Improving the Discharge Planning Process in Inpatient Rehabilitation

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Abstract

The discharge planning process is a process that identifies the type of care you will need once you discharge from a healthcare facility and prepares you for the transition of care. An efficient discharge planning process can help prevent patients from experiencing adverse events, and, thus, reduce hospital readmissions. However, current literature suggests that healthcare facilities may struggle with maintaining an efficient discharge planning process due to discharge planning barriers and post-discharge concerns. One way to address this problem is through discharge planning, or transitional care, interventions designed to enhance this specific process. The ultimate purpose of this capstone project was to develop discharge planning interventions for a local inpatient rehabilitation hospital that identified gaps in its discharge process but lacked the resources to develop new interventions. After conducting a needs assessment, completing a literature review, and collaborating with crucial stakeholders, the capstone site was provided with two discharge interventions, a discharge checklist, and patient and caregiver resource binders. Utilizing an occupational therapy lens, the Plan-Do-Study-Act model, and the Adult Learning Theory, these interventions were designed to support and meet the needs of the patients, their caregivers, and the rehabilitation staff at the capstone site. Based on evaluation survey results, the site's therapy staff were satisfied with the interventions as they perceived them to be beneficial for all the rehabilitation therapists, the patients, and the caregivers. Due to the project's overall impact on the site and the profession of occupational therapy, this capstone project was deemed a success.

Keywords: discharge planning process, inpatient rehabilitation hospital, patient and caregiver education, discharge planning interventions

Improving the Discharge Process in Inpatient Rehabilitation

In the United States (US), there are over a thousand inpatient rehabilitation facilities (IRFs) spread across the nation, a number that has been steady since 2014 (Medicare Payment Advisory Commission [MedPAC], 2021). These facilities help treat many Americans back to health every year. According to MedPAC (2021), “in 2019, the average IRF occupancy rate remained at 67%, indicating that capacity is adequate to meet the demand for IRF services” (p. 252). After being treated in an acute hospital, patients who transfer to IRFs typically still require hospital-level care in an inpatient environment. An IRF can provide intensive care for these patients who face severe illness or injury and continue to have significant nursing needs, medical management needs, rehabilitation needs, or a combination of the three (MedPAC, 2021).

The length of stay for each patient varies depending on multiple factors, including the complexity of the patient, the diagnosis, and the resources available to support the patient. However, since Medicare’s prospective payment system changed in 2002, a patient’s length of stay at an IRF has decreased immensely because IRFs are now financially motivated to discharge patients earlier than initially anticipated (Lewis et al., 2016). This trend of decreased length of stay for patients has reinforced the importance of discharge planning to better prepare the patient and their caregivers for the discharge home. According to Patel & Bechmann (2022), discharge planning is “the process of transitioning a patient from one level of care to the next” (para. 1). Unfortunately, many factors can disrupt this process, leading to inefficiency. When a discharge planning process is inefficient, it can cause patient and caregiver outcomes, such as safety and satisfaction, to be negatively impacted. Regarding safety, if this process cannot properly prepare the patient and their caregiver for discharge, the patient can become more at risk for experiencing adverse events, such as a fall, which may result in hospital readmission. Daras et al. (2018) found that, within 30 days of discharge from IRFs, about 13% of patients appear to be readmitted back to an acute hospital. Additionally, there is a higher risk of readmission for patients with stroke diagnoses, orthopedic conditions, and neurological conditions compared to patients with other diagnoses (Shea et al., 2021). Because some researchers have suggested that readmission may reflect a failing discharge process (Ryan et al., 2019), it is important for healthcare systems to take the necessary steps to ensure that their discharge process is working efficiently.

To help prevent patients from experiencing adverse events and reduce hospital readmissions, many post-acute care facilities, such as IRFs, have begun developing and implementing discharge-specific, or transitional care, interventions. Common interventions, often utilized by post-acute care facilities, target aspects such as discharge planning, patient education, medication reconciliation, and follow-up care coordination (Kripalani et al., 2014). Further research is still needed to study the comparative effectiveness of these different interventions. However, research does suggest that implementing a variation of these interventions at a facility may improve patient/caregiver outcomes and hospital readmission rates (Kripalani et al., 2014).

The capstone site was a local IRF that sought to develop and implement these discharge-specific interventions to improve its current discharge planning process. The site's vision was to become its community's leading provider of rehabilitation services. To work towards this vision, the local IRF had to improve its patient and caregiver outcomes and reduce hospital readmission rates. By targeting and improving its discharge planning process using these interventions, the site could better meet those objectives and become one step closer to achieving its vision.

Needs Assessment

The needs assessment helped identify the focal need of the site, gather relevant data on the site and the community, analyze the gap, and determine the overall purpose of the capstone project. Examining each needs assessment component involved breaking the assessment down into two phases, Phase I and Phase II. Phase I included an initial meet and greet with the site mentor and the rehabilitation director. With this initial meeting, the site mentor and rehabilitation director gained a better understanding of the general purpose and process of a doctoral capstone project. Phase I then progressed with the completion of a site and a community background profile. After gathering more information on the site and the community it serves, the needs assessment transitioned to Phase II. During this phase, interviews were conducted to discuss the site's needs, exchange potential project ideas, and identify key stakeholders. Phase II also included a synthesis of the information collected and a summary of the results. The needs assessment concluded with an analysis of the gap and an outline of the project’s purpose. Overall, the needs assessment helped organize and form the project's foundation. This paper will describe each needs assessment component in detail, expose the gap, and affirm the capstone project’s purpose.

Phase I

Site Profile

The capstone site first opened its doors in 2021 and continues to be a freestanding, for-profit inpatient rehabilitation facility. It receives patient referrals from multiple hospitals in the Indianapolis area and has since been providing rehabilitation services to patients through an interdisciplinary team that can include the likes of physicians, nursing staff, occupational therapists (OTs), physical therapists (PTs), speech-language pathologists (SLPs), and case managers (CMs). The facility has accreditation from the Center for Improvement in Healthcare Quality (CIHQ) and operates 24 hours a day, each day of the week. While this site is one of several inpatient rehabilitation faciliteis in central Indiana, it is the only facility of its kind in Carmel, Indiana. The facility can accommodate up to 40 patients; however, its patient census fluctuates frequently, with the average census typically between 20-35 patients.

Every admitted patient receives three hours of therapy daily for at least 15 hours a week. Therapy services available include PT, OT, SLP, or a combination of the three. Medical conditions treated at the site can include stroke, amputation, traumatic brain injury (TBI), and other medically debilitating conditions. Many of these conditions lead to deficits that can impact one’s ability to perform everyday tasks and navigate one's environment. In addition to therapy sessions, each patient’s assigned case manager will host weekly family conferences to discuss components of the discharge planning process with the patient and their caregiver(s). The patient’s assigned PT, OT, and SLP will often try to join these conferences; however, busy schedules typically prevent them from doing so. Nevertheless, the therapists will leave a written summary of the patient’s progress for the case manager to share with the patient in their absence.

By including the patient and their caregivers as much as possible in the different aspects of the treatment and discharge planning processes, the site can take on a patient-centered or patient-and-family-centered approach to care. The benefits of implementing these types of approaches into clinical practice are supported by research. In a systematic review by Rathert et al. (2013), researchers found that healthcare facilities focused on providing patient-centered care obtained positive outcomes such as improved patient satisfaction and patient quality of life, increased staff satisfaction, and enhanced quality and safety of care. In studies in which healthcare facilities promoted caregiver inclusion in the discharge process and used components from either approach, the caregivers reported increased preparedness and overall satisfaction (Bull et al., 2000; Shyu et al., 2008).

Community Profile

Due to its location in Carmel, Indiana, the inpatient rehabilitation facility is also a part of Hamilton County. Hamilton County has a population estimate of around 350,000 people, with most of its population being White and not Hispanic/Latino (United States Census Bureau [USCB], 2021a). Hamilton County has multiple hospitals and post-acute care facilities, such as skilled nursing facilities, home health agencies, and outpatient therapy clinics. Knowing the facilities and agencies available in the community is essential because the site commonly needs to refer patients to these resources.

While many of the site's patients reside in Hamilton County and the Greater Indianapolis area, there are some patients who hail from communities further away. Due to this, the general demographics of the admitted patients vary and often fluctuate to include those who are White, Latinx, Black or African American, Asian, or of mixed race. Additionally, the age range of the site's patients varies, with patients ranging from 15 to over 90 years old. Likewise, socioeconomic status and religious affiliations also differ among patients. Many of the site's patients are under Medicare coverage, but some patients have private insurances that will cover their healthcare service fees. While no specific data is available on the patients' religious affiliations, this specific factor should not be ignored. According to results from a Gallup poll, 47% of the US population reported belonging to a church, synagogue, or mosque (Jones, 2021). Thus, there is a chance that some of the patients follow specific religious traditions, routines, and rituals. Since the patients are key stakeholders in this project, it is essential to recognize these demographic factors due to their potential impact on each patient's identity and needs.

Phase II

Site Interviews

Formal and informal interviews occurred throughout the planning portion of the capstone project. These interviews discussed multiple aspects of the project and involved multiple staff members of the capstone site. At the beginning of the planning process, a formal interview with the site mentor, and the rehabilitation director took place to examine the site's needs, the barriers to meeting these needs, additional site background information, the stakeholders involved, and potential project ideas. From this interview, the primary stakeholders identified included the patients, the patients' caregiver(s), and the rehabilitation therapy team. Additionally, the supplementary stakeholders identified included the site's rehabilitation partners, the Chief Executive Officer Medical Director, the Chief Therapy Officer/Director, the Director of Business Development, and the site's funders and donors. A list of all the specific questions from this formal interview resides in Appendix A. Multiple informal interviews were also coordinated as well with different members of the rehabilitation team to retrieve additional staff insight on the site's needs and lingering gaps.

Analysis of Results

After completing the interviews and reviewing the information gathered, important aspects of the project revealed themselves. For instance, the capstone site's long-term goal was to become the leader in rehabilitative services in its community. To work towards this goal, the facility had to find ways to improve its different performance measures. Two measures highlighted included patient and caregiver outcomes and hospital readmission rates. While many areas of the site's operating system can impact these factors, one area of improvement identified was the facility's discharge planning process. The rehabilitation staff further identified two inadequate components of this process that contributed to the overall process being less efficient.

The first component involved the method used to track areas of the discharge planning process. More specifically, the areas that must be completed by the therapy staff (OT/PT/SLP). These areas could include car transfer training, discussion of the medical equipment needed, family training, and education on home exercise programs. While some interdisciplinary methods are currently in place, the therapy staff stated they needed a simple, more accessible way to keep track of the discharge plan areas they oversaw. The staff believed that having a more accessible tracking method would lead to better communication between therapists who worked with the same patients.

The second component in the discharge planning process involved patient and caregiver education. During a patient's stay at the facility, the patient and their caregiver(s) would receive education to better prepare them for the discharge home. This education included training and information about the patient's diagnosis, post-discharge services, where to acquire medical equipment, self-management strategies, and caregiver assistance strategies. Members of the patient's rehabilitation team (i.e., therapists, physicians, nursing staff, and case managers) were the ones to provide this education. The staff typically used both verbal and written methods to do so. Unfortunately, it was common for some important educational topics to be under-discussed or not discussed at all. This may have been a result of short patient length of stays, which decreased the time patients had to learn all necessary topics before they were discharged. Nevertheless, if the patient and caregiver did not receive proper education, they may have felt less prepared to discharge home and unsatisfied with the facility's overall provision of care.

To improve these components and enhance the overall discharge process, the staff believed implementing new discharge-specific interventions or programs would help. Two interventions the site mentor suggested included a discharge planning checklist and educational resource binders for patients and their caregivers. However, to develop and implement these interventions, the facility needed someone to overcome their one main barrier, time. Due to their demanding schedules, it was exceedingly difficult for the staff to launch the development of new interventions on their own. To help the site's overcome this barrier, meet its current needs, and work towards its long-term goal, the capstone project's primary focus area was program development. Furthermore, the project's main goal was to develop and implement the desired interventions.

Gap Analysis & Project Purpose

Since the facility first opened its doors, the capstone site has continued to work towards becoming the leading provider of rehabilitation services in its community. To help achieve this long-term goal, the facility determined it needed to improve patient and caregiver outcomes and reduce hospital readmission rates. The capstone site believed enhancing its discharge planning process would help meet these objectives. To enhance this process, the site needed to fill in the lingering gaps that currently limit the process's ability to be efficient. Developing and implementing interventions, such as a discharge checklist and educational resource binders for patients and their caregivers, was one way to help fill those gaps and improve the overall discharge planning process. While the site's staff was aware of the steps involved in developing and implementing new interventions, they were having difficulty finding the time required to complete each step. To combat this time barrier and help meet the site's needs, the capstone project's purpose was to develop and implement each proposed intervention, evaluate the therapy staff's perceived thoughts on the project, and train the staff on how to maintain and implement the interventions on their own to promote sustainability.

Literature Review

The conduction of a literature review allowed for the exploration and identification of what current research has to say about the discharge planning process, transitional care interventions, and patient education. With a systematic approach, the review used online databases such as Google Scholar, Cumulated Index to Nursing and Allied Health Literature (CINAHL), and PubMed to select relevant articles. Keywords used during the review included "patient education, caregiver education, education program, discharge process, discharge planning, inpatient rehabilitation facility, transitional care interventions, discharge checklist, educational materials, best practice, and evidence-based". The review assessed and selected articles based on relevancy to the project's purpose and goals. During the search, articles published within the last five to ten years held priority; however, the review included a few articles published beyond ten years due to limited research available. Additionally, the review categorized the articles based on specific themes: discharge barriers & post-discharge concerns; best practices; transitional care interventions; and education-based programs. Overall, the information gathered from the literature review supported the planning and execution of the capstone project.

Discharge Barriers & Post-Discharge Concerns

Healthcare professionals need to overcome potential barriers in the discharge process to provide an efficient transition of care for the patient and their caregivers. In previous studies, researchers proposed that commonly reported barriers to discharge included waiting for a more appropriate setting of care or accommodation; waiting for home modifications or necessary equipment; being a patient with a non-weight-bearing single limb fracture; family deliberations about discharge planning; and caregiver funding/recruitment (New et al., 2013a; New et al., 2013b). Research has also explored the barriers commonly experienced by patients with specific diagnoses. Patients recovering from spinal cord injuries or strokes reported that long wait times to receive approval for long-term and supported care/services, residential care, and equipment necessary for discharge were common discharge barriers they experienced (Chen et al., 2021; New, 2015).

Even if patients can avoid discharge planning barriers, they may still end up experiencing post-discharge concerns while at home. In Temehy et al. (2022), the main concerns stroke survivors had after they discharged from a rehabilitation facility included a lack of readily available information, unsuitable treatment, and inadequate services. In Abrahamson et al. (2017), traumatic brain injury patients voiced concerns about feeling unsupported during the discharge and transition of care process. Additionally, these patients reported they struggled to adjust to their new lives and experienced post-discharge services that were short-lived and insufficient (Abrahamson et al., 2017).

From this review, it is evident that there are many aspects that contribute to an inefficient discharge process and decreased patient outcomes. Each of the barriers and concerns identified should not be overlooked by those wanting to enact change into the discharge process. Due to their potential impact, efforts to overcome these barriers and prevent these concerns should be high priority.

Best Practices

Discharge Planning Process

Identifying and utilizing best practices of effective transition of care practices continues to be a crucial goal for healthcare systems. Regarding the discharge process, Pellet (2016) named three key recommendations that would facilitate efficiency, decreases in length of stay, and reduction in readmission rates. These key recommendations included making improvements in communication, service coordination, and collaboration (Pellet, 2016). The best practices found in the literature integrate these recommendations. For example, the Agency for Healthcare Research and Quality (AHQR) covers multiple components of the discharge process including determining patient goals at admission, tracking progress daily, family involvement during bedside reports, sharing medication lists with patients daily, and promoting family inclusion for discharge preparations (Agency for Healthcare Research and Quality [AHRQ], 2017). CMS identified similar best practices as well including an emphasis on clinical quality and patient care; early discharge planning; care coordination post-discharge; and patient empowerment through educational activities during the patient's stay (CMS, 2018). With these best practices found in this extensive literature review, it is clear that they can be utilized to improve the effectiveness of a discharge process and need to be considered when developing interventions that target the discharge process.

Patient Education

Patient education can be described as "the process of influencing patient behavior and producing the changes in knowledge, attitudes, and skills necessary to maintain or improve health" (American Academy of Family Physicians, 2000, para. 1). When creating education materials or programs for patients and their caregivers, it is important to review and incorporate best practices during the development process. For education to be effective, it is best for the education to be simple, patient-centered, multi-modeled, and engaging for patients and their caregivers (Cutilli, 2020). Additionally, to evaluate if the patient or caregiver learned the information, methods such as the teach-back method or demonstration are recommended (Cutilli, 2020). Furthermore, evidence-based strategies such as the Patient Education Assessment Tool should be utilized when developing education materials (Cutilli, 2020). Lastly, for education practices to be effective and successfully implemented into the provision of care, the practices need to be well taught and frequently reinforced by staff educators (Marcus, 2014). From the review, it is evident that there are multiple components that make patient education effective. During the development of new interventions that focus on patient education, each of these components will need to be considered and integrated to produce a successful intervention.

Transitional Care Interventions

Discharge-specific interventions are sometimes referred to as transitional care interventions in the literature. Nonetheless, transitional care interventions are designed to decrease or prevent poor patient outcomes and hospital readmissions caused by uncoordinated care while patients transition to a different location or care level to receive further treatment (Feltner et al., 2014). This literature review identified a few different evidence-based approaches that incorporate a variety of transitional care interventions. Many of these approaches target the discharge process and utilize checklists and patient education to assist in improving patient outcomes and reducing hospital readmission rates. The IDEAL Discharge Process, for example, is one approach designed to do just that. Researchers from the Agency for Healthcare Research and Quality (AHQR) developed this approach which specifically targets discharge planning (AHRQ, 2017). This approach uses interventions such as a discharge planning overview checklist, a patient-centered discharge checklist, and specialized training for any staff involved in the discharge process (AHRQ, 2017). A benefit of this approach is that healthcare systems can customize it to best fit their system. Past research demonstrates the effectiveness of this approach. Additionally, research also supports using tailored versions of it as well. In Tah et al. (2019), researchers implemented an IDEAL-based discharge checklist into a rehabilitation hospital and found improvements in the prevention or reduction of 30-day readmission rates in stroke patients. Along with the reduction in readmission rates, the researchers also noted decreased healthcare costs (Tah et al., 2019).

The RED toolkit is another evidence-based approach that can be utilized to reduce hospital readmissions. Created by Boston University Medical Center researchers in contract with Agency for Healthcare Research Quality, the RED toolkit includes interventions centered around discharge planning, patient education, and post-discharge follow-up (AHRQ, 2013). Some RED-specific interventions include providing self-care education booklets for patients; implementing a discharge checklist; providing written care plans for patients and caregivers, arranging follow-up appointments; and exercising post-discharge follow-up phone calls (AHRQ, 2013). Like the IDEAL Discharge Process, components of the RED toolkit can also be tailored to fit any setting. This is a big benefit for healthcare systems, and the literature provides evidence of the toolkit's use and effectiveness. In Jack et al. (2009), researchers noted that the participants who received the toolkit reported feeling more prepared for discharge which correlated with reduced readmission rates. Furthermore, when a skilled nursing facility implemented an adapted RED toolkit, researchers found a reduction in hospital readmission rates in addition to an increase in the likelihood of patients attending follow-up appointments and the patients' feeling of preparedness for their care transition (Berkowitz, 2013). Additional studies reported increases in other patient outcomes as well such as patients' health knowledge, abilities, and willingness to care for themselves. Parker-Clinton et al. (2023) saw these improvements after implementing a modified RED toolkit discharge checklist into their setting and reported that these improvements linked to fewer readmissions.

Project BOOST is an evidence-based care transition model designed by the Society of Hospitalists to reduce unplanned hospital readmissions (Coffey et al., 2013). Just like IDEAL and RED toolkit approaches, this model also uses a variety of interventions to improve outcomes. These interventions include the teach-back method, follow-up care strategies, medication reconciliation tools, general assessment preparedness (GAP) checklist, and the discharge patient education tool (DPET) (Coffey et al., 2013). Evidence to support this model's use can be found in past research. For example, in a study by Hansen et al. (2013), researchers found that reduced hospital readmission rates correlated with the utilization of the Project BOOST model in their hospital setting.

Education Programs

Education is a vital component in the discharge planning process and can positively impact several patient outcomes. In Luther et al. (2019), researchers suggest that education can enhance the skills patients and caregivers need to care for themselves during the transition from the hospital to the community. On top of these skills, additional studies propose that patient education can increase patient quality of life (Barnason et al., 2017; Rau-Murthy et al., 2017; Boehme et al., 2021); increase medication compliance (Boehme et al., 2021); improve the physiological and psychosocial functioning of the patient (Barnason et al., 2017); reduce emergency department (ED) admission rates and healthcare costs (Rau-Murthy et al., 2017); and increase self-efficacy for self-care (Barnason et al., 2017). This review identified several different education programs utilized in various healthcare settings. These education programs can provide inspiration and guidance during the development of interventions that focus on patient education. The review separated the programs into two categories: evidence-based education programs and additional education programs.

Evidence-based Education Programs

The FOCUS (family involvement, optimistic attitude, coping effectiveness, uncertainty reduction, and symptom management) Program is an evidence-based psychoeducational program used to address the needs of people with cancer and their caregivers (Northouse et al., 2013). This program covers several cancer-specific topics, including coping strategies, healthy lifestyle behaviors, symptom management, and ways to obtain necessary information (Northouse et al., 2013). Evidence of the program's use and impact on specific patient outcomes can be found in the literature. In Dockham et al. (2016), researchers found that the program significantly improved patients' and caregivers' quality of life and self-efficacy. While Chen et al. (2021) echoed similar results as they determined that the program increased self-efficacy in both patients and their caregivers, improved quality of life in caregivers, and also decreased patients' substance use for coping.

The Savvy Caregiver is another evidence-based psychoeducational program that targets caregivers of older adults with Alzheimer's disease and other forms of dementia (Hepburn et al., 2007). The program teaches caregivers the skills, knowledge, and outlook needed to succeed in their role as a caregiver for older adults with forms of dementia (Hepburn et al., 2007). Research determined that this program impacts several caregiver outcomes and supports its use. In a randomized trial, researchers suggested that the Savvy Caregiver program facilitates improvements in several caregiver outcomes, such as mastery and competence, and that these improvements are statistically significant (Hepburn et al., 2007). Additionally, in Kally et al. (2014), researchers found that the program helped ethnically diverse caregivers improve their competence, depression, management of meaning, and reaction to care recipient's problems.

Additional Education Programs

Due to a lack of well-supported evidence from high-quality studies, healthcare systems should use careful consideration when implementing these programs. During the review of the literature, a few studies that investigated the potential benefits of these programs were located and assessed. In Allen et al. (2002), researchers implemented a post-discharge care management program with a specific self-management component that included information on care plans, a personal risk guide, and skills training. This program resulted in improvements in the domains of self-efficacy, self-management behaviors, and stroke-specific quality of life (Allen et al., 2002). Additionally, in Damush et al. (2011), researchers introduced a modified chronic disease self-management program to post-stroke patients, and it was determined that the program improved the participants' self-efficacy and stroke-specific quality of life. Even though these two programs require more research, they can still be used to inform and guide others in the creation of discharge-specific interventions that focus on patient education.

Guiding Model and Theory

The model selected to help guide this capstone project is the Plan-Do-Study-Act (PDSA) model, also known as the Model for Improvement. This particular model can assist with improving a process or carrying out a change (Minnesota Department of Health, n.d.). In the past, many health improvement initiatives utilized this model to help enact a change within a healthcare system (Institute for Healthcare Improvement, n.d.). One reason this model was selected was because of its straightforward utilization process. Essentially, the model can implement a change and then test the change to determine if it has led to an improvement. In

Taylor et al. (2014), researchers noted that the model utilizes a small-scale interactive approach. This approach allows users to quickly assess the tested interventions and make easy modifications in response to given feedback (Taylor et al., 2014). Additionally, the researchers highlighted that model users can experience the following benefits: increased autonomy to act and learn, a decreased risk to the subjects and resources involved, and the possibility of gaining evidence to promote change (Taylor et al., 2014). This model focuses on three fundamental questions, which include the following (a) “What are we trying to accomplish?”; (b) “How will we know that a change is an improvement?”; and (c) "What change can we make that will result in improvement?" (IHI, n.d.). The model follows a four-stage cycle that assists with testing the change. For facilities who want to implement changes, this model can be beneficial. According to Guo et al. (2019), this model will assist in enacting those changes and allow the facility to collect vital data and track the improvement plan's progress. With its simplicity and effectiveness, the PDSA model was appropriate for this capstone project because the site seeks to enact changes and improvements into its facility to improve patient and caregiver outcomes.

The theory selected to help guide this project was the Adult Learning Theory, or Andragogy. This theory links the work of Eduard Lindeman (1926) and Malcolm Knowles (1978), who examined how adults learn differently from children. The theory highlights several assumptions of adult learners, with the first four assumptions including self-concept, experience, readiness to learn, and problem-centered orientation (Knowles, 1980). The next two assumptions incorporated a few years later include internal motivation and the need to know (Knowles, 1984). In Roberson (2002), the author highlighted how the spotlight shifts from the content to the learner and emphasizes the inclusion of the learner in their own learning experience. Furthermore, research suggests that the theory focuses on understanding how adults learn and the learning process while also considering the context in which learning occurs (Merriam, 2001). When incorporating the learning theory into patient education programming for SCI patients, the research highlighted the following perceived benefits: (a) higher programming efficiency, (b) enhanced patient skills and ability to apply skills, and (c) increased accountability of patients to take responsibility and act on bettering their health (May et al., 2006a; May et al., 2006b; Shepherd et al., 2012). In the past, educators applied this theory across several disciplines, including healthcare disciplines. Due to the capstone site serving patients from the adult population, this theory is potentially beneficial for the creation and implementation of this capstone project. During the development of the discharge-specific interventions, specifically the resource binders, these concepts were considered and applied throughout the process. As a result, the educational resource binders were patient and caregiver-centered, addressed the needs of both the patient and their caregiver(s), and had the potential to help increase patient and caregiver safety and satisfaction.

Doctoral Capstone Project Plan and Process

The central plan for this doctoral capstone project was to learn how to design a discharge checklist and patient/caregiver resource binders, create each of these interventions, and educate the therapy staff on how to implement the interventions into practice. By creating these interventions and training the therapy staff on how to implement them, the site could potentially improve its patient/caregiver outcomes and move one step closer to becoming the leader in rehabilitation services in its community. To better understand the overall process of the project, the process was organized into separate components: a list of project goals and objectives, an evaluation plan, a discussion on project implementation and evaluation, an analysis of the evaluation results, and a statement of final thoughts.

Project Goals and Objectives

Before the start of the capstone experience, a collaboration with the site and faculty mentor, departmental research coordination, and capstone coordinator occurred to determine the project's list of goals and objectives. However, once the capstone experience began, updates were made to the goals and objectives to reflect the site's needs more accurately.

Project Goal 1: The student will gain knowledge on the target population(s), the best practices for discharge planning interventions, and the creation and implementation of these interventions.

Objective 1: The student will research and gain knowledge on the target population(s)'s diagnosis, prognosis, typical plan of care, and their most common areas of concern to better understand each target population and assist with the development of the interventions.

Objective 2: The student will research and gain knowledge on the best practices of general discharge planning interventions and the specific interventions (patient/caregiver education resource binders and discharge checklist) involved in the project.

Objective 3: The student will create surveys with multiple choice and open-ended questions to gain knowledge on patients' and caregivers' preferences on various factors surrounding patient/caregiver education. These factors include the topics patients and caregivers would like to be educated on and their preferred method/style of teaching.

Objective 4: The student will research and gain knowledge on how to design, implement, and evaluate the specific discharge planning interventions to ensure the interventions are effective and sustainable for the stakeholders (targeted population(s) and interdisciplinary therapy team).

Project Goal 2: Based on research findings, the student will demonstrate the ability to develop and implement patient and caregiver educational resource binders for the target population(s).

Objective 1: The student will demonstrate the ability to analyze survey results and research findings to determine the general areas of concern for patients/caregivers of the targeted population(s) based on previous research findings; the preferred topics the patients/caregivers of the target population(s) would like to be educated on based survey results; and the patients'/caregivers' preferred method/style of teaching based on survey results.

Objective 2**:** The student will demonstrate the ability to apply information and data from the research and surveys to develop and implement an evidence-informed and patient/caregiver-centered resource binders to support the stakeholders.

Project Goal 3: The student will demonstrate the ability to develop and implement a discharge planning checklist based on research findings.

Objective 1: The student will demonstrate the ability to analyze research findings to determine best practices for discharge planning checklists to establish the format and content of the discharge checklist.

Objective 2: The student will demonstrate the ability to apply the research findings to develop and implement an evidence-informed and well-rounded discharge planning checklist to support the stakeholders.

Project Goal 4: The student will ensure sustainability of the discharge planning interventions to promote efficiency in the discharge planning process and promote long-term well-being for the target population(s).

Objective 1: The student will provide the interdisciplinary therapy team with a survey to assess each intervention's content and obtain data on the therapists' perceived satisfaction, usefulness, and benefits of each intervention.

Objective 2: The student will educate the interdisciplinary therapy team on how to maintain and implement the updated version of the discharge planning interventions into practice to promote sustainability.

Objective 3: The student will provide the interdisciplinary therapy team with a separate, original copy of each resource binder and the discharge checklist in both a digital and printed format to allow for the creation of additional copies of each intervention and promote sustainability.

Objective 4: The student will collaborate with the interdisciplinary therapy team to establish each team member's role in continuing and implementing each intervention to promote sustainability.

Evaluation Plan

Meetings with the site mentor frequently occurred throughout the project's process to ensure the capstone project remained on track and met the established goals and objectives. During these meetings, the mentor answered any questions about the project, reviewed which goals/objectives had been met, and discussed ways to meet the remaining ones. A project evaluation survey was developed to evaluate the project's success. The survey was created for the interdisciplinary therapy staff and was administered on Week 13 at the end of an in-service presentation on each intervention. The survey content was determined after collaboration with the site mentor and faculty mentor occurred. The overall goal of the survey was to determine the staff's perceived usefulness, satisfaction, and benefit of each project intervention as it related to a staff member's role in the discharge planning process. The survey also evaluated the staff's perceived usefulness and benefit of each intervention as it related to patient and caregiver impact. Specific details of the survey and the themes identified from the results are discussed later in the capstone project evaluation section.

Project Implementation

During the project's initial planning phase, several preliminary measures were completed to begin establishing the basis of the project. These measures included completing a rough draft needs assessment, gap analysis, and literature review. Once the capstone experience began, and the student was officially on-site, the implementation of the capstone project commenced and continued to be built upon throughout the 14-week experience. The timeline of the events that occurred during the experience can be seen below.

Timeline of Events

Week 1-3. The first three weeks revolved around orienting to the capstone site. The orientation process included meeting and speaking with several rehabilitation staff members; learning the layout of the site's facility; observing patient evaluation, treatment, and discharge therapy sessions; observing patients being discharged; and observing interdisciplinary meetings such as staff conferences or family conferences with members of the rehabilitation staff, the patient, and their caregiver(s). By completing these orientation measures, additional background information on the site, the patient population and their different diagnoses, and the site's needs were obtained. This vital information was later applied during the development of the discharge planning interventions.

Week 4-6. After becoming better orientated to the site, the next two weeks involved updating the rough drafts of the needs assessment, gap analysis, and literature review. These updates were based on the information gathered during the orientation phase and from feedback provided by the faculty mentor. In addition to updating the rough drafts, observation of different therapy sessions and interdisciplinary meetings continued through weeks four and six to gain more insight into the procedures of an inpatient rehabilitation facility and the patient population. During week five, a Qualtrics survey was created and implemented to determine some of the following themes: (a) how confident current patients/caregivers at the facility were in their abilities to find necessary information concerning their diagnosis, (b) what educational topics these patients/caregivers wanted to learn more about, and (c) the preferred method of delivery of these topics. The specific content included in the survey can be seen in Appendix B. To obtain a general evaluation of the needs and wants of the site's patient and caregiver population, this survey was administered to patients with any condition and their caregiver(s). To ensure this project's research and data collection methods were ethically and morally designed, Indiana University's Institutional Review Board (IRB) was utilized. The IRB classified this project as "not human subjects research", indicating the capstone project did not require an official IRB review.

Before conducting the survey, participants needed to be recruited. The first step in the recruitment process required reviewing patients' charts in the facility's electronic medical record (EMR), WellSky, to determine the primary condition of each patient and their current deficits. This step was completed to organize potential participants by their primary condition and for the student to be aware of and prepare to adapt to any deficits that may affect the participant's ability to participate in the survey. These deficits included decreased cognitive ability, increased inappropriate behaviors, decreased ability to use preferred writing hand, and decreased vision. If the patient had any cognitive or behavioral deficits listed in their chart, they were automatically excluded from taking the survey. Additional confirmation that the patient did not have a cognitive or behavioral deficit was acquired after speaking to one of the patient's primary therapists. Once a list of potential participants was created, consent from each participant was required. Before asking for consent, the purpose and privacy procedures involved in the survey were first explained to the potential participant. During this discussion, it was emphasized that the survey was anonymous, and that no personal information was to be recorded. This discussion also provided the potential participant with the opportunity to have any of their concerning questions answered. Once the potential participant had a better understanding of the survey, they were asked for their consent to participate. If the participant gave consent, the consent section of the survey would be marked with a "yes," and then the participant would receive the survey to complete. If the participant did not consent, the section would be marked with a "no," and the participant would not receive the survey to complete. If the consenting participant had a decreased ability to use their writing hand, assistance was provided to help with circling or writing in responses provided verbally by the patient. If the consenting participant had a vision deficit, the survey was printed in larger font, or the survey questions and responses were read aloud to the participant.

At the start of week six, the implementation of the surveys concluded. The final number of survey participants was 18 with 10 participants being patients and the other eightbeing caregivers. With the conclusion of the survey, the project proceeded on with the next steps which included recording the survey data onto a Microsoft Excel spreadsheet and an analysis of the survey results. From the results, a few themes were identified. One of the major themes identified was that both types of survey participants preferred to be provided with information using a combination of several methods such as verbally, in written word, or through a video.

Another theme detected was that most participants felt slightly to extremely confident in being able to find information and resources that will address their post-discharge concerns. Another theme that was identified was that the survey participants were interested in learning more about a variety of topics. The topics that were selected the most in the survey included post-discharge therapy services, equipment for home, activities of daily living, prevention and lifestyle recommendations, and going out into the community. Once the analysis of the results ended, the project moved into the intervention development phase. By the end of week six, the project's first intervention was created. This intervention was a discharge checklist based on the information gathered from the literature review and several informal staff interviews.

Week 7- 9. During week seven, informal discussions with therapists from each therapy department (physical, occupational, and speech) occurred to review the newly created discharge checklist. Each therapist provided feedback on the checklist. The checklist was then updated to reflect the feedback provided. Following the completion of the discharge checklist, the creation of the first patient and caregiver education resource binder began. The creation of this binder continued throughout the next several weeks. Four methods were implemented to help determine and create the content for this binder. The first method utilized the information gathered from the literature review and patient and caregiver survey results. This information was applied during the creation of the binder and helped to determine what topics of information should be included in the binder. The second method involved speaking with staff members from different rehabilitation departments, such as case management, physical therapy, occupational therapy, and speech therapy. The staff members were able to provide valuable information on local resources and give general recommendations on what type of information should be included in the binder.

The third method that was implemented involved the use of the internet. The internet was used to explore stroke-specific discussion forums to determine what problems stroke survivors and their caregivers commonly encounter, review pre-made stroke patient education materials, analyze medical information about stroke diagnosis, prognosis, and treatment methods, and gather more information on stroke-specific resources such as support groups and local stroke organizations. The information and resources gathered were applied to the binder's content throughout the internet search.

The fourth and final method employed involved using health literacy guidelines and components of patient education materials assessment tool (PEMAT) to make the content of the binder more accessible and inclusive. Multiple components from the guidelines and PEMAT were considered and applied during the creation of the binder. Some of these components included appropriate font styles and sizes, the formatting of information on a page, the use of color, and the use of visual images.

At the start of week eight, a formal meeting with the site mentor occurred to review the initial content created for the binder. During this meeting, the site mentor assessed the material and provided feedback on any revisions required. After the meeting, edits to the material's content and formatting were made based on the feedback. This binder continued to be edited and had more content added to it until the end of week nine.

Weeks 10-12. By week ten, all the material and content of the stroke resource binder were edited and finalized. After creating the first resource binder, the creation of the second binder began. This second resource binder would specifically be for patients with Parkinson's disease and their caregivers. The methods implemented to create the first binder were used again to create the second binder. The only change to the methods used was gathering information and resources pertaining to Parkinson's disease instead of stroke.

At the beginning of week twelve, a meeting with the site mentor occurred to go over the content of the Parkinson's disease resource binder. During this meeting, the site mentor reviewed the table of contents, provided feedback on the topics already included in the binder, and made suggestions on other information or resources to add to the second binder. After the meeting, the development of the binder resumed. More content was added to the binder and editing continued to occur until the end of week twelve, when the second binder was finally completed.

Week 13. At the start of week thirteen, a project evaluation survey and a PowerPoint presentation of the project were created. An in-service meeting to present the project was also determined and scheduled for later in the week. Additionally, a meeting with the site mentor occurred in which several subject matters were discussed. The first portion of the meeting involved the site mentor reviewing each intervention and providing her remaining thoughts. The second portion of the meeting involved a final discussion about the project's sustainability plan. This plan's components included maintenance and implementation of each intervention created for the capstone site. The third and final portion of the meeting involved a discussion about the in-service presentation of the capstone project and the project evaluation survey that will be provided following the presentation. An informal meeting with the faculty mentor also occurred to ensure the content of the evaluation survey was appropriate and of quality. By the middle of week thirteen, the in-service presentation occurred, and the project evaluation surveys were implemented to the therapy staff who attended. The staff was given the end of the week to fill out the survey.

Weeks 14. Through week fourteen, the survey results were analyzed, and a final meeting with the site mentor occurred. During this meeting, the site mentor discussed the project's success as a whole and provided the capstone student with the opportunity to share their feedback on the capstone experience and project.

Doctoral Capstone Project Evaluation

The doctoral capstone project evaluation focused on determining the success of the capstone project. To complete this evaluation, a survey was created and provided to the therapy staff at the capstone site, which included rehabilitation therapists and the director of rehabilitation. The survey was created via Qualtrics, an online survey tool that allows users to create, distribute, and analyze surveys (California State University Long Beach, 2023). The content and format of the survey were established after receiving input from the site and faculty mentors. The survey included ten questions and required at most seven minutes to complete. The survey questions assessed the therapists' perceived usefulness, satisfaction, and benefits of each intervention. Most of the survey questions were constructed to collect quantitative data by utilizing a 5-point Likert scale, which allowed respondents to choose a response that best matched their point of view. Additionally, two optional, open-ended questions were included in the survey to collect qualitative data. The specific content of the survey can be viewed in Appendix C. On the 13th week of the capstone experience, the survey was digitally distributed to the therapy staff via QR code following an in-service presentation of the entire project. The staff was informed that the survey was anonymous and was instructed to answer each question to the best of their ability. The survey was open for three days to allow the staff additional time to examine each intervention independently. Once the survey closed, response data was analyzed which involved averaging quantitative responses and coding qualitative responses to identify themes of the results when possible. Overall, this evaluation survey was a critical and necessary step in this capstone project. The feedback collected from the therapy staff was essential in determining the project's success and its perceived sustainability due to the staff members playing critical roles in the maintenance and implementation of the project.

Results

A total of fifteen THE CAPSTONE SITE staff members submitted responses to the project evaluation survey. According to the results relating to the therapists' use of the discharge planning checklist, all the staff members (100%) agreed or strongly agreed that the discharge checklist will be useful for the rehabilitation therapists, support their role in the discharge planning process, and be easy to use and explain to others. Additionally, 93% of therapists agreed or strongly agreed that the checklist would help resolve communication issues between therapists of the same or different disciplines who share the same patients. Furthermore, all the staff members (100%) agreed or strongly agreed that they were satisfied with the content included on the discharge checklist. Lastly, 93.33% of therapists reported they were likely or extremely likely to use the discharge checklist when implemented. A complete list of the results relating to the therapists' use of the discharge planning checklist can be seen in Table 1.

Table 1

Doctoral Capstone Project Evaluation Survey Results from Therapy Staff

Question		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I think that this discharge checklist will…	Be useful for rehabilitation therapists	0.00%	0.00%	0.00%	40.00%	60.00%

Help resolve communication issues between therapists of different disciplines, but who share the same patients	0.00%	0.00%	6.67%	40.00%	53.33%
Help resolve communication issues between therapists of the same discipline and who share the same patients	0.00%	0.00%	6.67%	53.33%	40.00%
Support my role in the discharge planning process by keeping me accountable of the discharge aspects I am responsible for	0.00%	0.00%	0.00%	46.67%	53.33%
Be easy to use and explain to others	0.00%	0.00%	0.00%	40.00%	60.00%
I am satisfied with the content included on this discharge checklist	0.00%	0.00%	0.00%	46.67%	53.33%

Question	Extremely unlikely	Unlikely	Neither likely nor unlikely	Likely	Extremely Likely
How likely are you to use the discharge checklist when it is implemented?	0.00%	0.00%	6.67%	60.00%	33.33%

When looking at the therapists' responses relating to patient and caregiver use of the discharge planning checklist, 93.33% of respondents agreed or strongly agreed that the checklist would be useful for patients and caregivers; allow patients and their caregivers to keep the therapist accountable for the discharge planning aspects they are responsible for; allow patients and their caregivers the opportunity to follow along with the discharge planning process; and help resolve discharge planning questions that patients and caregivers commonly ask. A complete list of the therapists' responses relating to patient and caregiver use of the discharge planning checklist can be seen in Table 2.

Table 2

Doctoral Capstone Project Evaluation Survey Results from Therapy Staff

	Question	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I think that this discharge checklist will…	be useful for patient and caregivers	0.00%	0.00%	6.67%	46.67%	46.67%
	allow the patients and their caregivers to keep me accountable of the discharge planning aspects I am responsible for	0.00%	0.00%	6.67%	53.33%	40.00%
	allow the patients and their caregivers the opportunity to follow along with the discharge planning process	0.00%	0.00%	6.67%	40.00%	53.33%
	help resolve discharge planning questions that patients and caregivers commonly ask	0.00%	0.00%	6.67%	60.00%	33.33%

The results relating to the therapists' use of the resource binders indicated that all the staff members (100%) agreed or strongly agreed that the binders would support their role in providing patient and caregiver education and provide them with comprehensive access to resources that patients and caregivers often ask for. Additionally, 86.67% of therapists agreed or strongly agreed that the binders would be easy to use and explain to others. Similarly, 86.67% also agreed or strongly agreed that the binders would help resolve questions about the patient's diagnosis, prognosis, treatment plan, and discharge plan that patients and caregivers often ask. Moreover, 93.33% of therapy staff members agreed or strongly agreed that they were satisfied with the content included in each resource binder. Lastly, all staff members

(100%) reported they were likely or extremely likely to use and refer patients/caregivers to the resource binders when implemented. A complete list of the survey results relating to the therapists' use of the resource binder can be seen in Table 3.

Table 3

Doctoral Capstone Project Evaluation Survey Results from Therapy Staff

Question		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I feel that these resource binders will…	support my role in providing patient and caregiver education	0.00%	0.00%	0.00%	46.67%	53.33%
	provide me with comprehensive access to resources that patients and caregivers often ask for	0.00%	0.00%	0.00%	46.67%	53.33%
	help me resolve questions pertaining to diagnosis, prognosis, treatment plan, and discharge plan that patients and caregivers often ask	0.00%	0.00%	13.33%	26.67%	60.00%
	be easy to use and explain to others	0.00%	0.00%	13.33%	53.33%	33.33%
I am satisfied with the content included in each resource binder.		0.00%	0.00%	6.67%	33.33%	60.00%

Question	Extremely unlikely	Unlikely	Neither likely nor unlikely	Likely	Extremely Likely
How likely are you to use and refer patients/caregivers to the resource binders when they are implemented?	0.00%	0.00%	0.00%	53.33%	46.67%

According to the results relating to the patient and caregiver use of the resource binders, all the therapy staff (100%) agreed or strongly agreed that the resource binders would be useful for patients and their caregivers; help the patients and caregivers feel more knowledgeable about the patient's diagnosis, prognosis, treatment plan, and discharge plan; help the patient feel more prepared to care for themselves if they discharge home; and help the caregiver feel more prepared to take on post-discharge care responsibilities if patient discharges home. Furthermore, 86.67% of staff members agreed or strongly agreed that the resource binders would be easy for patients and caregivers to use and navigate. For a complete list of the results relating to the patient and caregiver use of the resource binders, see Table 4.

Table 4

Doctoral Capstone Project Evaluation Survey Results from Therapy Staff

Question		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I feel that these resource binders will…	be useful for patients and their caregivers	0.00%	0.00%	0.00%	26.67%	73.33%
	help the patients feel more knowledgeable about their diagnosis, prognosis, treatment plan, and discharge plan.	0.00%	0.00%	0.00%	26.67%	73.33%
	help the caregivers feel more knowledgeable about the patient's diagnosis, prognosis, treatment plan, and discharge plan.	0.00%	0.00%	0.00%	26.67%	73.33%
	help the patient feel more prepared to care for themselves if they discharge home	0.00%	0.00%	0.00%	40.00%	60.00%
	help the caregiver feel more prepared to take on post-discharge care responsibilities if patient discharges home	0.00%	0.00%	0.00%	40.00%	60.00%
	be easy for patients and caregivers to use and navigate	0.00%	0.00%	13.33%	40.00%	46.67%

Regarding the two optional, open-ended questions, none of the 15 staff members opted to answer either question. These open-ended questions asked explicitly if the therapists had any additional feedback to give regarding the discharge checklist and resource binders. Due to no responses being provided for either question, qualitative data was not collected, and no themes could be found.

Discussion

Prior to the start of the capstone experience, the capstone site was in need of interventions that could help enhance and support its discharge planning process. However, due to a lack of time, the capstone site was unable to develop any new interventions on its own. With this capstone project, the time barrier was overcome. After extensive collaboration with essential stakeholders, conducting a needs assessment, and completing a literature review, the capstone site was provided with two evidence-informed interventions designed to meet the need presented by the site.

After analysis of the survey results and the feedback provided by the site mentor, it was evident that the therapy staff had confidence in the interventions. The survey indicated that the therapy staff were satisfied with the capstone project and had positive perceptions of the discharge checklist and the resource binders. Moreover, the results revealed that the therapists believed each intervention would be beneficial not only to them but also to the patients and caregivers. In addition, the results indicated that therapists were likely to use and refer to each intervention when implemented into practice. The feedback explicitly provided by the site mentor supported the project being deemed a success. This feedback included the site mentor expressing her satisfaction with the capstone project and her enthusiasm for intervention implementation.

Throughout the capstone experience, this project achieved most of its goals and objectives. These goals and objectives were created prior to the start of the capstone experience and were designed to help fill the gaps presented by the local inpatient rehabilitation facility.

The only goals that were not fully met involved the implementation of each discharge planning intervention. Due to time constraints, implementation could not occur; however, the therapy staff received training on how to implement each intervention in the future. Since the project was not implemented, feedback specifically from patients and caregivers was not collected. This was a limitation of the project because the interventions were created to be utilized by therapists, patients, and caregivers. To thoroughly evaluate the project, feedback would need to be collected from each stakeholder group; however, only responses from the therapists were gathered and analyzed. Another limitation of the project involved a lack of research on the use of discharge planning interventions in an inpatient rehabilitation setting. This made the review of literature more challenging to complete; however, research relating to the use of discharge planning interventions in other settings was found to still be applicable to this project. Lastly, the lack of initial resources available at the site was also a limitation of the project. The site did not initially have resources similar to a discharge checklist or resource binder. Consequently, creating each intervention was more challenging and time-consuming because there were no resources to refer to or an existing foundation to build upon.

Impact on the Capstone Site

This capstone project resulted in a positive impact on some of the site's key stakeholders in different ways, as indicated by the evaluation results and feedback provided. For the therapy staff stakeholders, this project provided them with two different interventions that can help enhance and support the site's overall discharge planning process. With the discharge planning checklist, the therapists had positive perceptions that the checklist can help support their role in the discharge planning process as the checklist can help them keep track of all their specific discharge responsibilities. They also perceived that the checklist would increase communication between therapy disciplines and help the disciplines hold each other accountable for their discharge responsibilities. In terms of the resource binders, the therapists believed that these binders could help support their role in providing patient/caregiver education which is a significant component of the discharge planning process. With the sustainability plan in place, this project can continue. The therapy staff members have been equipped with the knowledge on how to maintain and implement each intervention and, thus, will reap the project's benefits for many years to come. Overall, this project provided the capstone site with sustainable and easily accessible interventions that can help support the therapy staff's overall role in the discharge planning process and help them better serve their patients and caregivers.

Impact on Patients and Caregivers

While the capstone project's interventions were not implemented during the capstone experience, the evaluation results and feedback provided by the capstone site's therapy staff and site mentor indicated that the interventions have a high potential to positively impact the site's patients and caregivers once implemented. Regarding the discharge checklist, the results and feedback suggested that the therapists perceived that the checklist will be useful for patients and caregivers and allow them to be more involved in the discharge planning process, making the process more patient-and caregiver-centered. Two ways the checklist accomplishes this is by (1) providing the patients and caregivers with a visual that helps them follow along with the discharge planning process and (2) providing them with the opportunity to hold their therapists accountable for their discharge planning responsibilities. Regarding the resource binders, the results and feedback suggested that the therapists had positive perceptions that the binders will be useful for the patients and caregivers as the binders will help both parties feel more knowledgeable and more prepared for the transition of care. Overall, it is evident that this capstone project can impact the patients and caregivers as both interventions can provide many benefits for them once the interventions are implemented into practice by the site's therapy staff members.

Impact on Occupational Therapy

In addition to potentially impacting the site's patients and caregivers, this project also has the potential to impact the profession of OT as well. The research from this project highlighted some of the mechanisms of the discharge planning process, identified discharge planning barriers, and reviewed several interventions that can or have the potential to improve the process overall. Since occupational therapists play a pivotal role in the discharge planning process, they can utilize the research to help enhance and support their role. Additionally, this project can be utilized as a guide and referred to by other OT students and practitioners interested in creating their own discharge planning interventions, such as a discharge checklist or patient and caregiver resource binders. Furthermore, this project opens the door to future collaborative opportunities between the site and future OT fieldwork and capstone students. Since this was the first capstone project completed at the site and the project was determined successful by the therapy staff, the capstone site may feel more inclined to take on more OT students. If the capstone site decides to provide more fieldwork and capstone experience opportunities for OT students in the future, then these students will be able to learn and gain more knowledge and skills in the inpatient rehabilitation setting. This benefits the OT students greatly because it will help them be better prepared as they become OT practitioners, which then positively impacts the field of occupational therapy.

On an individual level, this capstone project and experience allowed the capstone student to gain knowledge and skills in program development. The student's confidence and communication skills were also enhanced after extensive collaboration occurred between the student, the site's interdisciplinary staff, and the patients and caregivers at the site. Lastly, this project helped improve the student's research skills; the student's ability to apply OT models/theories; the student's knowledge of the discharge planning process and specific diagnoses; and the student's ability to apply health literacy guidelines to create interventions that are more accessible and patient-centered.

Sustainability

To determine the overall sustainability plan of the project, a discussion with the site mentor occurred toward the end of the capstone experience. This discussion reviewed and determined critical components of the sustainability plan including accessibility, maintenance, and implementation. Additional input from the Director of Rehabilitation was also gathered and applied during the creation of the sustainability plan. Once the plan was solidified, an in-service presentation was provided to therapy staff members to inform them of the plan. This in-service included training on how to deploy the sustainability plan and suggestions for future project ideas.

Regarding accessibility, printed paper and digital copies of each intervention product were provided. The digital copy of each product was uploaded and shared as a PDF file in a OneDrive folder which is accessible to all full-time and part-time therapy staff members. To maintain each intervention, the job was primarily assigned to the site's rehabilitation technician who would be the person to reproduce each product, when necessary. Implementation of each intervention was assigned to the site's therapists who would be the ones to provide, utilize, and refer to the intervention products. Some of the suggested project ideas comprised in the sustainability plan included having fieldwork and capstone students continue the project by making contributions such as editing the already created resource binders to make them more user-friendly and accessible; reviewing the content of each intervention to ensure the information is still accurate and that the QR codes provided still work; adding more content to the already made resource binders; and creating additional resource binders for other diagnoses.

With an established sustainability plan and future project ideas in place, the capstone site now has the knowledge required to carry on this capstone project. When implemented, these interventions can make a lasting impact on the capstone site, the patients that stay there, and the patient's caregivers.

Conclusion

Ensuring the discharge planning process is efficient is a shared priority among inpatient rehabilitation facilities. Due to the process's potential impact on hospital readmission rates and patient outcomes such as general safety and satisfaction, facilities like the capstone site have begun exploring the use of discharge-specific interventions that target aspects of the discharge process. Before starting this capstone experience, the local inpatient rehabilitation hospital lacked these types of discharge-specific interventions and the time required to develop new ones. Thus, this capstone project aimed to develop interventions that would help enhance and support the facility's discharge planning process. With the use of an occupational therapy lens, thorough collaboration, and extensive research, this project resulted in the development of two interventions: a discharge checklist and two different patient and caregiver resource binders.

Based on the results of this project, the interventions created can be beneficial to the site's therapy staff members, patients, and the patient's caregivers once implemented. Some of the benefits identified included providing additional support in the therapists' role in the discharge planning process; increasing communication between the therapists; and increasing patients' and caregivers' knowledge and preparedness. With the completion of the capstone project, the capstone site is now left with the opportunity to implement these interventions into practice. With implementation, the site can utilize these interventions to help meet its objectives of improving its discharge planning process, enhancing its patient and caregiver outcomes, and reducing hospital readmission rates. By making progress towards completing these objectives, the site can move one step closer to achieving its long-term goal and vision of becoming the leader in rehabilitative services in its community.

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Appendix A

Needs Assessment Interview Questions and Responses

1. What is your greatest need/gap in your facility currently?
2. What are the biggest barriers to success at your facility?
3. What supports/resources are already in place at the facility?
4. What kinds of programming do you currently offer?
5. Who are your stakeholders?
6. Do you have any programs that you would like to kickstart or are interested in developing?
7. What are the demographics of the population you currently work with?
8. How big is your staff? Do you have any interdisciplinary practices are in place?
9. Do you have productivity measures or quotas you must meet within a workday?
10. Do you work with or have contracts with any community programs?
11. What impact has the pandemic had on your facility, employees, patients?

Appendix B

Patient Survey

Primary Diagnosis: ____

Q1 Do you consent to this survey?

a. Yes, I consent (1)
b. No, I do not consent (2)

If you selected “Yes, I consent”, please continue to complete the rest of the survey. If you selected “No, I do not consent”, do not complete the rest of the survey

Q2 Did you receive information on your primary diagnosis prior to coming to the rehab facility? This information may have been provided by a doctor, nurse, or other medical professional while in the hospital.

a. Yes
b. No

Q3 If you selected "Yes" on Q2, how was the information provided? **Please select all that apply**. If you selected “No” on Q2, please select the answer “Did not receive information”.

a. Verbal instruction (i.e., Somebody talked to you about the information)
b. Written or illustrative instruction (i.e., Somebody provided a paper handout with pictures or words of information on it)
c. Video instruction (i.e., Somebody showed you a video that discussed the information)
d. Recorded audio instruction (i.e., Somebody provided you with a recorded audio file or a podcast to listen to that discussed the information)
e. Did not receive information

Q4 If you received information about your primary diagnosis, do you believe the information was helpful to you? <u>If you did not receive information, please skip this question.</u>

a. Yes
b. No

Q5 If you received information, did you think anything was missing from the information? <u>If you did not receive information, please skip this question.</u>

a. Yes
b. No

Q6 If you answered "Yes" on Q5, what information did you think was missing? Please write answer on lines below. If you answered “No” or “Did not receive information” on Q5, please skip this question.

Q7 What is your preferred method of receiving information? Please select all that apply.

a. Verbal instruction (i.e., Somebody talked to you about the education)
b. Written or illustrative instruction (i.e., Somebody provided a paper handout with pictures or words of information on it)
c. Video instruction (i.e., Somebody showed you a video that discussed the information)
d. Recorded audio instruction (i.e,. Somebody provided you with a recorded audio or a podcast to listen to that discussed the information)

Q8 How well do you currently understand your primary diagnosis?

a. Not well at all
b. Slightly well
c. Moderately well
d. Very well
e. Extremely well

Q9 How well do you currently understand the healing process of the diagnosis?

a. Not well at all
b. Slightly well
c. Moderately well
d. Very well
e. Extremely well

Q10 How confident are you in your ability to find support, resources, and information regarding any questions that you have?

a. Not confident at all
b. Slightly confident
c. Moderately confident
d. Very confident
e. Extremely confident

Q11 What information would you like to learn more about before discharging? Please select all that apply.

a. Therapy Services After Discharge
b. Prevention and Lifestyle Recommendations
c. Support Groups and Programs
d. Home Exercise Programs
e. Personal Care Needs (Ostomy, Catheter, Wound, Blood Pressure, Neuropathy etc.)
f. Fatigue Management
g. Vision or Cognition Changes
h. Equipment for Home (walkers/wheelchairs/dressing aids/bathing aids)
i. Home Modification Suggestions
j. Mental Health Concerns (Depression, Anxiety, etc.)
k. Speech/Communication Changes
l. Going out into the Community
m. Activities of Daily Living (Dressing/Bathing/Toileting etc.)
n. Intimacy Post-Discharge
o. Other: (please write on lines to list other topics):_______________________________

Caregiver Survey

Patient's Primary Diagnosis: ____

Q1 Do you consent to this survey?

a. Yes, I consent
b. No, I do not consent

If you selected "Yes, I consent" please continue to complete the rest of the survey. If you selected "No, I do not consent", do not complete the rest of the survey

Q2 As a caregiver, did you ever receive information about the patient's primary diagnosis prior to coming to the facility? The information may have been provided by a doctor, nurse, or other medical professional.

a. Yes
b. No

Q3 If you selected "Yes" on Q2, how was the information provided? **Please select all that apply.** If you selected "No" on Q2, please select the answer "Did not receive information".

a. Verbal instruction (i.e. Somebody talked to you about the education)
b. Written or illustrative instruction (i.e. Somebody provided a paper handout with pictures or words of information on it)
c. Video instruction (i.e. Somebody showed you a video that discussed the information)
d. Recorded audio instruction (i.e. Somebody provided you with a recorded audio or a podcast to listen to that discussed the information)
e. Did not receive information

Q4 If you received information about the primary diagnosis, do you believe the information was helpful to you? <u>If you did not receive information, please skip this question.</u>

a. Yes
b. No

Q5 If you received information, did you think anything was missing from the information? <u>If you did not receive information, please skip this question.</u>

a. Yes
b. No

Q6 If you selected "Yes" on Q5, what information did you think was missing? Please write answer in text box.

Q8 How well do you currently understand the patient's primary diagnosis?

a. Not well at all
b. Slightly well
c. Moderately well
d. Very well
e. Extremely well

Q9 How well do you currently understand the healing process of the diagnosis?

a. Not well at all
b. Slightly well
c. Moderately well
d. Very well
e. Extremely well

Q10 How confident are you in your ability to find support, resources, and information regarding post-discharge concerns that you may have?

Q11 What information would you like to learn more about before discharging? Select all that apply.

a. Therapy Services After Discharge
b. Prevention and Lifestyle Recommendations
c. Support Groups for Patients and Caregivers
d. Home Exercise Programs
e. Personal Care Needs (Ostomy, Catheter, Wound, Blood Pressure, Neuropathy etc.)
f. Fatigue Management
g. Vision or Cognition Changes
h. Equipment for Home (walkers/wheelchairs/dressing aids/bathing aids)
i. Home Modification Suggestions
j. Mental Health Concerns (Depression, anxiety, etc.)
k. Speech/Communication Changes
l. Going out into the Community
m. Activities of Daily Living (Dressing/Bathing/Toileting etc.)
n. Intimacy Post-Discharge
o. Other: (please write on lines to list other topics): ______________________________

Appendix C

Project Evaluation Survey

Survey Directions: Please answer each question to the best of your ability.

If you have any questions, please contact Jessica Flores at jnflores@iu.edu

Thank you!

Questions About the Discharge Checklist

Q1 I think that this discharge checklist will...	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Be useful for rehabilitation therapists (1)	○	○	○	○	○
Help resolve communication issues between therapists of **different disciplines**, but who share the same patients	○	○	○	○	○
Help resolve communication issues between therapists of the **same discipline** and who share the same patients	○	○	○	○	○
Support my role in the discharge planning process by keeping me accountable of the discharge aspects I am responsible for	○	○	○	○	○
Be easy to use and explain to others	○	○	○	○	○

Q2 I think that this discharge checklist will...	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Be useful for patient and caregivers	○	○	○	○	○
Allow the patients and their caregivers to **keep me accountable** of the discharge planning aspects I am responsible for	○	○	○	○	○
Allow the patients and their caregivers the **opportunity to follow along** with the discharge planning process	○	○	○	○	○
Help resolve discharge planning questions that patients and caregivers commonly ask	○	○	○	○	○

Q3 I am satisfied with the content included on this discharge checklist.

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

Q4 How likely are you to use the discharge checklist when it is implemented?

- ○ Extremely unlikely (1)
- ○ Unlikely (2)
- ○ Neither likely nor unlikely (3)
- ○ Likely (4)
- ○ Extremely likely (5)

Q5 (Optional) Is there any other feedback that you would like to share regarding the discharge checklist?

Questions About the Patient and Caregiver Resource Binders

Q6 I feel that the resource binders will...	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Be useful for patients and their caregivers	○	○	○	○	○
help the *patients* feel more **<u>knowledgeable</u>** about their diagnosis, prognosis, treatment plan, and discharge plan.	○	○	○	○	○
help the *caregivers* feel more **<u>knowledgeable</u>** about the patient's diagnosis, prognosis, treatment plan, and discharge plan.	○	○	○	○	○
help the *patient* feel more **<u>prepared</u>** to care for themselves if they discharge home	○	○	○	○	○
help the *caregiver* feel more **<u>prepared</u>** to take on post-discharge care responsibilities if patient discharges home	○	○	○	○	○
Be easy for patients and caregivers to use and navigate	○	○	○	○	○

Q7 I feel the resource binders will...	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Support my role in providing patient and caregiver education	○	○	○	○	○
Help me resolve questions pertaining to diagnosis, prognosis, treatment plan, and discharge plan that patients and caregivers often ask	○	○	○	○	○
Provide me with comprehensive access to resources that patients and caregivers often ask for	○	○	○	○	○
Be easy to use and explain to others	○	○	○	○	○

Q8 I am satisfied with the content included in each resource binder.

○ Strongly disagree (1)

○ Disagree (2)

○ Neither agree nor disagree (3)

○ Agree (4)

○ Strongly agree (5)

Q9 How likely are you to use and refer patients/caregivers to the resource binders when they are implemented?

○ Extremely unlikely (1)

○ Unlikely (2)

○ Neither likely nor unlikely (3)

○ Likely (4)

○ Extremely likely (5)

Q10 (Optional) Is there any other feedback that you would like to share regarding the resource binders?