Development of a Medication Reconciliation Policy in Outpatient Mental Health Facility

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Abstract

Introduction/Background

Adverse drug events and medication discrepancies are patient safety challenges for patients and healthcare professionals. Medication errors result in approximately 7000 deaths annually, and adverse drug events harm 1.5 billion people and cost $3.5 billion annually (Dunham & Makoul, 2008). Medication reconciliation can significantly decrease medication errors. "It involves obtaining, verifying and documenting the patient's current medicines and comparing to their medication orders and the patient's condition to identify and resolve any discrepancies" (Duguid, 2012, p. 15). The deliberate time taken to complete medication reconciliation plays a significant role in patient care, along with increasing the quality of care provided.

The objectives for the creation of medication reconciliation policy 1) Aids in providing a more accurate list of medications a patient is taking, 2) Reduces the risk of drug interaction for a patient, 3) Allows providers to prescribe what will benefit the patient, 4) Creates a quality control in a patient's care plan. These objectives have a significant impact on patient care and require the deliberate actions of completing a medication reconciliation with patients at their appointments.

Synthesis and Analysis of Literature

The literature supports that the lack of medication reconciliation is a patient safety issue. Almanasreh, Moles & Chen stated that adverse drug events and medication discrepancies place patients at risk for potential harm. Implementing a medication reconciliation process improves patient safety (2016). Barnsteiner indicated that medication errors are the most common safety error. They stated that healthcare settings need to develop standards that determine who is

responsible for specific tasks and how the process will be completed. Barnsteiner also said that Whittington and Cohen reported that the accuracy of medication lists went from 45 percent to 95 percent with the implementation of reconciliation standards (2008). da Silva & Krishnamurthy agreed that medication reconciliation is essential for patient safety (2016).

Project Implementation

The medication reconciliation policy will be developed and reviewed by experts in the health care field. Experts were identified based on their experience and role involved with medication reconciliation. Three experts agreed to provide feedback on the policy. The experts include a Doctorate of Nursing Practice, Advanced Practice Registered Nurse, Family Nurse Practitioner, Psychiatric Mental Health Nurse Practitioner with 15 years of experience as an FNP and 20 years of experience as a Registered Nurse. A clinic coordinator for a Mental Health Center/Psychiatric Hub through a Minnesota county. This Mental Health Center serves approximately 1500+ patients each year with a multidisciplinary team of psychiatric providers, therapists, nurses, and many other specialized team members. A PharmD who works as a site manager at a Minnesota Pharmacy located within a Human Development Center with 10 years of experience. Experts will review the policy, provide feedback, and suggest changes that will strengthen the policy. After the medication reconciliation policy has been reviewed and revised, it will be presented (date to be determined) to providers at the project site for feedback and buy-in during their weekly clinical meeting. The medication reconciliation policy is still in the review portion of the project; it will undergo two to three reviews by experts in the healthcare field.

Evaluation Criteria

A review of the medication reconciliation policy will be conducted by experts in the healthcare field. This review will serve as the evaluation of the policy. Expert feedback will be used to evaluate the policy and make changes based on its validity and if the changes align with the policy's design and intended purpose. Feedback evaluation will occur in the following manner; is the feedback relevant to the policy, and are the changes recommended substantial or minor regarding the policy.

Keywords: medication reconciliation, outpatient mental health, policy, medication errors, patient safety.

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Adverse drug events and medication discrepancies are patient safety challenges for patients and healthcare professionals alike. Medication errors are the most common patient safety issue (Barnsteiner, 2008). Medication errors result in approximately 7000 deaths per year, and adverse drug events harm 1.5 billion people and cost $3.5 billion per year (Dunham & Makoul, 2008). Several international patient safety organizations such as The Joint Commission (TJC), Institute for Healthcare Improvement (IHI), and the World Health Organization (WHO) acknowledge medication reconciliation as crucial for achieving medication safety (Almanasreh et al., 2016). Medication reconciliation can significantly decrease medication errors. "It involves obtaining, verifying and documenting the patients' current medicines and comparing to their medication orders and the patient's condition to identify and resolve any discrepancies" (Duguid, 2012, p. 15). A standardized process for medication reconciliation ensures that an accurate and complete medication list is obtained for all patients (Gleason, 2012). The proposed project involves the creation of an evidence-based standardized policy and procedure for medication reconciliation in an outpatient mental health facility.

PICO Statement

For prescribers at an outpatient mental health facility (P), how will the implementation of a medication reconciliation policy and procedure (I), impact current rate of medication errors compared to current practices (C)?

Problem Statement

Healthcare staff should complete medication reconciliation at every clinical encounter. Without a policy and procedure for medication reconciliation in place, there is no guarantee that staff will complete medication reconciliation consistently and accurately. Incomplete medication reconciliation can be costly to healthcare facilities, especially when they result in adverse events.

A written policy and procedure for medication reconciliation clearly states the expectations to staff members and encourages them to follow the process so that medication reconciliation is completed at every encounter. Complete and accurate medication reconciliation is the most appropriate means to prevent medication errors and adverse events (Gleason, 2012).

Background to the Problem

The site of this project is a rural mental health facility in Northern Minnesota. The facility does not currently have a medication reconciliation policy or procedure. Since there isn't a standardized process for medication reconciliation, it is often not done or not fully completed. The idea for this project resulted from an incident that occurred while working at the clinic; a client had an episode that caused him to need emergency medical assistance. When the paramedics arrived, they requested a medication list for the client. Unfortunately, due to medication reconciliation not being reconciled at the patient's most recent medical appointment, a complete medication list could not be obtained. Fortunately, this event did not result in adverse effects for the client, but it very well could have since the paramedics did not know about potential drug interactions.

There have been several other occurrences at the clinic where a request for a medication list has occurred. Unfortunately, the resulting list is not a comprehensive list of all the patient's medications. An inaccurate medication list poses problems, especially when a client needs a higher level of care because the receiving facility lacks knowledge of the name and dosage of the medication the client has been taking. Since the receiving facility doesn't have an accurate list, this can lead to missed medications or resumption of previously discontinued medications at too high of an initial dose.

Medication reconciliation can significantly decrease medication errors. "It involves obtaining, verifying and documenting the patients' current medicines and comparing to their medication orders and the patient's condition to identify and resolve any discrepancies" (Duguid, 2012, p. 15). Reconciling medications should include medication name, dose, frequency, route, and purpose; but can consist of further information identified by the organization (The Joint Commission, 2021). Several international patient safety organizations such as The Joint Commission (TJC), Institute for Healthcare Improvement (IHI), and the World Health Organization (WHO) acknowledge medication reconciliation as crucial for achieving medication safety. While these organizations have different definitions for medication reconciliation, they all agree that medication reconciliation remains a critical patient safety activity to optimize patient safety (Almanasreh et al., 2016).

On November 29, 1999, The Institute of Medicine (IOM) released a report called *To Err is Human: Building a Safer Health System,* which increased awareness of medical errors in the United States. The committee believed that addressing the overall quality of care was first needed to address patient safety. The committee's approach emphasized that "error" was not due to health care professionals' competence, good intentions, or hard work. Instead, the safety of care was a property of a system and needed specific attention to ensure that care processes prevented, recognized, and quickly recovered patients from errors so that they did not harm them (2000).

Healthy People 2030 establishes overarching goals and principles. These goals and principles support the need for medication reconciliation for patients "promoting and achieving health and well-being nationwide is a shared responsibility that is distributed across the national,

state, tribal, and community levels, including the public, private, and not-for-profit sectors" (*Healthy People 2030 Framework*).

Problem Scope

Adverse drug events and medication discrepancies are patient safety challenges for patients and healthcare professionals alike. Medication discrepancies are common when patients transition care (by level, by the facility, or by provider) due to receiving new medications or making changes to their current medications (Duguid, 2012). Improper medication reconciliation can have far-reaching effects. Not only is the client at risk for adverse effects, hospitalization, and even death, but these effects extend to other people as well. Family members can experience emotional and financial impacts related to the client's adverse reaction. Providers are open to liabilities caused by harm due to not completing medication reconciliation. Increased utilization of health insurance to treat adverse reactions can drive up insurance premiums (Dunham & Makoul, 2008).

Improper medication reconciliation is a worldwide healthcare issue. The Institute of Medicine's *Preventing Medication Errors* report showed an average of one medication error per day; 40 percent of those errors were attributed to improper medication reconciliation upon admission. Twenty percent of the errors attributed to improper medication reconciliation resulted in harm (Barnsteiner, 2008).

Problem Consequences

Medication reconciliation is a formal process of obtaining and maintaining an accurate list of patient medications. Medication reconciliation has been shown to decrease the amount of adverse drug events that occur (Barnsteiner, 2008). Medication errors increase fatal patient injuries, approximately 7000 deaths per year, and are a significant economic burden on

healthcare facilities, costing 3.5 billion per year (Dunham & Makoul, 2008; Haji Aghajani et al., 2016). In addition, medication errors can result in extended courses of treatments, emergency room visits, hospitalizations, therapeutic and pharmacological interventions, and utilization of other healthcare resources (Haji Aghajani et al., 2016).

Knowledge Gaps

Knowledge gaps related to medication reconciliation include a lack of facility policies and procedures, despite knowledge of their importance. In addition, there are no standardized, universal policies or procedures for medication reconciliation across healthcare facilities. Furthermore, the involvement of multiple disciplines can cause confusion about who is responsible for various tasks and can lead to disagreements on who is responsible for each role. Finally, patient lack of knowledge is the most significant factor in medication reconciliation; patients do not understand the importance and may not be able to provide accurate information about the medication they are taking (Barnsteiner, 2008). Patients receiving care at a mental health clinic "with or without serious mental illness, experience more multimorbidity and polypharmacy, receive multiple psychotropics and high-risk medicines, and experience varying degrees of cognitive impairment, disorganized thinking and impaired insight into their conditions due to mental illness" (Johnson et al., 2020, p. 12). All of these contribute to potential medication discrepancies resulting in adverse drug events. Therefore, more responsibility is placed on the provider to ensure accurate and appropriate prescribing of medications (Johnson et al., 2020).

Studies regarding quality improvement projects for medication reconciliation usually have small sample sizes and focus on only one specific site. There is a need for studies regarding medication reconciliation designed with multiple sites and across admission statuses to

understand the problem better. There is also very little literature showing the time required for medication reconciliation and its impact on workflows. Studies that look at and test ways to streamline medication reconciliation and maintain it would be beneficial, especially since providers have limited time to interact with their patients. Lastly, educating patients to maintain a complete and accurate medication list and advocate for themselves would be a huge step in increasing accurate medication reconciliation (Barnsteiner, 2008).

Proposed Solution

Patients and caregivers are often the only consistent links between multiple providers and pharmacies, particularly in rural settings. Therefore, having resources and tools available to maintain accurate medication lists across health care settings is essential. Consequently, medication reconciliation is crucial for improving rural clinic practices (Jarrett et al., 2020). Developing and implementing a medication reconciliation policy and procedure would create a consistent process for providers to follow. In addition, the intervention would outline proper procedures for clients' data gathering using client interviews, current orders for medication review from additional providers, and medical history review with release of information for other facilities (Gleason, 2012).

The Medications at Transitions and Clinical Handoffs (MATCH) toolkit would be utilized to develop the medication reconciliation policy and procedure. The MATCH toolkit is designed to assist organizations with a workable solution for medication reconciliation. MATCH is a multistep process covering the creation of an interdisciplinary team, mapping current medications, identifying areas of improvement, establishing measurements, creating changes, piloting changes, providing education, and assessing changes (Jarrett, Cochran & Baus, 2019). One aspect of the MATCH toolkit that has been utilized thus far, is the included talking points

for making sound arguments for undertaking medication reconciliation processes, and connections to other patient safety initiatives, regulatory requirements and operational efficiencies. Using these talking points has helped gain the support of administrators and providers at the project site.

Professional feedback will be sought once the medication reconciliation policy and procedure is developed. The selected professionals will be experts in health care policies and procedures at highly recognized healthcare facilities in the United States. The evaluation form for the policy will be based on the Appraisal of Guidelines for Research & Evaluation (AGREE) guidelines (Graham et al., 2011).

Lack of medication reconciliation policies and procedures and failure to adhere to them has been associated with medication errors and adverse drug events (Hughes & Blegan, 2008). Inconsistencies in the process of medication reconciliation including standardization, knowledge, importance, and inadequate integration can lead to inaccurate medication lists (Gionfriddo et al., 2021). A medication reconciliation policy and procedure at the outpatient mental health facility will offer a standardized process that is adequately integrated and increase knowledge of the importance of medication reconciliation. The reduction of medication errors will decrease health care cost and adverse drug events for patients (Dunham & Makoul, 2008).

Project Setting, Sponsor, Stakeholders, and Participants

The implementation site for a new policy and procedure for medication reconciliation will be a rural mental health facility in Northern Minnesota. The facility was chosen for its diverse patient population and wide range of mental health treatments offered including intensive outpatient substance use disorder treatment, mental health and substance use disorder medication management, psychotherapy, medical cannabis certification, Spravato treatment, residential

substance use disorder housing, and peer support specialist services. This facility also provides a manageable patient sample that allows for accurate recording of information and accommodates unknown variables. The sponsor for this project would be the clinical director of the project site. The clinical director's role at the facility is to assist in creating policies and procedures. This is a newly created position; therefore, they have not started creating a medication reconciliation policy or procedure. Stakeholders for this project include patients and their families, two nurses and nine healthcare providers at the mental health clinic, pharmacy staff, primary care providers, four administrative staff at the project site, administrative staff at primary care clinics, taxpayers, EMS, hospital staff, and insurance providers. Participants for the project will be the interdisciplinary team at the clinic, the clinical director of the project site, and experts in pharmacology, psychiatry, and emergency medicine at outside healthcare facilities that have the background and knowledge to evaluate and provide feedback on the medication reconciliation policy.

Organizational Needs Assessment/SWOT Analysis

A SWOT (strengths, weaknesses, opportunities, and threats) analysis framework was used to evaluate the project site. The SWOT analysis assessed internal and external factors, and current and future potential, focusing on medication reconciliation.

Strengths

Multiple strengths were identified during the SWOT analysis. Staff and providers at the clinic can identify and avoid potential medication errors resulting in better quality of care. The clinic already holds weekly staff/provider meetings making it easy to discuss aspects of the project. The clinic is located in a small, rural community, so there are only a few providers and a manageable number of patients. Staff are familiar with the electronic medical record (EMR), and

the clinic has been using it for a few years, so staff feel comfortable with it. The EMR allows access to pharmacy-filled medications going back 1 year. This will assist the staff in knowing which medications that patient has been prescribed and if they are filling it regularly or not. The project of medication reconciliation requires little to no financial input. It also allows improvement in the relationship between the provider and their patients.

Weaknesses

Several weaknesses were identified during the SWOT analysis. One of the most obvious weaknesses was time constraints placed on providers so that they can see a certain number of patients per day. Most follow-up appointments for medication management are 20 minutes. If the patient is experiencing an exacerbation of symptoms or has trouble focusing, it will be challenging to complete the medication reconciliation in that time frame. The majority of the patients currently use the whole 20-minute appointment, with some appointments even running over. The current EMR that the clinic uses does not connect or interface with the EMR that most primary care clinics in the area use. This makes the derivation of medications entered in the primary care clinic inaccessible to the mental health clinic through the EMR. Some patients are unwilling to sign an ROI to their primary care provider so obtaining the medication list is impossible. The mental health provider must rely on what the patient reports for medications. Patients may experience varying degrees of cognitive impairment, disorganized thinking and impaired insight due to their mental illness making medication recall unreliable (Johnson et al., 2020, p. 12). Some patients will also try to see multiple providers at various facilities in order to procure prescription drugs illicitly. One of the biggest weaknesses identified was that there is no standardized policy or procedure at the clinic for medication reconciliation. This makes it difficult for providers to know exactly what is expected of them. Providers may also disagree

that medication reconciliation is a high priority and may not buy-in to the project. Lastly, the immediate benefits of the project might not be seen, making it more difficult for providers to see the value and continue with the new procedure for medication reconciliation.

Opportunities

Opportunities identified during the SWOT analysis included the opportunity to assess and educate patients on their medications and the importance of their providers completing medication reconciliation at every visit. The providers can have the opportunity to improve the care they provide to their patients by decreasing the risk of adverse drug interactions. Processes by which medication reconciliation is performed will be streamlined, increasing provider productivity. There is also the opportunity to improve connections with administrative staff, nurses, and providers at primary care clinics and pharmacists and pharmacy technicians at pharmacies in the community by increasing their communication with agency administrative staff, nurses, and providers to accurately and completely reconcile medications. Medication reconciliation has the potential to increase continuity of care, especially when there are transitions to a different provider and/or level of care. Lastly, medication reconciliation has the potential to increase patient satisfaction outcomes, medication adherence, quality outcomes, and regulatory body requirements (Redmond et al., 2018).

Threats

Multiple threats were identified during the SWOT analysis. First, since providers are independent contractors, they may not support the project. Providers may require longer appointment blocks to ensure completion of medication reconciliation. This may lead to providers not seeing enough patients during the day or may lead to a delay of their next appointment. Third, patients may refuse to participate in medication reconciliation for various

reasons, such as mental health or substance abuse symptoms, like paranoia or difficulty focusing and remembering things. Lastly, providers may dismiss the importance of completing medication reconciliation, especially when it comes to prescribing of medications by other providers for medical conditions (Barnsteiner, 2008).

Literature Search Process

A literature review regarding medication reconciliation was performed to obtain best practice guidelines for preventing adverse medication events and optimal medication reconciliation procedures. Databases and sites searched in this literature review included PubMed, CINAHL, Agency for Healthcare Research and Quality (AHRQ), The National Center for Biotechnology Information, Healthy People 2030, The Joint Commission, and Institute for Healthcare Improvement (IHI). Keywords used to search included “medication reconciliation,” “outpatient,” “mental health,” “psychiatry,” “medication errors,” “adverse drug events,” and “clinic.” Inclusion criteria used to filter results were (date span), full text, and English language. The 7 databases searched produced a multitude of articles that were further narrowed down after review of the abstract. 14 articles were included in the literature review.

Literature Matrix Table

The literature table utilized covers the critical areas of why the literature was chosen in conjunction with a focus on the target population, the research methods used, outcomes and results, and the strengths and weaknesses of the literature. In addition, the references in the table take a focused approach to medication reconciliation and supports Lewin’s Theory of Planned Change in how it relates to the topic. Appendix A shows the Literature Matrix Table for Medication Reconciliation.

Literature Synthesis

The literature review model utilized focuses on a wheel model in which all data collected from sources pulls upon each other. In some instances, the literature dovetails with other sources, reinforcing the importance of information and how to utilize it in medication reconciliation.

Patient Safety

The literature supports the lack of medication reconciliation is a patient safety issue. Almanasreh, Moles & Chen stated that adverse drug events and medication discrepancies place patients at risk for potential harm. Implementing a medication reconciliation process improves patient safety (2016). Barnsteiner indicated that medication errors are the most common safety error. They stated that healthcare settings need to develop standards that lay out who is responsible for specific tasks and how the process will be completed. Barnsteiner also said that Whittington and Cohen reported that the accuracy of medication lists went from 45 percent to 95 percent with the implementation of reconciliation standards (2008). da Silva & Krishnamurthy agreed that medication reconciliation is essential for patient safety (2016).

Duguid stated that the lack of accurate and complete medication information is a common patient safety problem worldwide and that medication reconciliation is an essential element of patient safety (2012). Gleason et al. believe a structured process of comparison and resolution is needed to ensure patient safety. The Institute of Medicine pointed out that it is a national agenda, with state and local implications, to reduce medical errors and improve patient safety by designing a safer health system (2000). Jarret, Cochran & Baus stated that patients must be knowledgeable about past medical history and past and present medications. They discussed the number of emergency department visits and hospitalizations that are attributed to adverse drug events.

Notably, medications such as selective serotonin-reuptake inhibitors, beta-blockers, angiotensin-converting enzyme inhibitors, and nonsteroidal anti-inflammatory medication are frequently involved in adverse drug events. In contrast, preventative interventions may reduce nearly one-third of these adverse drug events. Jarret, Cochran & Baus also discussed how rural populations are at an increased risk for adverse drug events due to patients receiving care from multiple providers across long distances and with separate electronic medical records (2020). In addition, Leonhardt et al. stated that medication safety has become a significant concern for both patients and providers (2008). Lastly, Rodziewicz noted that medical errors are a serious public health problem and the leading cause of death in the United States (2020).

Definitions of Medication Reconciliation

The definition of medication reconciliation and medication errors vary, as displayed in several articles in the literature search. Almanasreh, Moles & Chen pointed out different definitions of medication reconciliation among patient safety organizations (2016). Barnsteiner stated that medication reconciliation is a comprehensive list of medications, including prescriptions, herbals, vitamins, nutritional supplements, over-the-counter medications, vaccines, diagnostic and contrast agents, radioactive medications, parenteral nutrition, blood derivatives, and intravenous solutions (2008). da Silva & Krishnamurthy discussed medication reconciliation as the documentation of home medications with the addition of other medications deemed necessary (2016). Duguid stated that medication reconciliation is the formal process of obtaining, verifying, and documenting current medications on admission to lists from admission, transfer, and discharge orders to identify and resolve discrepancies (2012). Leonhardt et al. talked about how medication reconciliation is accurate when the chart medication list and the patient's medication list are the same, meaning none were missing from the clinic and discontinued

medications were not listed (2008). Jarret, Cochran & Baus believe that a shared definition of medication reconciliation across providers and patients was essential (2020).

Causes of Medication Errors

While there are numerous reasons medication errors can occur, the literature touched on just some of them. Almanasreh, Moles & Chen, and Duguid, believed that medication errors occurred due to poor communication amongst healthcare providers and between patients and providers (2016). Barnsteiner believed that medication errors resulted when a provider, especially a specialist, was too focused on one aspect of the patient rather than taking a holistic view (2008). da Silva & Krishnamurthy attributed medication errors to decreasing pill bottle reviews, suboptimal patient education, and poor communication between providers (2016; 2012). Rather than giving potential reasons for medication errors, Gleason et al. created a way for facilities to identify causes in their establishments (2012). Johnson stated that patients receiving care at a mental health clinic "with or without serious mental illness, experience more multimorbidity and polypharmacy, receive multiple psychotropics and high-risk medicines, and experience varying degrees of cognitive impairment, disorganized thinking and impaired insight into their conditions due to mental illness" (Johnson et al., 2020, p. 12). All of these contribute to potential medication discrepancies resulting in adverse drug events. Therefore, more responsibility is placed on the provider to ensure accurate and appropriate prescribing of medications (Johnson et al., 2020). The Institute of Medicine did not point the finger at healthcare providers who they said make honest mistakes; instead, they acknowledged, to err is human (2000).

Lack of Standardized Processes

Consistently across the literature, a universal, standardized process was lacking. No systematic approach has been identified for medication reconciliation (Almanasreh, Moles & Chen, 2016). Lack of a standardized process for medication reconciliation has resulted in tremendous variation in historical information gathered, sources of information used, comprehensiveness of medication orders, and how information is communicated to various providers across the continuum of care (Barnsteiner, 2008). Duguid discussed the importance of a standardized form that was highly visible and located where clinicians would see it when writing medication orders as a means to complete medication reconciliation (2012). The MATCH Toolkit encourages creating a standardized medication reconciliation process for your facility (Gleason et al., 2012). Findings from MATCH implementation indicate that the standardized process improved medication reconciliation workflow (Jarret, Cochran & Baus, 2020).

MATCH Toolkit

The MATCH Toolkit was discussed in several articles and showed the value of implementing medication reconciliation. A study by Jarret et al. conducted by nursing staff in a rural primary care clinic showed the MATCH toolkit implemented for medication reconciliation. The study results showed that 82% of patients reported over-the-counter medications, 3 % PRN medications, and 28% herbal supplements/vitamins previously unrecorded. The MATCH toolkit allowed the clinic staff to obtain a complete and accurate medication list to reduce drug-to-drug interactions' likeliness (2019). Gleason et al. analyzed medication reconciliation errors and risk factors at hospital admissions. They found that early identification and correction of medication errors may "mitigate or prevent harm" (2010, p. 446). Their findings also suggested the

importance of obtaining accurate, complete medication history, especially for older adults. If possible, involving pharmacists would be even more beneficial (2010; Petrov et al., 2018).

Summary

Medication errors occur in all healthcare system levels and result in multiple studies showing that omission is the most prevalent medication error. Research conducted in the literature review concurs that medication reconciliation is beneficial to patients and healthcare; however, they do not all agree on one standardized process to achieve completed medication reconciliation. As described by The Joint Commission, aiming to improve healthcare through medication reconciliation continuously will improve healthcare outcomes and reduce medication errors. In addition, implementing the MATCH toolkit as a quality improvement measure will also improve healthcare outcomes and reduce medication errors. The utilization of these themes can aid in correcting significant types of errors in medications in which 94.8% of patients have a minimum of one medication discrepancy. Although human error can play a part, using the MATCH toolkit and other processes will lessen frequent occurrences.

The Iowa Model of Evidence Based Practice

Evidence-based practice (EBP) is considered the gold standard of care. The IOWA Model is a process model used to translate research into a practice change. The model encourages critique of current practices to identify if the practice can be improved through the use of current research and contribute to improved quality and outcomes (Nilson, 2015; Titler et al., 2001).

The Iowa Model of EBP includes the following seven steps:

1. Identify problem and select the topic of focus.
2. Form a team of key stakeholders.

3. Complete an evidence based literature search.
4. Critique and synthesize the evidence.
5. Develop the EBP standard guideline.
6. Institute the new clinical practice change.
7. Evaluate the change, and monitor the outcomes (Titler et al., 2001).

Theory Application/Relationship

For this project, the first five steps of the Iowa Model of EBP were utilized. The problem of medication reconciliation not being completed by staff at a Midwest ambulatory mental health clinic was identified. A stakeholder team was formed with one nurse, one medication management provider, the chief executive officer, and the clinical director at the project site. An evidence based literature search was performed and the evidence obtained was critiqued and synthesized. The evidence was then utilized to develop an EBP medication reconciliation policy.

Lewin's Theory of Planned Changes was the theoretical framework for this project because of its flexibility in application and its previous success in clinical changes in healthcare settings (Abd el-shafy et al., 2019; Bowers, 2011; Chaboyer et al., 2009; Jacelon et al., 2010; Manchester et al., 2014; Radtke, 2013; Westerlund et al., 2015). In addition, it is an appropriate theoretical framework since the project aimed to establish an organizational change in how the completion of medication reconciliation occurs in an outpatient mental health clinic.

Lewin's Theory of Planned Changes

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settings (Abd el-shafy et al., 2019; Bowers, 2011; Chaboyer et al., 2009; Jacelon et al., 2010; Manchester et al., 2014; Radtke, 2013; Westerlund et al., 2015). In addition, it is an appropriate theoretical framework since the project aimed to establish an organizational change in how the completion of medication reconciliation occurs in an outpatient mental health clinic.

Theory Application/Relationship

To make the unfreezing stage unsuccessful, driving and restraining forces must be identified. For this project of implementing a new medication reconciliation policy, driving forces included increasing patient safety, reducing healthcare costs associated with medication error-related adverse effects, improving continuity of care, improving patient satisfaction, and improving workflow for providers. Restraining factors included perceived lack of time to complete medication reconciliation, administrative desire to keep patient activities within billable units, and complacency among providers to continue their current practices. Lewin's warned that complacency is the most powerful force against change (1947). Driving forces were enhanced by ensuring buy-in from stakeholders, especially clinic administration. Enhancing driving forces and reducing or removing restraining forces assisted in the movement from status quo to positive change.

In the movement phase, the new medication reconciliation policy will be implemented. During this phase, it is important to allow for trial and error while continuing to provide support. In addition, it is important to analyze if the new medication reconciliation process results in decreased medication errors to determine if the policy should remain the permanent solution; or be revised.

The final step in Lewin's Change Theory is the refreezing phase. In this phase, the

change is adopted as the new standard process. Continuous monitoring and evaluation of the medication reconciliation policy and procedure should occur to ensure that they fit the current needs of the clinic in the future.

Project Goal-Over Goal/Mission

The project's overall mission is to ensure that all reasonable efforts have been made to initiate the medication reconciliation process among providers, and with the involvement of the patient/family, to maintain and communicate accurate patient medication information.

Project Goals and Objectives

Project goals and objectives for this project include:

Goal 1–Develop an evidence-based medication reconciliation protocol policy to support a Midwest ambulatory mental health clinic.

- Gather existing information on medication reconciliation from the literature that will aid in formulating a survey on the project topic by February 15, 2022.
- Formulate a communication plan for obtaining input from the identified project experts by February 15, 2022.
- Secure an input agreement for project participation of three experts on the topic of the project focus by March 1, 2022.

Goal 2–Revise project policy for an evidence-based medication reconciliation protocol at a Midwest ambulatory mental health clinic based on collected survey input.

- Gather project survey input from the identified project experts on the proposed activity schedule based on 2 week response intervals.
- Revise the medication reconciliation policy based on input from project topic experts within 2 weeks of receiving input.

- Identify completion of evidence-based medication reconciliation protocol at a Midwest ambulatory mental health clinic by May 15, 2022.

Goal 3–Disseminate finalized evidence-based medication reconciliation procedure policy and procedure at the project site.

- Confirm approval by administrative stakeholders at the approved project agency on the project's evidence-based medication reconciliation procedure policy, with preparation for counter arguments for those not on board by June 1, 2022.
- Introduce clinical stakeholders at the approved project agency on the evidence-based medication reconciliation procedure policy by June 15, 2022.
- Confirm clinical workflow integration completion and implementation date of the evidence-based medication reconciliation procedure policy by July 15, 2022 (optional based on organization receptiveness).

GANTT Chart

A GANTT chart was utilized to outline the DNP project timeline from September 2021 to September 2022 (see Appendix B). A literature review was conducted regarding medication reconciliation and its impact on reducing adverse medication events. A communication plan was developed for contacting and obtaining information from 3 experts in the field to review and provide input on the medication reconciliation policy and procedure. An input agreement with those 3 experts will be secured by March 1, 2022. The medication policy and procedure will be drafted and sent to experts to obtain feedback, then revised, sent for additional feedback, and then revised for the final time using 2-week intervals. Completion of the medication reconciliation policy and procedure will be identified by May 15, 2022. A meeting with administrative stakeholders will then occur to confirm approval of the policy and procedure.

Next, the policy and procedure will be introduced to clinical stakeholders. Lastly, the completion and implementation of clinical workflow integration will be confirmed by July 15, 2022. The DNP Project write-up will be completed, disseminated, and presented by September 2022.

Work Breakdown Structure

A work breakdown structure outlines the project details (WBS; see Appendix B). Developing an evidence-based medication reconciliation policy and procedure will occur in five phases: design, plan, intervention, results, and evaluation.

During the design phase, the scope of the project was developed. A gap analysis, SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), and needs assessment was completed based upon a thorough literature review and analysis of the project site, Midwest ambulatory mental health clinic. Based on the project site analysis, project objectives were developed. Key stakeholders were identified. The DNP student met with the key stakeholders to better understand the project's vision, mission, and goals for the Midwest ambulatory mental health clinic. A project charter will be developed and submitted to the DNP chair for review.

During the planning phase, project team members and their roles were identified. Then 3 experts in the field were identified to review and provide input on the medication reconciliation policy and procedure. A project plan was developed and displayed in a GANTT Chart. Next, surveys will be created for expert feedback on the policy and procedure. Lastly, an input agreement will be developed for experts who will provide the feedback.

The medication reconciliation policy and procedure will be drafted during the intervention phase. Then, input will be obtained from experts, followed by revision of the policy, further input, and policy revision.

During the results phase, feedback from experts will be analyzed with a final revision of the medication reconciliation policy. Completion of the policy will then be identified.

The evaluation phase will review the final medication reconciliation policy and feedback received to ensure input was applied appropriately. This phase will be when the DNP paper is submitted, and the presentation of the project occurs.

Communication Matrix

Communication between all Midwest mental health ambulatory clinic members and all stakeholders in the DNP project will be critical throughout this project. Communication will be maintained with the DNP Project Chair, Project Mentor, and Project Site Stakeholders via email, Zoom, Brightspace, and verbal communication. A communication matrix was created for the DNP project (see Appendix D).

Logic Model

A logic model serves as a project's road map (see Appendix E). The logic model outlines intended results, activities that will be untaken, and the outputs it plans to achieve. The main components of the logic model include resources, activities, outputs, and outcomes. Resources, or inputs, for this project, include a literature review, review and feedback on the medication reconciliation policy and procedure, and Procentive, the facilities Electronic Medical Record (EMR). Activities for this project include the development of a medication reconciliation policy and procedure and the analysis of expert feedback and revision of the policy. Outputs for the project include a written medication reconciliation policy and procedure at an outpatient mental health facility. Expected outcomes gained following implementation of the medication reconciliation policy and procedure include: improved workflow, increased reconciliation of client's medications, decreased medication errors or adverse drug events.

Methodology and Data Analysis

This project aims to develop a medication reconciliation policy and procedure at an outpatient mental health facility. Since the project will not cover the implementation of the policy, there are no measurements to be completed. However, once implemented, possible outcome measures to assess would include the number of client charts reconciled, percent of buy-in from providers and clients, and the number of medication errors or adverse drug events. Process measurement will occur when the medication reconciliation policy and procedure draft is distributed to the 3 identified experts for feedback. The experts will assess the policy using a survey to provide feedback. A balancing measurement would not apply to this project because it is just a policy and procedure development. However, if implemented, a balancing measure could look at time spent on policy-related tasks to see if they could be more streamlined.

Obtaining feedback will occur after drafting the medication reconciliation policy and procedure. Revisions to the medication reconciliation policy and procedure will occur based on feedback from experts to ensure the highest quality. The selected professionals will be experts in health care policies and procedures at highly recognized healthcare facilities in the United States. Demographic data will also be collected from these experts to describe and provide evidence to support the value of their feedback. Feedback gathering will occur using a survey form based on the Appraisal of Guidelines for Research & Evaluation (AGREE) (see Appendix F).

Intervention Plans

As part of the review process for the Medication Reconciliation Policy, 17 experts were contacted, with three responding and providing feedback on the policy. These experts came from multiple fields and disciplines such as neuroscience, psychiatry, pharmacists, Family Nurse Practitioners, Mental Health Coordinators, Emergency medicine, and educators in the medical

profession. The planning behind the wide range of fields was to collect more data from multiple medical disciplines.

IRB/Ethical Considerations

The College of Saint Scholastica Institutional Review Board (IRB) determined that this project met the guidelines for an evidence-based policy development project and approved this project as non-research (See Appendix I). The project received support and permission from Lakeview Behavioral Health (See Appendix G). This project relates to Lakeview Behavioral Health's mission and values to "strive to make the lives better for anybody in our community with mental health needs or who suffers from addiction" (*About Lakeview: Lakeview behavioral health,* 2021). In addition, this project relates to the American Nurses Association Code of Ethics Provision 2.3 Collaboration. "According to the Nursing Code of Ethics, nurses should actively promote collaborative multidisciplinary planning to ensure the availability and accessibility of high-quality healthcare services to everyone in need" (Faubion, 2022).

Implementation

The Medication Reconciliation Policy was created and sent out to experts for feedback. It was then reviewed and modified based on the input from experts. Some recommendations included adding the route in which medications are taken and adding wording to include areas of duplications, omissions, and drug interactions when comparing current medications. After the original policy was edited to include the input received, additional feedback was sought from experts. The result was a comprehensive policy that is easily understood and inclusive to all stakeholders that would be a part of this policy once implemented.

Results from Data Collection

Correspondence with experts occurred through email for policy review and feedback. Experts were provided with the original version of the policy and a brief survey to provide input and recommendations on improvements to the policy. Survey feedback was reviewed, and the policy was revised before a second review by experts. The data collected from experts demonstrated a solid evidence-based medication reconciliation policy and procedure. In addition, clarifying the policy and procedure information was aided by minor changes and expert recommendations. The result was an evidence-based medication reconciliation policy and procedures ready to be implemented at the project site or other outpatient mental health clinics (See Appendix J).

Dissemination

Dissemination of the finally medication reconciliation policy and procedure will include a presentation to stakeholders and staff at the project site during their weekly provider meeting. This presentation will consist of the opportunity to view the Technology, Entertainment, and Design (T.E.D. Talk) video, scholarly poster, and complete scholarly paper. Feedback from these stakeholders and staff will be used to measure the effectiveness of the project. The 3-minute T.E.D. talk video related to this project was posted on YouTube. In addition, this paper will be submitted to the Sigma Repository.

Conclusion

Medication errors result in approximately 7000 deaths per year, and adverse drug events harm 1.5 billion people and cost $3.5 billion per year (Dunham & Makoul, 2008). These are supporting facts on the importance of a medication reconciliation policy. Therefore a diligent effort for medication reconciliation at all levels must occur. The utilization of the MATCH tool

kit can be a value-added support in the development of medication reconciliation policies in outpatient mental health clinics. Overall, there is a strong need for quality improvement in medication reconciliation at all healthcare system levels.

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Appendix A. Literature Matrix Table for Medication Reconciliation

Citation	Sample/Location	Type of Research	Outcomes/Results	Strengths/weakness
Almanasreh, E., Moles, R., & Chen, T. F. (2016). The medication reconciliation process and classification of discrepancies: a systematic review. *British journal of clinical pharmacology*, *82*(3), 645–658. https://doi.org/10.1111/bcp.13017	Articles describing medication discrepancies identified by a systematic search guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).	Systematic Review	36.8 studies used a 'gold' standard mediation list. Classification terms ranged from 2 to 50 terms. 11.6% of studies used a term other than discrepancy to describe disagreements between medication lists. Most common discrepancy was omission (n=60/95, 63.2%). A standardized process for medication reconciliation is needed.	Strengths: Used six different databases; high number of studies; used MESH/EMTREE terms using a Boolean strategy. Limitations: only English-language studies; no grey literature; quality assessment of studies was not completed.
Barnsteiner, J. H. (2008, April). *Medication reconciliation*. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Retrieved September 25, 2021, from https://www.ncbi.nlm.nih.gov/books/NBK2648/	Articles from OVID databases for CINAHL, MEDLINE, and Google. Additional searches from Institute for Safe Medication Practices, the National Patient Safety Foundation, the Joint Commission, and the Institute for Healthcare Improvement.	Systemic Review	A medication reconciliation process effectively prevents adverse drug events. Comparing prescribed to what the patient is taking will avoid errors of omission, drug-drug interactions, drug disease interactions, and other discrepancies. Electronic prescribing systems can assist with sharing a patient's medication history.	Strengths: Search used multiple databases and patient safety websites. Limitations: Lacked studies that described the reconciliation process along the entire continuum of care; primarily descriptive studies and quality improvement projects with small sample sizes at single clinical sites.

da Silva, B. A., & Krishnamurthy, M. (2016). The alarming reality of medication error: a patient case and review of Pennsylvania and National data. *Journal of Community Hospital Internal Medicine Perspectives*, *6*(4), 31758. https://doi.org/10.3402/jchimp.v6.31758	Pennsylvania and National data on medication errors.	Case study and review of data	Medication errors harm millions of people and cost billions of dollars annually. Errors occur due to failures at multiple levels. Electronic records allow importation of pharmacy records. Population growth and longer life expectancy will likely increase medication errors, polypharmacy, and adverse drug events. Medical errors are the 3rd leading cause of death, but may actually be higher. Indications should be written on prescriptions for all medications.	Strengths: Statistics on prevalence, impact, and cost of medication errors in the United States. Limitations: Some data only pertains to the state of Pennsylvania.
Duguid, M. (2012). The Importance of Medication Reconciliation for Patients and Practitioners. *Australian Prescriber* *35*(1), 15-19. DOI: 10.18773/austprescr.2012.007	Australia, but also include information on the US and Canada.	Peer reviewed article	Medication errors occur more frequently with changes to level of care. A medication reconciliation process can decrease errors significantly and is important for patient safety. Errors not corrected continue on with the patient. The most common error is omission. Comprehensive medication history should be obtained by a clinician and verified by more than once source. Use of copy-and-paste can cause outdated,	Strengths: Includes information on USA and Canada showing medication reconciliation significantly reduces medication errors. Limitations: Discusses medication reconciliation majorly for hospital admission.

			unverified or inaccurate information to be carried forward indefinitely. Medication reconciliation is cost-effect and important for patient safety.	
Gleason K. M., Brake H., Agramonte V., & Perfetti C. (2012). Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for Medication Reconciliation. (Prepared by the Island Peer Review Organization, Inc., under Contract No. HHSA290200 9000 13C.) AHRQ Publication No. 11(12)-0059. Rockville, MD: Agency for Healthcare Research and Quality. Revised August 2012.	Developed with support from the Agency for Healthcare Research and Quality (AHRQ) and collaboration between Northwestern Memorial Hospital, Northwestern University Feinberg School of Medicine in Chicago, Illinois, and The Joint Commission.	Patient Safety Resource form AHRQ	Effective and efficient medication reconciliation is at the forefront of national patient safety goals and initiatives. MATCH toolkit is the most successful method for medication reconciliation. The toolkit guides you through evaluating the current process and how to revise it as well as educate staff and implement or measure change.	Strengths: Includes resources to assist in revision of current medication reconciliation process. Limitations: MATCH toolkit is not widely known.

Healthy People 2030 Framework. Healthy People 2030 Framework - Healthy People 2030. (n.d.). https://health.gov/healthypeople/about/healthy-people-2030-framework	Directed to the US population.	Data-driven national objectives to improve health	Goal of "Promoting and achieving health and well-being nationwide is a shared responsibility that is distributed across the national, state, tribal, and community levels, including the public, private, and not-for-profit sectors"	Strengths: Guides evidence based practice. Sets goals for the population for the next 10 years. Limitations: Population might not agree with goals.
Institute of Medicine (US) Committee on Quality of Health Care in America, Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (Eds.). (2000). *To Err is Human:*	Healthcare population.	Report from the Institute of Medicine	People are good, but work in a bad system that needs to be made safer. Swiss Cheese Model.	Strengths: Shows how a call to action can be impactful. Show how technology can enhance human performance. Limitations: First report was published in 1999.

Building a Safer Health System. National Academies Press (US).				
Jarret, T., Cochran, J., & Baus, A. (2020). Applying the Medications at Transitions and Clinical Handoffs Toolkit in a Rural Primary Care Clinic: Implications for Nursing, Patients, and Caregivers. *Journal of Nursing Care Quality, 35*, 223-239. https://doi.org/10.1097/NCQ.0000000000000454	Primary care clinic and a hospital serving a primarily rural county with a population of approximately 35,000 people.	Quality Improvement Project	Discusses the MATCH toolkit steps and the process was implemented and modified at the clinic. MATCH toolkit improved medication reconciliation workflow.	Strengths: Used MATCH toolkit for Quality Improvement project. Limitations: Only looked at one hospital and one clinic.
Lester, P. E., Sahansra, S., Shen, M., Becker, M., & Islam, S. (2019). Medication Reconciliation: An Educational Module. *MedEdPORTAL : the journal of teaching*	Ground round settings with students, trainees, and attending physicians in internal medicine and surgery. 150 learners (74 completed pre-course survey, 39 completed posttest survey, and 49 participated in the audience	Quasi-experimental	Educational program was successful in improving the learner's knowledge about effective and reliable medication reconciliation.	Strengths: Mixed group of knowledge levels amongst participants. Limitations: Only 39 people completed the posttest survey.

and learning resources, *15*, 10852. https://doi.org/10.15766/mep_2374-8265.10852	response during the course).			
Leonhardt K. K., Pagel P., Bonin D., Moberg, P., Dvorak, M. L., & Hatlie, M. J. (2008). Creating an accurate medication list in the outpatient setting through a patient-centered approach. Rockville, MD: Agency for Healthcare Research and Quality; 2009.	Patients 55 years and older at five Aurora Health Care facilities in Walworth County, Wisconsin.	Quasi-experimental trial using two waves of cross-sectional data	Providing resources for patient engagement improved accuracy of outpatient medication lists. Accuracy increased from 55% to 72%. Adults 65 years old and older are at increased risk for polypharmacy and adverse medication events leading to hospitalization. Humans will continue to err; a collaborative approach is needed.	Strengths: Sample size. Support from Consumers Advancing Patient Safety (CAPS) and Midwest Airlines. Weaknesses: Sample was only taken from one healthcare system.
Manias, E., Kusljic, S., & Wu, A. (2020). Interventions to reduce medication errors in adult medical and surgical settings: a systematic review. *Therapeutic advances in drug safety*, *11*,	Six library databases	Systemic Review	A number of activity types were shown to reduce prescribing and administration: pharmacist matching medications, computers matching medications, partnerships with pharmacists, prescriber education, medication matching by trained physicians, computerised physician order entry, and automated	Strengths: Used multiple databases to obtain articles. Included 34 articles with 12 intervention types. Limitations: No effective interventions identified for reducing dispensing errors.

204209862096 8309. https://doi.org/ 10.1177/20420 98620968309			medication distribution system.	
Rodziewicz, T.L. (2020,October 17). Medical error prevention. https://www.ncbi.nlm.nih.gov/books/NBK499956/	Articles from PubMed.	Continuing Education Activity	Major types of errors include omission and commission. Health care professionals experienced psychological effects due to real or perceived errors. Majority of errors may be out of the control of clinicians. Discussion on plausible causes of errors.	Strengths: Thorough look into what may cause errors and how to create a culture of safety. Weaknesses: Articles obtained from only one database.
Simoons, M., Mulder, H., Risselada, A. J., Wilmink, F. W., Schoevers, R., Ruhé, H. G., & van Roon, E. N. (2016). Medication Discrepancies at Outpatient Departments for Mood and Anxiety Disorders in the Netherlands: Risks and Clinical Relevance. *The Journal of clinical psychiatry*, *77*(11),	367 patients from outpatient departments for mood and anxiety disorders conducted between March and November 2014.	Cross-sectional study	94.8% of patients had at least 1 medication discrepancy. A mean of 3.9 medication discrepancies per patient. 74.5% of discrepancies were the result of omission. 22.7% of discrepancies had the potential to cause moderate to severe discomfort or clinical deterioration, affecting 49.3% of patients. Patients being treated for mood and anxiety related disorders are at substantial risk for medication discrepancies. Medication reconciliation at outpatient mental	Strengths: Completed in outpatient mental health departments. Limitations: Small number of patients studied.

1511–1518. https://doi.org/10.4088/JCP.15m10376			health departments needs improvement.	
The Joint Commission. (n.d.). Retrieved September 25, 2021, from https://www.jointcommission.org/	Healthcare population.	Patient Safety Website	The Joint Commision aims to continuously improve healthcare. Discusses requirements that should be used to reconcile medications, but also allows further information to be added by the organization.	Strengths: The Joint Commission has been around for over 55 years. Weaknesses: Accreditation and certification is voluntary for healthcare organizations.

Appendix B. GANTT Chart

	9/2021	10/2021	11/2021	12/2021	1/2022	2/2022	3/2022	4/2022	5/2022	6/2022	7/2022	8/2022	9/2022

TASK													
Develop project scope													
Gather existing information from the literature													
Analyze project site (Gap Analysis, SWOT Analysis, and Needs Assessment)													
Develop objectives for the project													
Identify key stakeholders													
Develop Project Charter/Action Plan													
Identify project team members (including 3 experts for feedback)													
Discuss and define roles													
Develop a project plan													
Formulate a communication plan for obtaining input from experts													
Secure an input agreement for project participation of 3 experts													
Draft medication reconciliation policy													
Obtain input from 3 experts in the field													
Revise medication reconciliation policy based on input													
Obtain further input on revision from experts													
Revise medication reconciliation policy based on further input													
Analyze feedback on medication reconciliation													
Make final revisions for medication reconciliation policy													
Identify completion of medication reconciliation policy and procedure													

Confirm approval of policy and procedure by administrative stakeholders													
Introduce clinical stakeholders to the policy and procedure													
Confirm clinical workflow integration completion and implementation													
Write Final Report													
Dissemination (DNP Paper and Presentation)													

Design: Plan: Interventions: Results: Evaluation:

Appendix C. Work Breakdown Structure

1.0 Design
- 1.1 Develop Project Scope
- 1.2 Gather Information from the Literature
- 1.3 Analyze Project Site
  - 1.3.1 Gap Analysis
  - 1.3.2 SWOT Analysis
  - 1.3.3 Needs Assessment
- 1.4 Develop Objectives
- 1.5 Identify Key Stakeholders
- 1.6 Develop Project Charter/Action Plan

2.0 Plan
- 2.1 Identify Project Team Members
  - 2.1.1. Identify 3 Experts for Feedback
- 2.2 Discuss and Define Roles
- 2.3 Develop a Project Plan
- 2.4 Develop a GANTT Chart
- 2.5 Develop Feedback Survey
- 2.6 Develop Input Agreement

3.0 Intervention
- 3.1 Draft Medication Reconciliation Policy
- 3.2 Obtain Input from Experts
- 3.3 Revise Medication Reconciliation Policy
- 3.4 Obtain Further Input from Experts

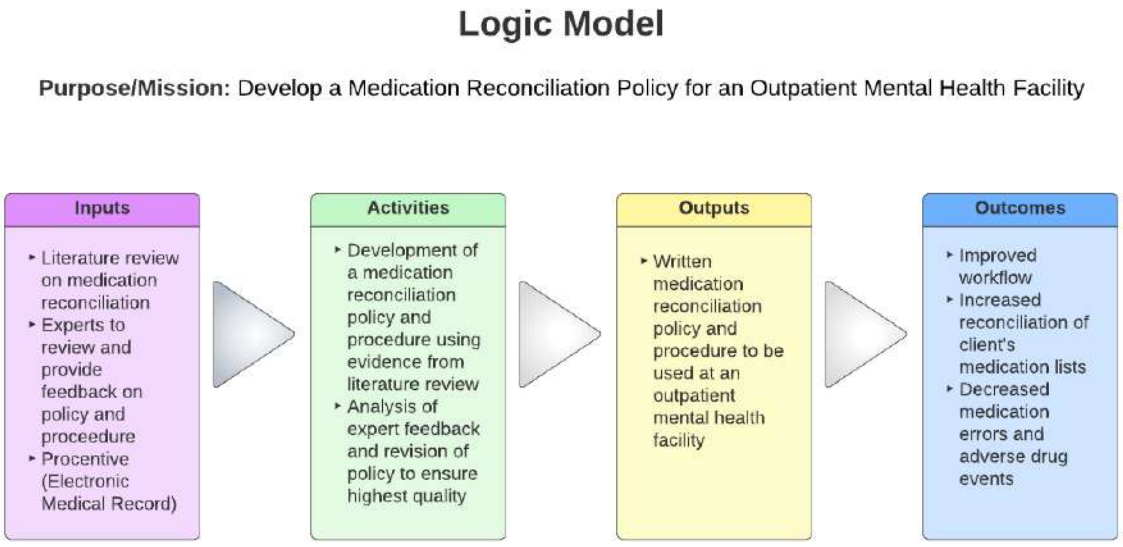
4.0 Results
- 4.1 Analyze Feedback
- 4.2 Final Revision of Medication Reconciliation Policy
- 4.3 Identify Completion of Medication Reconciliation Policy
- 4.4 Confirm Approval of Medication Reconciliation Policy by Administrative Stakeholders

5.0 Evaluation
- 5.1 Introduce Medication Reconciliation Policy to Clinical Stakeholders
- 5.2 Write Final Report
- 5.3 Dissemination
  - 5.3.1 DNP Paper
  - 5.3.2 DNP Presentation

Appendix D. Communication Matrix

Information	Audience	When	Communication Method
DNP project development, implementation, and status updated	DNP Chair, Project Mentor, Project Site Stakeholders	Weekly	Email, Zoom, BrightSpace, Verbal
DNP project milestones and revisions	DNP Chair and Committee Member	Monthly	Email, Zoom
DNP project hurdles	DNP Chair	As needed	Email, Zoom

Appendix E. Logic Model



Appendix F: Feedback Survey

Medication Reconciliation Policy and Procedure Feedback Survey

Based on your professional expertise, please answer the following questions regarding this medication reconciliation policy and procedure.

1. The overall objective of the medication policy is specifically described.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

2. The target users of the medication reconciliation policy are clearly defined.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

3. The medication reconciliation policy is specific and unambiguous.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

4. The medication reconciliation policy provides advice and/or tools on how the process can be implemented.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

5. I can find the major recommendations of the document.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

6. The recommendations are consistent throughout the document and do not conflict with each other.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

7. The document has clear headings and sections to identify the major topics discussed.

Strongly disagree____ Disagree____ Neutral____ Agree____ Strongly Agree____

8. Rate the overall quality of this medication reconciliation policy.

1 (Lowest possible quality)	**2**	**3**	**4**	**5**	**6**	**7** (Highest possible quality)

9. Would you recommend this medication reconciliation policy for use?

Yes _____ Yes, with modifications _____ No _____

10. What modifications or improvements would you make to this medication reconciliation policy?

Appendix G: Lakeview Behavioral Health Consent

Thomas Johnson, PMHNP-BC, APRN, CNP, CEO
C/O Lakeview Behavioral Health
2310 NW 3rd Street
Grand Rapids, MN 55744
218-327-2001 (phone) 218-327-0456 (fax)

Dear Karen Webster,

I am writing to express my support for your research study, "Development of a Medication Reconciliation Policy for Outpatient Mental Health Facility," to be conducted by you and your research team in 2022. Lakeview Behavioral Health is very supportive of research efforts dedicated to improving patient care.

To that end, Lakeview Behavioral will allow you to disseminate your research findings and medication reconciliation policy and procedure to staff during a clinical meeting, date to be determined.

We look forward to learning the results of your research.

With kind regards,

Thomas Johnson, PMHNP-BC, APRN, CNP, CEO

516 South Pokegama Ave.
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Appendix H: Participant Consents

The College of St. Scholastica

Development of a Medication Reconciliation Policy for Outpatient Mental Health Facility

Informed Consent

You are invited to participate in a research study on the development of a medication reconciliation policy for an outpatient mental health facility. This study is being conducted by Karen Webster, graduate student in the Department of Nursing under the supervision of Dr. Rhea Ferry. You were selected as a possible participant because of your experience and/or role involved with medication reconciliation. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Study Purpose

The purpose of this study is to develop a medication reconciliation policy to be used at an outpatient mental health facility. A medication reconciliation policy will create a standard of practice within the facility that is utilized by clients, providers, and administrators. Accurate and complete medication reconciliation has been shown to reduce the amount of adverse drug events that occur. Reducing adverse drug events reduces fatal patient injuries and economic burdens on healthcare facilities. Reducing adverse drug events can also reduce extended courses of treatment, emergency room visits, hospitalizations, therapeutic and pharmacological interventions, and the utilization of other healthcare resources. A written medication reconciliation policy would outline proper procedures for clients' data gathering using client interviews, current orders for medication review from additional providers, and medical history review with release of information for other facilities.

Study Procedure

Participants would be asked to review multiple policy drafts and provide feedback based on their expertise on the subject. Feedback and revisions will be based on a two week schedule. Participants will spend an estimated 30 minutes reviewing the policy and providing feedback with each review.

Risk of Study Participation

No risks or discomforts have been identified from participating in this project, but will require you, the participant, to volunteer time out of your daily life and routine. To minimize violation of your normal expectations of daily life, surveys will be limited to 10 questions and feedback that will be requested is anticipated to require no more than two to three reviews.

Benefits of Study Participation

Your expertise and feedback will assist in the development of an evidence-based medication reconciliation policy that once implemented will reduce medication errors as seen in previous research. The reduction of medication errors will reduce adverse drug events which reduces harm to patients that can lead to hospitalization or even death, spares family members emotional and financial distress, reduces provider liability, and reduces health insurance utilization that increases premiums.

Alternative to Participation

While it is helpful to receive your input on the medication reconciliation policy, your participation is not mandatory.

Research Related Injury

In the event that this research activity results in an injury, treatment will be available, including first aid, emergency treatment and follow-up care as needed. Care for such injuries will be billed in the ordinary manner to you or your insurance company. If you think that you have suffered a research related injury, let the researcher know right away.

Confidentiality

The records of this study will be kept private. In any publication or presentation, we will not include information that will make it possible to identify you as a subject. Your record for the study, may however, be reviewed by individuals at CSS with appropriate regulatory oversight. All data collected will be stored in a locked filing cabinet and/or on a password protected computer. To these extents, confidentiality is not absolute. Your consent form and data will be retained securely for five years after which time it will be destroyed.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future relations with CSS or the Department of Nursing. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

Contact and Questions

The researcher conducting this study is Karen Webster. You may ask any questions you have now, or if you have questions later, you are encouraged to contact the principal investigator at 218-929-3159 or by email at kwersal@css.edu

If you have any questions or concerns regarding the study and would like to talk to someone other than the researcher, you are encouraged to contact the following individuals:

- Research Advisor- Rhea Ferry, DNP, APRN, FNP-C, NE (218) 791-5052
- Department Chair-Julie Honey, DNP, APRN, CPNP, -PC, C-FNP (218) 723-6303
- School Dean-Sheryl Sandahl, DNP, APRN, CPNP, FNP-BC, MPH, MSN (218) 723-6390
- Nicole Nowak-Saenz, Ph.D., Chair of the Institutional Review Board at nnowaksaenz@css.edu

You may also contact any of the above-named individuals in writing or in person at The College of St. Scholastica, 1200 Kenwood Ave, Duluth, MN 55811.

You will be given a copy of this form to keep for your records.

Your signature below indicates that you have read and understand the information in this consent form. Your signature indicates that you want to participate in this study.

Wendy Long DNP, APRN FNPC
Printed Name of Participant

DNP, APRN, FNPC 5-19-22
Signature of Participant Date Signed

Karen E Webster 05-19-2022
Signature of Investigator Date Signed

The College of St. Scholastica

Development of a Medication Reconciliation Policy for Outpatient Mental Health Facility

Informed Consent

You are invited to participate in a research study on the development of a medication reconciliation policy for an outpatient mental health facility. This study is being conducted by Karen Webster, graduate student in the Department of Nursing under the supervision of Dr. Rhea Ferry. You were selected as a possible participant because of your experience and/or role involved with medication reconciliation. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Study Purpose

The purpose of this study is to develop a medication reconciliation policy to be used at an outpatient mental health facility. A medication reconciliation policy will create a standard of practice within the facility that is utilized by clients, providers, and administrators. Accurate and complete medication reconciliation has been shown to reduce the amount of adverse drug events that occur. Reducing adverse drug events reduces fatal patient injuries and economic burdens on healthcare facilities. Reducing adverse drug events can also reduce extended courses of treatment, emergency room visits, hospitalizations, therapeutic and pharmacological interventions, and the utilization of other healthcare resources. A written medication reconciliation policy would outline proper procedures for clients' data gathering using client interviews, current orders for medication review from additional providers, and medical history review with release of information for other facilities.

Study Procedure

Participants would be asked to review multiple policy drafts and provide feedback based on their expertise on the subject. Feedback and revisions will be based on a two week schedule. Participants will spend an estimated 30 minutes reviewing the policy and providing feedback with each review.

Risk of Study Participation

No risks or discomforts have been identified from participating in this project, but will require you, the participant, to volunteer time out of your daily life and routine. To minimize violation of your normal expectations of daily life, surveys will be limited to 10 questions and feedback that will be requested is anticipated to require no more than two to three reviews.

Benefits of Study Participation

Your expertise and feedback will assist in the development of an evidence-based medication reconciliation policy that once implemented will reduce medication errors as seen in previous research. The reduction of medication errors will reduce adverse drug events which reduces harm to patients that can lead to hospitalization or even death, spares family members emotional and financial distress, reduces provider liability, and reduces health insurance utilization that increases premiums.

Alternative to Participation

While it is helpful to receive your input on the medication reconciliation policy, your participation is not mandatory.

Research Related Injury

In the event that this research activity results in an injury, treatment will be available, including first aid, emergency treatment and follow-up care as needed. Care for such injuries will be billed in the ordinary manner to you or your insurance company. If you think that you have suffered a research related injury, let the researcher know right away.

Confidentiality

The records of this study will be kept private. In any publication or presentation, we will not include information that will make it possible to identify you as a subject. Your record for the study, may however, be reviewed by individuals at CSS with appropriate regulatory oversight. All data collected will be stored in a locked filing cabinet and/or on a password protected computer. To these extents, confidentiality is not absolute. Your consent form and data will be retained securely for five years after which time it will be destroyed.

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Neal Kraig Hessen
Printed Name of Participant

[signature] 5-25-2022
Signature of Participant Date Signed

Karen E Webster 05-25-2022
Signature of Investigator Date Signed

The College of St. Scholastica

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You will be given a copy of this form to keep for your records.

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Natalia Dann
Printed Name of Participant

5-19-22
Signature of Participant — Date Signed

Karen E Webster
05-19-2022
Signature of Investigator — Date Signed

Appendix I: IRB Letter

The College of St. Scholastica

Institutional Review Board

DATE:	June 26, 2022
TO:	Karen Webster and [Dr. Rhea Ferry]
FROM:	The College of St. Scholastica, Institutional Review Board
RE:	Development of a Medication Reconciliation Policy in Outpatient Mental Health Facility
SUBMISSION TYPE:	Revision
ACTION:	NOT RESEARCH
REVIEW TYPE:	Expedited Review

Thank you for your submission of materials for your project. The College of St. Scholastica Institutional Review Board has reviewed your application and determined that the proposed activity does not meet the definition of research under the Code of Federal Regulations 45 Part 46.102 provided by the Department of Health and Human Services. As such, your project does not require ongoing review or approval from The College of St. Scholastica Institutional Review Board. We will retain a copy of this correspondence within our records.

Any modification to your project procedures that could change the determination of "not research" must be submitted to the IRB before implementation.

If you have any questions, please contact Nicole Nowak through the project email function in IRBNet or nnowaksaenz@css.edu. Please include your study title and reference number in all correspondence with the IRB office.

Best regards,

Nicole T. Nowak, Ph.D.
Chair, Institutional Review Board
The College of St. Scholastica
Duluth, MN 55811

Appendix J: Final Medication Reconciliation Policy and Procedure

Lakeview Behavioral Health

Policy and Procedure

Area: HEALTH AND SAFETY		*No: 22-MED-0001*	*Page 1 of 2 pag*
Title: Medication Reconciliation	*Effective: xx/xx/22*	*Revised: XX/XX/XX*	

SUMMARY & PURPOSE:

Medication reconciliation is a process of reviewing the medications a patient is currently taking (and should be taking) for duplications, omissions, and interactions and comparing current medications with newly ordered medications. Medication reconciliation is intended to identify and resolve discrepancies. A review or "reconciliation" of medications occurs at the beginning of every episode of care.

POLICY:

It will be the policy of Lakeview Behavioral Health that all Providers, Nurses, and Administrative staff ensure that all reasonable efforts are taken to initiate the medication reconciliation process collaboratively, and with the involvement of the patient/family, to maintain and communicate accurate patient medication information across the continuum of care.

SCOPE/APPLICABILITY

This policy applies to all the Lakeview Behavioral Health locations and associates where providers, students and/or staff provide care to patients.

DEFINITION:

Medication: Any prescription drug, sample drug, herbal remedy, vitamin, nutraceutical, over-the counter drug, vaccine, diagnostic and contrast agent, radioactive medication, respiratory medication, parenteral nutrition, blood derivative, intravenous solution, and any other product designated by the Food and Drug Administration as a drug.

Medication Reconciliation: The process of obtaining, verifying and documenting the patients' current medicines for duplications, omissions, and interactions and comparing to their medication orders and the patient's condition to identify and resolve any discrepancies.

Electronic Medical Record (EMR): The digital version of a patient's chart containing the patient's medical and treatment history from one practice.

Area: HEALTH AND SAFETY		No: 22-MED-0001	Page 2 of 2 pages
Title: Medication Reconciliation	Effective: xx/xx/22	Revised: X/XX/XX	

PROCEDURES:

1. Staff will become familiar with policy and procedures for conducting medication reconciliation upon receipt of the current Medication Reconciliation Policy and Procedure.
2. Patients will complete a list of current medications prior to their appointment via the client portal or paper form.
3. During initial intake appointment, a list of the patient's current medications will be documented in the EMR (Electronic Medical Record). When checking the patient in for their initial appointment, admin staff will ensure that the medication list is as complete as possible to include: height, weight, allergies, pregnancy and lactation status, current list of medications dosage, route, strength, frequency, and .
4. When the patient is not able to provide this information, assistance should be sought from the person accompanying the patient, if applicable, or from outside providers or pharmacists. Admin staff will ensure a Release of Information (ROI) is completed and in the EMR for outside providers.
5. The provider will conduct a medication review during the appointment as part of the medication reconciliation process. A SureScript pharmacy report will be run in the EMR and medications from outside providers will be integrated into the reconciled medication list.
6. Before any medication is prescribed and/or administered, the provider shall review the medication list to identify any potential adverse drug reactions.
7. For ongoing visits, the complete medication list obtained on the prior visit will be reviewed by the provider to ensure that there have been no changes to the medication regime. The list will be reviewed with the client and another SureScript report will be done to reconcile the medication list.
    a. Any changes to the medication list shall be documented in the EMR and reviewed with the provider. The review and/or communication between the patient and the provider should be documented in the EMR.
8. If there are no medication changes, the provider should also document this in the EMR stating "No changes to current medication list for patient"