategies would increase work engagement as measured by the

UWES. The results of this study show empowering clinicians to develop communication

strategies to be more effective and efficient at work can help to improve work engagement as

demonstrated by the findings discussed here.

**Vigor.** Team A indicated a 15 percent increase in their rating of "Vigor" after

participating in the focus group and follow-up meeting, suggesting they felt more energized and

experienced more stamina, when working. This contrasts with Team B's rating, control group,

which increased only by 4 percent. It may be that participants in Team B had a good

performance review that increased their "Vigor" between weeks 1 and 7. It is also a possibility

that different homecare clinicians responded to the UWES survey in week 1 and 7. This cannot

be confirmed because the researcher did not collect any identifying information.

**Dedication.** The item "Dedication" refers to having a sense of significance, pride,

enthusiasm and inspiration when working (Seppälä et al., 2008). Team A's 15 percent increase in

"Dedication" indicate they became increasingly over the course of the study, which may be

related to their participation in the intervention. However, Team B, who was not exposed to the

focus group and follow-up meeting, also had an increase in their "dedication" score by 11 percent. This increase may be due to being exposed to the survey questions. After Team B, read these survey questions, they may have felt more dedicated, which led to them providing a more positive response. Since both teams' dedication scores increased, it could have been due to an unknown event in the home health agency resulting in an overall sense of dedication among the homecare clinicians.

**Absorption.** Team A's ratings for "Absorption" increased slightly by 2 percent and Team B by 1 percent. This could be explained by their already having high baseline ratings of 4.20 and 4.90, reflecting their feeling of being engrossed in their work as a homecare clinician.

*Action Research as a Process*

**Interdisciplinary Team Collaboration.** The findings of this project support the use of action research to empower homecare clinicians to improve their communication methods. The involvement of clinicians to develop their own communication strategies was associated with an increase perception of IDT collaboration as measured by the IIC for Team A. This is further supported by the results of Team B, control group, who did not engage in strategy development and who consequently did not illustrate a trend of improved IDT collaboration over the same time. Like the study by Birkeland et al. (2017) which used focus groups with rehabilitation team members to determine what approaches to IDT collaboration had a positive impact on their collaboration. Birkeland et al. (2017) found that the amount of time IDTs were able to collaborate and share information was associated with positive IDT collaboration. In our current study, we found similar results.  Homecare clinicians in Team A had higher scores within the Index of Interdisciplinary Collaboration than Team B.  Unlike Team B—control group, Team A worked closely together and took time to collaborate during and after their participation in the focus group

**Work Engagement.** Involving the homecare clinicians in developing communication strategies was associated with improvements in their work engagement levels in Team A, as shown by the increase in "Vigor" and "Dedication" item scores (see Table 6). Team B, who was not involved in the focus group and follow-up meeting, showed minimal changes in "Vigor" and "Dedication". Kippist and Fitzgerald (2014) found work engagement of clinicians with hybrid doctor-managers in a reciprocal relationship helped to improve respect, solve interpersonal challenges, and increase collaboration to improve organizational policies. Though this study did not include managers, it is reasonable to consider that engaging clinicians in a relationship with IDT members could have a similar effect of improving respect amongst each other and work engagement.

**Strengths and Limitations**

*Strengths*

Strengths of this study include use of (a) reliable and valid surveys to measure interdisciplinary collaboration and work engagement, (b) control and intervention groups that were composed of similar type and number of homecare clinicians, (c) control group to evaluate the impact of the intervention, and (d) unique geographical locations of the intervention and control group.

*Limitations*

A weakness of this project is the small number of individuals who comprised the control and intervention groups. Due to the small sample, the authors are not able to conclude whether the findings are "true" or occurred by chance alone. Contributing to the small sample size may have been "survey fatigue", which could have impacted response rates. The length of the surveys was long, comprising of 49-items within the IIC and 17-items within the UWES. In addition to the length of the surveys, the request to complete the surveys may have been too often, resulting

in a reduced number of respondents, particularly from the control group, Team B. Lastly, the short duration of the study allowed for only one cycle of action research process. If Team A participated in repeated cycles and observed the impact of their strategies overtime, they may have experienced greater perceived collaboration and work engagement.

**Implications for Practice**

Occupational therapists have a unique skill set and the potential to foster collaboration among disciplines on an interdisciplinary team. This study explored the barriers impacting homecare clinicians when collaborating as an IDT through the lens of the PEOP model. In conjunction with leadership skills, occupational therapists could use the PEOP model to analyze work situations. The ability to understand the interaction of intrinsic and extrinsic factors within the occupation of homecare service delivery allows occupational therapists to identify areas of concern that may need to be addressed and strength to enhance.

**Future Research**

It may be beneficial for further studies to employ repeated consecutive action research (AR) cycles to further empower homecare clinicians to continue to improve IDT collaboration and work engagement. Action research cycles could be repeated during regular staff meetings and evaluated less often. Including more AR cycles would allow homecare clinicians the opportunity to evaluate their strategies, modify them, and understand their impact in "real time". Rather than burdening the homecare clinicians with retaking surveys, future research should consider adding or replacing the surveys with homecare agency patient satisfaction survey scores or other relevant metrics measured by the agency, such as length of stay, employee turnover, etc. By using other metrics, the researcher would be able to measure the impact of using AR on areas

of cost, quality, and employee satisfaction. Lastly, expanding the AR intervention to more than one team would provide greater support for the impact of using this method.

**Conclusion**

This study supports empowering homecare clinicians to identify problems and develop solutions, whether it is communication or other identified problems impacting homecare services. Further research should be conducted to explore the relationship between the use of AR and improving IDT collaboration, work engagement, and other areas, such as patient satisfaction. Past research has shown increased IDT collaboration and work engagement can reduce cost, create a positive work environment, and lead to positive patient outcomes (Clark et al., 2008; Kippist & Fitzgerald, 2014; Moriates et al., 2014).

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**Appendices**

**Appendix A**

**IRB Approval Letter**

Hello Erica Arndt,

Congratulations! Using expedited review procedures, the Institutional Review Board at Eastern Kentucky University (FWA00003332) has approved your study entitled, "Interdisciplinary Collaboration in the Homecare Setting." Your approval is effective immediately and will expire on 7/29/22.

As the principal investigator for this study, it is your responsibility to ensure that all investigators and staff associated with this study meet the training requirements for conducting research involving human subjects, follow the approved protocol, use only the approved forms, keep appropriate research records, and comply with applicable University policies and state and federal regulations. Please read through the remainder of this notification for specific details on these requirements.

**Consent Forms**: If your study involves only adult subjects, a copy of your approved informed consent form is attached. If your study includes children as subjects, copies of the approved parent/guardian form and child assent form(s) are attached. Please ensure that only approved documents with the EKU IRB approval stamp are used when enrolling subjects in your study. Each subject must receive a copy of the form to keep, and signed forms must be kept securely on file in accordance with the procedures approved in your application. At any time, you may access your stamped form(s) through your InfoReady Review account by following the steps below:

1. Log in to your InfoReady Review account using your EKU credentials.
2. Click the Applications link from the top menu bar.
3. Select the project title for your study.
4. Access the approved PDF file from the list of attachments.

**Adverse Events**: Any adverse events that occur in conjunction with this study should reported to the IRB immediately and must be reported within ten calendar days of the occurrence.

**Research Records**: Accurate and detailed research records must be maintained for a minimum of three years following the completion of the study. These records are subject to audit. If you are an EKU student, you are responsible for ensuring that your records are transitioned to the custody of your faculty advisor at the end of your study. Records include your approved study protocol, approval notification, signed consent forms and/or parent/guardian permission and assent forms, completed data collection instruments, other data collected as part of the study, continuing review submissions and approvals if applicable, protocol revision requests and approvals if applicable, and your final report.

**Changes to Approved Research Protocol**: If changes to the approved research protocol become necessary, a Protocol Revision Request must be submitted for IRB review, and approval must be granted prior to the implementation of changes. Some changes may be approved by expedited review while others may require full IRB review. Changes include, but are not limited to, those involving study personnel, consent forms, subjects, data collection instruments, and procedures.

**Final Report**: Within 30 days from the expiration of the study's approval, a final report must be filed with the IRB. A copy of the research results or an abstract from a resulting publication or presentation must be attached. If significant new findings are provided to the research subjects, a copy must be also be provided to the IRB with the final report. To submit your final report, please follow the steps below:

1. Log in to your InfoReady Review account using your EKU credentials.
2. Click the Applications link from the top menu bar.
3. Locate your study and click the Progress Report icon in the far right column.
4. Complete the information fields and attach copies of any required documents.
5. Click the Finalize button to submit your report. This button is located just above the attachment fields.

**Registration at ClinicalTrials.gov:** If your study is classified as a clinical trial, you may be required by the terms of an externally-sponsored award to register it at ClinicalTrials.gov. In addition, some medical journals require registration as a condition for publication. In the case of journals with membership in the International Committee of Medical Journal Editors, clinical trials must be registered prior to enrolling subjects. It is important that investigators understand the requirements for specific journals in which they intend to publish. In the case of sponsored project awards, timeline requirements will vary for awards that require registration. Approved consent forms must be uploaded in the system for all Federally-funded clinical trials after subject enrollment has closed, but earlier registration is not required for all agencies. If you have questions about whether a sponsored project award requires registration and on what timeline, please send an email to tiffany.hamblin@eku.edu before beginning recruitment so that the specific terms of the award can be reviewed. If you have a need to register your study and do not have an account in the system, please send an email to lisa.royalty@eku.edu and request to have a user account created.

If you have questions about this approval or reporting requirements, please contact the IRB administrator at lisa.royalty@eku.edu.

For your reference, comments that were submitted during the review process are included below. Any comments that do not accompany an "I approve" response have been provided to you previously and were addressed prior to the review process being completed.

**Appendix B**

## Consent Form for Team A

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## Consent to Participate in a Research Study

## Interdisciplinary Collaboration in the Homecare Setting

**EKU**

**Institutional Review Board**
**Protocol Number**
4118

**Approval Valid**
8/4/21-7/29/22

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## Key Information

You are being invited to participate in a research study.  This document includes important information you should know about the study.  Before providing your consent to participate, please read this entire document and ask any questions you have.

**Do I have to participate?**
If you decide to take part in the study, it should be because you really want to volunteer.  You will not lose any benefits or rights you would normally have if you choose not to volunteer.  You can stop at any time during the study and still keep the benefits and rights you had before volunteering. The status of your employment will not be impacted by your decision to participate or not. Your employer/manager will not know if you have decided to participate or not. You can choose to be an active participant during the focus group or come to observe only.  If you decide to participate, you will be one of about 40 people in the study.

**What is the purpose of the study?**
The purpose of the study is to gather information to improve interdisciplinary team collaboration practices and engagement.

**Where is the study going to take place and how long will it last?**
This virtual 8-week study will be conducted using e-mail and Google Meet.

**What will I be asked to do?**
You will be asked to complete 2 online surveys that should take approximately 3-5 minutes to complete. The surveys will be sent to you at week 1, 5, and 7 of this 8-week study. You will be invited to attend an online focus group between weeks 2 and 4 and follow-up meeting between weeks 5 and 7 using Google Meet that will last approximately 45-60 minutes.

**Are there reasons why I should not take part in this study?**
You should not participate in this study if you do not want to provide input to improve interdisciplinary communication.

**What are the possible risks and discomforts?**
To the best of our knowledge, the things you will be doing have no more risk of harm or discomfort than you would experience in everyday life.

**What are the benefits of taking part in this study?**
There is no guarantee that you will get any benefit from taking part in this study.

**If I don't take part in this study, are there other choices?**
If you do not want to be in the study, there are no other choices except to not take part in the study.

Now that you have some key information about the study, please continue reading if you are interested in participating. Other important details about the study are provided below.

## Other Important Details

**Who is doing the study?**
The person in charge of this study is Erica Arndt, OTD candidate at Eastern Kentucky University. She is being guided in this research by Anne Fleischer, Ph.D., OT/L.

**What will it cost me to participate?**
There are no costs associated with taking part in this study.

**Will I receive any payment or rewards for taking part in the study?**
You will not receive any payment or reward for taking part in this study.

**Who will see the information I give?**
Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials.

**Can my taking part in the study end early?**
If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate.  You will not be treated differently if you decide to stop taking part in the study.

## Consent

Before you decide whether to accept this invitation to take part in the study, please ask any questions that come to mind now.  Later, if you have questions about the study, you can contact the investigator Erica Arndt at 978-578-0441 or Erica.Arndt@athome.bilh.org. If you have any questions about your rights as a research volunteer, you can contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

If you would like to participate, please read the statement below, sign, and print your name.

*I am at least 18 years of age, have thoroughly read this document, understand its contents, have been given an opportunity to have my questions answered, and voluntarily agree to participate in this research study.*


_____
Signature of person agreeing to take part in the study          Date


_____
Printed name of person taking part in the study


_____
Name of person providing information to subject

**Consent Form for Team B**

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## Consent to Participate in a Research Study

## Interdisciplinary Collaboration in the Homecare Setting

**EKU**

**Institutional Review Board**
**Protocol Number**
4118

**Approval Valid**
8/4/21-7/29/22

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# Key Information

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To the best of our knowledge, the things you will be doing have no more risk of harm or discomfort than you would experience in everyday life.

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If you would like to participate, please read the statement below, sign, and print your name.

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_____
Signature of person agreeing to take part in the study          Date


_____
Printed name of person taking part in the study


_____
Name of person providing information to subject

## Index for Interdisciplinary Collaboration (IIC)

## (Bronstein, 2002)

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|

42 item scale (eliminating * items) shows slightly better internal consistency than this 49-item instrument.  5-point scale (agree/disagree)

1. I utilize other (non-social work) professionals

for their particular expertise.

2. I consistently give feedback to other

professionals in my setting.

3. Other (nonsocial 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.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 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. I communicate in writing with my colleagues from other disciplines to verify information shared verbally. | | | | | |
| 8. My colleagues from other disciplines make inappropriate referrals to me. | | | | | |
| 9. I can define those areas that are distinct in my professional role from that of professionals from other disciplines with whom I work. | | | | | |

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

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

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

* 13. I utilize informal methods of communication (i.e., social networks, lunchtime, etc.) to communicate with my colleagues from other disciplines.

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

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

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

47

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 16. Incorporating views of treatment held by my colleagues from other disciplines improves my ability to meet clients' needs. | | | | | |
| 17. Distinct new programs emerge from the collective work of colleagues from different disciplines. | | | | | |
| 18. Organizational protocols reflect the existence of cooperation between professionals from different disciplines. | | | | | |
| 19. Formal procedures/mechanisms exist for facilitating dialogue between professionals from different disciplines (i.e., at staffings, inservice, rounds, etc.). | | | | | |

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

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 21. Some meetings, committees etc. in my agency/organization are consistently run jointly by social workers and other professionals. | | | | | |
| 22. Working with colleagues from other disciplines leads to outcomes that we could not achieve alone. | | | | | |
| 23. Creative outcomes emerge from my work with colleagues from other professions that I could not have predicted. | | | | | |
| 24. I am willing to take on tasks outside of my job description when that seems important. | | | | | |

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

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 26. I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines. | | | | | |
| 27. The professional colleagues from other disciplines with whom I work stick rigidly to their job descriptions. | | | | | |
| 28. My non-social work professional colleagues and I work together in many different ways. | | | | | |
| * 29. Relationships with my colleagues sustain themselves despite external changes in the organization or outside environment. | | | | | |

* 30. Decisions about approaches to treatment are made unilaterally by professionals from other disciplines.

50

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 31. Professionals from other disciplines with whom I work encourage family members' participation in the treatment process. | | | | | |
| 32. My colleagues from other disciplines are not committed to working together. | | | | | |
| 33. My colleagues from other disciplines work through conflicts with me in efforts to resolve them. | | | | | |
| 34. When colleagues from different disciplines make decisions together they go through a process of examining alternatives. | | | | | |

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

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

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

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

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

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

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

52

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 41. My colleagues from other professions and I talk about ways to involve other professionals in our work together. | | | | | |
| 42. I work to create a positive climate in our organization. | | | | | |
| 43. My non-social work colleagues do not attempt to create a positive climate in our organization. | | | | | |
| 44. I am optimistic about the ability of my colleagues from other disciplines to work with me to resolve problems. | | | | | |
| 45. I help my non-social work colleagues to address conflicts with other professionals directly. | | | | | |

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Disagree |
|---|---|---|---|---|---|
| 46. My non-social work colleagues are as likely as I am to address obstacles to our successful collaboration. | | | | | |
| 47. My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies and stereotypes. | | | | | |
| 48. My colleagues from other professions and I do not evaluate our work together. | | | | | |

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

**Appendix D**

<div align="center">

**Utrecht Work Engagement Scale ©**
**HSHS St. Mary's Hospital Therapy Colleagues**

</div>

**Purpose:** The purpose of the Utrecht Work Engagement Scale (UWES) is to measure the degree of work fulfillment experienced by employees.  The UWES tallies scores in three sub-categories: vigor, dedication, and absorption.

Indicate your role by selecting one of the following

_____ Occupational Therapist / Occupational Therapy Assistant

_____ Physical Therapist / Physical Therapy Assistant

_____ Speech Therapist


**Turn this sheet over to complete the scale**

**Instructions:** The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, indicate a score of "0." If you have had this feeling, indicate how often you feel it by choosing a number (1 to 6) which best describes how frequently you feel that way.

| Never | Almost Never | Rarely | Sometimes | Often | Very Often | Always |
|-------|-------------|--------|-----------|-------|-----------|--------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Never | A Few times a year or less | Once a month or less | A few times a month | Once a Week | A few times a Week | Every Day |

1. _____ At work I feel bursting with energy

2. _____ I find the work that I do full of meaning and purpose

3. _____ Time flies when I am working

4. _____ At my job, I feel strong and vigorous

5. _____ I am enthusiastic about my job

6. _____ When I am working, I forget everything else around me

7. _____ My job inspires me

8. _____ When I get up in the morning, I feel like going to work

9. _____ I feel happy when I am working intensely

10. _____ I am proud of the work that I do

11. _____ I am immersed in my work

12. _____ I can continue working for very long periods at a time

13. _____ To me, my job is challenging

14. _____ I get carried away when I am working

15. _____ At my job, I am very resilient, mentally

16. _____ It is difficult to detach myself from my job

17. _____ At my work I always persevere, even when things don't go well