TEAM HUDDLE IMPLEMENTATION IN THE CARE IN THE COMMUNITY AT THE DURHAM VETERANS HEALTH CARE SYSTEM HOSPITAL

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A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice in the School of Nursing.

Chapel Hill
2022

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ABSTRACT

Usha Pulickal: Team Huddle Implementation in the Care in the Community at the Durham Veterans Affairs Health Care System Hospital
(Under the direction of Ashely Amorello Kellish)

Background: Effective teamwork and communication among care in the community (CITC) staff are critical to effective care coordination and timely delivery of health services to veterans. Poor teamwork contributes to ineffective care coordination and fragmented care delivery. The COVID-19 pandemic challenged the CITC with a significant increase in incoming referrals (consult) volume and exacerbated scheduling difficulty, resulting in high staff stress, burnout, and ineffective teamwork. This pilot quality improvement project aimed to enhance teamwork by incorporating team huddles in the CITC mental health team at the Durham Veterans Affairs Health Care System (DVAHCS) Hospital in North Carolina. Participants were two registered nurses (RNs) and two medical support assistants (MSAs).

Method: This project utilized the Johns Hopkins Model for Evidence-Based Practice framework and was measured using a pre- and post-intervention assessment. The TeamSTEPPS Teamwork Perception Questionnaire [T-TPQ] was used to measure the perception of teamwork before and after the implementation period. Additionally, huddle compliance was tracked throughout the implementation using a tracking sheet. The project's specific aims included huddle compliance of $\geq 90\%$ and improved teamwork.

Intervention: The project implemented twice weekly pilot team huddles in the CITC mental health team for three months from 06/02/2022 to 09/07/2022. The team members completed the

pre- and post-implementation T-TPQ survey immediately before and after the project implementation. The huddle occurrence, attendance, performance metrics, issues identified, and action items were tracked using a huddle tracking sheet.

Results: Twenty-six out of a possible twenty-seven huddles occurred during the pilot period, with a compliance rate of 96.3%. The overall mean score on team function, leadership, situation monitoring, and communication increased from pre- to post-intervention. However, there was no significant difference noted between pre- and post-. Team performance metrics improved from 34% to 41.6%, with a 22.4% improvement. More importantly, the team members noted the huddles were highly beneficial in boosting teamwork and communication, addressing barriers promptly, tracking metrics, and sharing timely information.

Conclusion: Team huddle implementation in CITC supported improved teamwork, communication, and team performance metrics, contributing to enhanced care coordination, proper consult management, and timely care delivery.

Keywords: huddle, huddles, team huddles, teamwork, and collaboration

This journey could not have been possible without my family's, friends', and colleagues' continued support, motivation, and encouragement.

I want to thank my loving parents, Joseph, and Elsy, for instilling the desire for continuous learning and trusting that I could do anything.

My children, Joan and Joel, were my cheerleaders and inspired me throughout this journey, and my husband, Thomas, was my biggest motivation and was always there for me to lift me.

Also, I thank all my friends, colleagues, mentors, siblings, and those who have helped and supported me in this journey.

Most importantly, the Almighty God for all the blessings.

ACKNOWLEDGEMENTS

I am grateful for the support and guidance of my committee chair, Dr. Ashely Kellish, and my committee members, Ds. Maureen Baker and Dr. Sheela Sajan. Dr. Kellish's continued patient support and advice and the valuable feedback and assistance from Dr. Maureen and Dr. Sajan were instrumental in the project's success. I appreciate the Care in the Community leadership, staff, and the Durham VA Health Care system for supporting me in achieving my dream for the last 30 years.

I want to thank all my teachers, professors, mentors, and everyone who has helped me in my studies since elementary school in becoming the person I am today. I am humbled and honored to share this accomplishment with all of you.

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LIST OF ABBREVIATIONS

AHRQ	Agency for HealthCare Research and Quality
CAC	Clinical Application Coordinator
CAN	Care Assessment Need
CBOC	Community Based Outpatient Clinic
CCN	Community Care Network
CDC	Center for Disease Control and Prevention
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CITC	Care in the Community
COC	Category of Care
CPRS	Computerized Patient Recording System
DVAHCS	Durham Veterans Affairs Health Cre Systems
FY	Fiscal Year
IHI	Institute for Healthcare Improvement
JHEBP	Johns Hopkins Evidence Based Practice
MH	Mental Health
MSA	Medical Support Assistant
PET	Practice, Evidence, Translation
PL	Project Leader
QI	Quality Improvement
RN	Registered Nurse
T-TPQ	TeamSTEPPS Teamwork Perception Questionnaire
VHEC	Veteran Health Education Committee

VA Veterans Affairs

VR Vendor Relations

WHO World Health Organization

CHAPTER 1: INTRODUCTION

Interdisciplinary teamwork is critical to effective care coordination and safe, patient-centered care. A team is a group of two or more people who interact interdependently to achieve a common goal, have been given specific roles and responsibilities, and have a limited membership duration (World Health Organization [WHO], 2012). Teamwork is a process that describes the interactions between team members who work together to solve the designated tasks (Fernandez et al., 2008), and efficient communication and collaboration are required to achieve the desired outcomes (Gluyas, 2015). Effective teamwork is associated with improved patient safety, quality, outcomes, staff satisfaction and engagement, autonomy, accountability, dedication to work, a healthy work environment, and reduced burnout and turnover (Costello et al., 2021; Daugherty et al., 2016; Kalisch et al., 2010; Rafferty et al., 2001). High-performing teams positively impact patients, group members, and organizational outcomes (WHO, 2012).

This quality improvement (QI) project aimed to improve teamwork by implementing team huddles in a veterans' hospital Care in the Community (CITC) department. Team huddles help improve communication, teamwork, staff satisfaction, patient safety, and outcomes (Burr et al., 2021; Glymph et al., 2015) and help maintain focus on safety and quality (Agency for Healthcare Research and Quality [AHRQ], 2017; Institute for Healthcare Improvement [IHI], 2022). The huddles are quick, regular meetings taking less than 15 minutes where the team meets to express concerns, suggest ideas, address conflicts, and share information. The essential components of huddles include planning, scheduling, documenting, reporting action items, closing the loop, and measuring the effectiveness of huddles (Wagner et al., 2015).

Problem Description

During the COVID pandemic, care in the community's incoming consult volume increased from an average of 180-200 per day to 250-300. The increased workload, difficulty scheduling appointments, and inability to meet performance metrics resulted in increased stress, burnout, and ineffective teamwork among staff.

The increasing incidence of comorbidities and specialization of care, increase in chronic diseases, and global workforce shortages in healthcare emphasize the importance of teamwork and collaboration to meet the high demands and achieve desired outcomes (WHO, 2012). Chronic diseases are the leading cause of death and contribute to nations' US$3.8 trillion annual health care costs (Centers for Disease Control and Prevention [CDC], 2021). Veterans with multiple (two or more) comorbidities account for approximately 66% of the VA's healthcare costs (Yoon et al., 2014). The CITC consult management process requires coordination and collaboration between numerous community vendors, providers, veterans, veterans' family members, third-party administrators, and other disciplines (Rodriguez et al., 2015; Swan et al., 2019). Appropriate teamwork and collaboration among CITC staff are paramount to proper consult management, care coordination, timely delivery of health services, staff satisfaction, and the program's success. Ineffective teamwork could result in inadequate care coordination, veteran dissatisfaction, and potential delay in care delivery.

Mental health (MH) is in the top five care category in terms of having the most significant number of consults. These consults are challenging to coordinate in the community compared to other categories of care (COC) consults due to the lack of adequate in-network providers, difficulty contacting the vendor and veteran promptly, lack of specialized care, community vendors functioning on a low capacity, and long wait times in the community. The

hospital's CITC team members have reported that increased stress, burnout, and lack of teamwork and collaboration are contributing to inefficiencies in consult management and care coordination. Work-related stress and burnout caused decreased teamwork, staff performance, productivity, satisfaction, general health of the individual, anxiety, and depression among staff (Colville et al., 2017; Khamisa et al., 2015). The MH team performance metrics were below target (≥ 90%) for the Fiscal Year (FY) 21 and the first two quarters in FY 22.

Significance of the Problem

Teamwork is key to appropriate consult management and care coordination. The Institute of Medicine report "To Err is Human" (IOM:1999) noted that 44,000 to 98,000 deaths occur yearly due to medical errors, stressing the importance of teamwork and communication in reducing mistakes and improving quality. A recent Johns Hopkins study estimated that more than 250,000 deaths occur per year due to medical errors (Johns Hopkins Medicine, 2016). In the FY 2018, the VA required $ 14.9 billion for community care services, an increase of $6.7 billion (82%) from FY 2014. The number of veterans who utilized community care increased from 1.38 to 1.8 million from 2014 to 2018 (United States Government Accountability Office). According to Mattocks et al. (2021), approximately 2.6 million veterans were sent to community providers for services between 2018 and 2019, emphasizing the need for high-quality collaboration and coordination across departments and organizations to efficiently coordinate this care. The Durham VA hospital and its associated nine community-based outpatient clinics (CBOC) serve more than 200,000 veterans living in twenty-seven counties in central and eastern North Carolina (https://www.va.gov/durham-health-care/locations/durham-va-medical-center/).

Care coordination is the core of CITC's work, and effective teamwork and communication are essential to proper care coordination and consult management. Care

coordination is a team sport that requires the appropriate infrastructure, leadership, supportive culture, communication, and collaboration with multidisciplinary teams of providers and specialists (Mattocks et al., 2019). While ineffective care coordination contributes to fragmented and poorly planned care delivery and adverse patient outcomes, effective care coordination helps improve the patient care experience, individuals' health, work-life balance, and reduced healthcare costs (Swan et al., 2019).

Purpose

This quality improvement project aimed to implement team huddles in the CITC mental health team to enhance teamwork. Team huddles are a powerful team-building tool, and it was theorized that initiating team huddles in CITC would strengthen teamwork, communication, care coordination, patient outcomes, and patient and staff satisfaction. Many studies have reported improved teamwork, collaboration, communication, patient safety, patient outcomes, and patient and staff satisfaction from huddle implementation (Brady et al., 2018; Kellish et al., 2015; Loesche., 2020; Martin & Ciurzynski., 2015; Rodriguez et al., 2015).

Clinical Question Guiding the Literature Inquiry

The PICO (T) format is an evidence-based method for developing an organized research question. The PICO (T) stands for the patient, population or problem, intervention, comparison with other interventions, outcome measure of the effectiveness of the intervention, and time of the study (Riva et al., 2012). The clinical question guiding this literature review was, "In a care in the community care mental health team (P), does the implementation of twice-a-week team huddles (I), compared to no-huddle (C), improve teamwork over three months (T)?"

CHAPTER 2: AVAILABLE KNOWLEDGE

Literature Search Process

Teamwork is crucial in safe care delivery, and team huddles have the potential to improve teamwork and communication among staff. A comprehensive literature review was required to fully understand the impact of team huddles in strengthening teamwork. The computer search process for this literature review used PubMed and the Cumulative Index of Nursing and Allied Health Care Literature (CINHAL) databases. The search dates were from the dates of interception through 11/30/2021, and the keywords used for the search included huddle, huddles, team huddles, teamwork, and collaboration. No limits were applied. The studies in which huddles were the primary intervention were included in this study, and the studies that used combinations of interventions with huddles were excluded. The PubMed search generated 109 articles, and the CINAHL search yielded 97 articles. Ten articles from PubMed and eleven articles from the CINHAL met the inclusion criteria. Of these,10 were duplicates and eliminated, and eleven studies were reviewed.

Evaluation Criteria

The studies were evaluated using the John Hopkins research evidence appraisal tool and the evidence level and quality guide. The selected studies included two level III systematic reviews and nine level V quality improvement pre- and post-comparison studies. The strength and weaknesses of each study were assessed using the John Hopkins synthesis process and recommendations tool to make recommendations for change. The common strengths of the studies included clear purpose, well-described sample selection and setting, appropriate

methodology and data collection, and relevant implications of the research and recommendations. The studies were of good quality, but a few weaknesses were identified. The weakness includes an unorganized results section and missing information on the number and type of study participants.

Themes

The main themes from the literature review to evaluate the impact of team huddles include improved teamwork, communication, collaboration, patient safety and outcomes, and patient and staff satisfaction. The themes are described in the following paragraphs.

Teamwork and Communication

Many studies have shown convincing evidence for improved teamwork and communication from huddle implementation in various healthcare settings (Chapman et al., 2020; Glymph et al., 2015; Kalish et al., 2017; Kellish et al., 2015; Wagner et al., 2014; Zhu et al., 2020). Ten out of eleven studies in a systematic review showed enhanced teamwork, team performance, communication, or patient outcomes in perioperative settings (Glymph et al., 2015). The implementation of team huddles in an ambulatory pediatric clinic that comprised four nurses and three nursing assistants showed an increase in overall median scores for communication and team structure (Kellish et al., 2015). Using structured mental health team huddles in a long-term care setting helped staff identify and address various staffing and patient safety issues and improve teamwork and communication. The study included an interdisciplinary team of 34 participants; registered nurses, registered practical nurses, personal support workers, and housekeeping staff (Wagner et al., 2014). Zhu et al. (2020) used a pre- and post-study design to implement nightly huddles in two surgical units of a large hospital. The participants included nurses and resident doctors. The post-survey from nurses showed significant improvement in

teamwork and communication. However, the residents post-survey results did not show improvement in teamwork or communication, but the qualitative data from residents noted improvements in both. These studies support improved teamwork and communication in acute (Chapman et al., 2020; Glymph et al., 2015), long-term (Wagner et al., 2014), and ambulatory care (Kellish et al., 2015) settings. Though the CITC differs from these study settings, these findings can be transmitted to the CITC as huddles have been found effective in various settings.

Communication and Collaboration

Communication and collaboration are essential to effective teamwork. One study reported improved interdisciplinary and interdepartmental communication and cooperation in the respiratory department of a 200-bed hospital after huddle implementation (Burr et al., 2021). Another study in a 291-bed community hospital showed improved interdisciplinary collaboration, communication, staff satisfaction, and patient experience (Cooper & Lee, 2013). Huddle implementation in a long-term care mental health facility with 72 residents supported improved collaboration and communication among staff (Wagner et al., 2014).

Patient Safety and Patient Outcomes

Timely identification and resolution of issues are critical to ensure safe care delivery. A systematic review of twenty-four studies by Franklin et al. (2020) reported decreased adverse events, laboratory costs, improved length of stay, patient safety, readmissions, and situational awareness. Improved patient safety and patient outcomes were evident in eight out of eleven studies reviewed (Aldawood et al., 2020; Brady et al., 2018; Burr et al., 2021; Chapman et al., 2020; Cooper & Lee, 2013; Franklin et al., 2020; Glymph et al., 2015; Kalish et al., 2017). Huddles help identify unit issues and problem-solving (Aldawood et al., 2020; Burr et al., 2021;

Chapman et al., 2020) and help improve patient outcomes and satisfaction (Brady et al., 2018; Cooper & Lee, 2013; Glymph et al., 2015; Kalish et al. 2017).

Patient and Staff Satisfaction

While staff satisfaction is essential to quality teamwork, patient satisfaction impacts clinical outcomes, patient retention, and medical practice claims (Prakash, 2010). Patient satisfaction is a standard used for measuring the quality of care provided. Several studies reported improved patient and staff satisfaction from huddle implementation (Brady et al., 2018; Cooper & Lee, 2013; Franklin et al., 2020; Kalish et al., 2017). Huddles help improve staff perceptions (Franklin et al., 2020) and staff and patient satisfaction **(**Brady et al., 2018; Cooper & Lee, 2013) and reduce staff turnover and vacancy rates (Kalish et al., 2017). Enhancing staff and veteran satisfaction will help improve care coordination and patient outcomes.

Huddle Implementation Tips

Involving stakeholders and strategic planning and implementation are critical to huddle success. Studies report several valuable tips for successful huddle implementation, including establishing pilot huddles, identifying champions, and conducting regular huddles at the same time and location, including the organizational mission, key team members, etc. (Brady et al., 2018; Cooper & Lee, 2013; Zhu et al., 2020). These tips helped in strategically planning and executing the huddle in CITC.

Conclusion

Team huddles help facilitate open communication and collaboration among staff, timely sharing of ideas and addressing issues, and improved care coordination to ensure timely scheduling and care delivery to the veterans in the community. The literature review shows adequate evidence to support piloting team huddle implementation in CITC to improve

teamwork. The CITC has twenty categories of care (COC) teams of nurses and MSAs. If the pilot was successful, the plan was to implement the huddles in all CITC categories of care teams.

CHAPTER 3: THEORETICAL FRAMEWORK

The John Hopkins Evidence-based practice (JHEBP) model is the framework used to guide the implementation of this pilot QI project. This model uses a three-phase process: practice question, evidence, and translation (PET) and includes nineteen steps (Dang & Dearholt, 2018; White et al., 2021). The ten toolkits in the model guide the user in each phase of the PET process. The first phase of the model helped identify the clinical problem and develop and refine the evidence-based PICOT question. The second phase guided the literature search, evaluation of the studies, and synthesis of research evidence to make recommendations. The third phase directed stakeholder analysis, creation of the action plan, project implementation, evaluation of the outcomes, reporting of the results to the stakeholders, and strategies for dissemination. I chose this model, as it is user-friendly and easy to follow.

Specific Aims

The two aims of this quality improvement project included: (1) team huddle adherence of 90% or greater and (2) enhanced teamwork as evidenced by increased teamwork as measured by the TeamSTEPPS Teamwork Perception Questionnaire (Agency for Healthcare Research and Quality [AHRQ], 2017).

CHAPTER 4: METHODS

Organizational Context and Study Setting

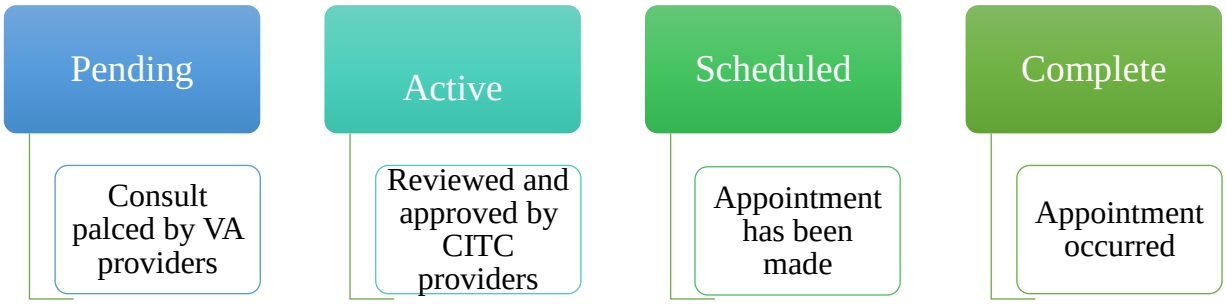
The Department of Veterans Affairs provides health care to its eligible veterans through VA medical centers and community-based outpatient clinics (CBOCs). The veterans are sent to the community providers for services that are not available at the VA. These "referrals of care" are called "consults" and are managed through the CITC program. The Durham VA CITC receives an average of 250 consults daily. The project setting is the CITC department at the Durham VA Health Care System Hospital (DVAHCSH) in North Carolina. The DVAHCS is a 251-bed referral, teaching, and research facility.

The project focused on the CITC mental health (MH) team. The MH team was chosen for this project as MH consults are among the top categories that receive the highest number of consults. Those consults are challenging to coordinate in the community compared to other care categories. The CITC team is comprised of physicians, nurse practitioners (NP), physician assistants (PA), nurses, and medical support assistants (MSAs). The workload is divided among twenty COC teams (cardiology, pulmonary, mental health, etc.). The staff were teleworking due to the COVID pandemic and rotated into the office once every two weeks. The CITC does not provide direct patient care; all communications with the veterans are via phone, email, or mail. The nurses are under nursing leadership, the MSAs are under the MSA leadership, and the medical director supervises the CITC providers. The service chief oversees all.

The stakeholders of this project include the CITC chief nurse, medical director, deputy chief, and nurse manager. The stakeholders expressed their support and buy-in for this QI

project. They were excited about the potential outcomes this project could have, such as better teamwork, appropriate consult management, and care coordination. The project team consisted of two nurses and two MSAs from the CITC MH team. The patient population was comprised of veterans with behavioral health medication management, psychotherapy, military sexual trauma, or treatment-resistant depression consult. The internal customers included the VA providers, other disciplines, veterans and their families, and the external customers included community vendors and the VA's community care network (CCN) contractor, Optum. The various stages of a consult are shown below:

Figure 1. Stages of a Consult



The nurse's care coordinates moderate, complex, and urgent consults, and the MSA's care coordinates the basic consults. The consults are triaged using the Care Assessment Need (CAN) score to basic, moderate, complex, and urgent. The CAN score estimates how a given patient compares with other VA patients regarding the possibility of hospitalization or death (Office of Community Care Field Guidebook, Ruiz et al., 2018) and helps identify higher-risk patients to plan care coordination accordingly (Mattocks et al., 2019). The CAN score is reported as a

percentile ranging from 0 to 99, with zero being the lowest risk and ninety-nine being the highest risk.

The consult management process includes communicating with the veteran and community provider, finding an in-network provider, sending the referral and authorization to community providers, mailing the authorization and referral letter to the veteran, scheduling the appointment, confirming that the appointment occurred, obtaining the visit notes, and attaching the visit notes to the consult.

Interventions

Evidence-based team huddles were implemented to improve teamwork among mental health team members in CITC. The CITC assistant nurse manager served as the project leader (PL). The PL created a huddle process map (Appendix B) to plan the huddle, a huddle agenda template (Appendix C), a huddle training PowerPoint, and a huddle tracking sheet (Appendix D) to track huddle occurrence, attendance, performance metrics, huddle discussions, and action items. The PL provided a one-hour staff training about team huddles on 05/31/2022. Here the PL introduced the agenda, tracking sheet, the TeamSTEPPS Teamwork Perception Questionnaire [T-TPQ] (Appendix E), and the self-generated identification code questionnaire template (Appendix F) on 05/31/2022. The participants were notified that the questionnaire was anonymous and instructed not to include their names or other personal identifiers. The participants were asked to create a self-generated identification code using the Damrosch (1986) questionnaire template to maintain anonymity. The PL explained to the staff how to use the self-generated identification code and the T-TPQ survey and encouraged the team to verbalize their concerns and the potential impact of the huddle on their work process. Addressing all their questions and concerns

promptly and involving them in the huddle planning helped enhance buy-in, engagement, and participation.

The PL communicated the time, location, or method of the huddle, the flow of the huddle, and the person responsible for taking notes and record-keeping to the team during the huddle training. The paper copies of the pre-implementation survey (T-TPQ) and the self-generated identification code template were distributed to the staff on the day of the huddle training, and they returned the same day. The training PowerPoint was emailed to the staff after training for reference. The PL sent the recurring huddle "Microsoft Teams" invite to the team on 06/01/2022.

Twice-a-week huddles started on Tuesdays and Thursdays from 0845-0900 via Microsoft Teams on 06/02/2022. The initial plan was to start the project on 06/07/2022, but due to overwhelming excitement during training on 05/31/2002, the team members suggested starting it on 06/02/2022. Involving the staff in the project planning helped gain staff interest, engagement, and participation. The PL gathered the team performance metrics and other agenda items before the huddle and signed on to the huddle 5 minutes before to ensure that everyone joined and the huddle started on time. The PL led the huddles and followed the huddle agenda. The agenda items included (1) greetings and announcements, (2) review of consult and electronic fax backlog numbers, (3) discussion of barriers and challenges, (4) review of tracked items, (5) sharing of best practices, (6) identifying the focus for the week (7), and obtaining input from the staff (8). The standardized agenda format helped the team to be better prepared and know what to expect during the huddle.

Proper tracking of issues identified and assigning responsibility for each action item is critical to ensure the timely resolution of issues (Wagner et al., 2015). After the huddle, the PL

documented the huddle date and time, attendance, performance metrics, issues and barriers identified, action items, and other pertinent information on the tracking sheet. The PL kept the electronic copies of the completed agenda and tracking sheet in her password-protected computer.

The PL followed up on the action items and updated the team during the next huddle. Any issues that required leadership attention were brought to the attention of the chief, deputy chief, and nurse manager, and weekly updates were provided to the CITC leadership team about project progress. The PL checked in weekly with staff to obtain feedback and modify the huddle accordingly. The huddle pilot ended on 09/07/2022. The post-survey was distributed to the team on the same day, and everyone returned the survey within a week.

Study of the Interventions

The effectiveness of huddles in improving teamwork was measured using the TeamSTEPPS Teamwork Perception Questionnaire [T-TPQ] (AHRQ, 2017). The T-TPQ is a valid, reliable, and freely available tool that measures the individuals' perception of group-level team skills and behavior (AHRQ, 2017; Battles & King, 2010). This thirty-five-item questionnaire consists of the five elements of teamwork: team structure, leadership, communication, mutual support, and situation monitoring, and each item has seven questions. The items are scored on a five-level rating scale of strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). As recommended by AHRQ, the pre- and post-intervention surveys were distributed immediately before and after the project implementation. The huddle dates, times, and participation were measured using the huddle tracking sheet.

Measures

Measuring the outcomes of quality improvement efforts is key to evaluating whether the intervention was effective in producing the desired outcomes. Multiple expert item writers together developed the T-TPQ survey. Initially, there were ninety-three items; after conducting content validity and reliability using cognitive interviews, small group trials, and field tests, items were reduced to thirty-five items. The subscale reliability and validity were assessed using a field test on 169 healthcare workers (nurses and providers). Items and constructs were assessed using correlation and Cronbach's Alpha coefficient. The coefficients ranged from 0.57 to 0.79, and the correlations ranged from 0.60 to 0.79 (AHRQ, 2017; Battles & King, 2010). The internal validity and reliability of 20 items on the T-TPQ were assessed using a survey of 456 hospital nurses and reported internal consistency reliability of .83-.94 with total survey reliability of .93 (Castner., 2012). Many studies have used this tool to measure teamwork (Cook & Valentine, 2021; Kellish et al., 2015; Wolk et al., 2019; Wolk et al., 2020). The T-TPQ was ideal for measuring the effectiveness of this project as it measures individuals' perception of teamwork in a group.

Donabedian describes the three components of measuring the quality of care as structure, process, and outcomes (Berwick & Fox., 2016). IHI recommends evaluating all QI initiatives using a balanced set of outcomes. The outcome, process, and balancing measures for the project were as follows:

a) Outcome measures: Improved teamwork and huddle adherence of 90% or greater.
b) Process measures: Monitor and track team participation in the huddles, as team participation is crucial to ensure staff engagement and huddle success.

c) Balancing measures: The addition of huddles could interrupt the staff workflow, contributing to delays in consult processing and reduced productivity. It is crucial to ensure that the change project does not compromise the existing processes or outcomes (IHI, 2022). Weekly staff productivity was monitored using the organization's structured query language (SQL) productivity report to understand the impact of team huddles on the daily work process and to make modifications accordingly.

The plan included weekly check-in with the project team, communication via phone, email, and Microsoft Teams messages, and regular follow-up to obtain feedback and modify the huddle accordingly to ensure continuous improvement.

Analysis

The huddle compliance and participation were measured using descriptive statistics. The pre- and post-survey data was analyzed using the IBM Statistical Package for the Social Sciences (SPSS) software. Descriptive and paired sample t-test using the Pearson correlation coefficient method was done to determine statistical significance. A *p*-value of less than or equal to 0.05 was considered statistically significant.

Ethical Considerations

The interventions for this study focused only on mental health team members and did not involve direct patient interactions. The Durham VA's Computerized Patient Reporting System (CPRS) was used to review patient data and address related issues identified during the huddle. The project was submitted to the Institutional Review Board (IRB) at the University of North Carolina at Chapel Hill and the Durham VA hospital. Both institutions exempted this QI project from IRB review as this QI project did not constitute participation of human subjects.

CHAPTER 5: RESULTS

During the pilot period, initially, twice-weekly huddles were completed on Tuesdays and Thursdays and then changed to Thursdays and Fridays after one month, as the project team thought it was a long gap from Thursday to Tuesday. A total of 26 mental health team huddles occurred from June 02, 2022, to September 07, 2022. There were 27 huddle opportunities, and one was canceled due to a mandatory all-staff training that conflicted with the time. The huddle compliance was 96.3% (see Appendix A, Huddle Occurrence and Attendance), exceeding the goal of 90%. The project leader facilitated all the huddles except for one led by one of the team members. The average time of the huddle ranged from 10 minutes to 30 minutes.

Table 1 indicates staff participation ranged from 50% to 100%. All team members participated in 21 huddles (81%); the participation was 75% in 3 of the huddles (11.5%) and 50% in 2 of the huddles (7.6%). The low participation was due to staff being on planned leave or other unavoidable circumstances. On one of the 50% participation days, both nurses participated in an accreditation survey; the other day, one MSA and one RN were on planned leave. Similarly, on the 75% participation days, one team member was on scheduled vacation.

The pre- and post-TeamSTEPPS Teamwork Perception Questionnaire survey results were compared using the SPSS paired-samples t-test. The mean pretest score for team function was 25.50, while the mean post-test score was 27.50; the mean pretest score for leadership was 27.00, while the mean post-test score was 28.70; the mean pretest score for situation monitoring was 28.00, while the mean post-test score was 28.75, the mean pretest score for mutual support was 29.50, while the mean post-test score was 28.00, the mean pretest score for communication

was 29.75, while the mean post-test score was 30.50. Table 1 shows the pre- and post-questionnaire results from the T-TPQ survey. The overall mean score for team function, leadership, situation monitoring, and communication improved from pre- to post-intervention. The mean score for mutual support decreased slightly from pre- to post-. There was no statistical difference ($p = 0.05$).

Table 1. Pre- and Post-Questionnaire Results

Subscale	**Mean-Prequestionnaire**	**Mean- Post questionnaire**	***p***
Team Function	25.50	27.50	.160
Leadership	27.00	28.70	.216
Situation Monitoring	28.00	28.75	.423
Mutual Support	29.50	28.00	.344
Communication	29.75	30.50	.359

The team performance metrics were tracked and monitored during the huddle. The benchmark for the percentage of consults in active status < 30 days and the rate of consults in scheduled status < 90 days was ≥ 90%. Figure 1 shows the percentage of consults in active status < 30 days, and Figure 2 shows the percentage of consults in scheduled status < 90 days. The overall team performance metrics for three months before and after the implementation of the project is shown in Figure 3.

The percentage of consults in active status < 30 days increased from 26.0% to 31.4%, a percentage increase of 20.8%, and the rate of consults in scheduled status < 90 days increased from 42.0% to 51.8%, a percentage increase of 23.3%. The overall team performance metrics increased from 34.0% to 41.6%, with a 22.4% increase.

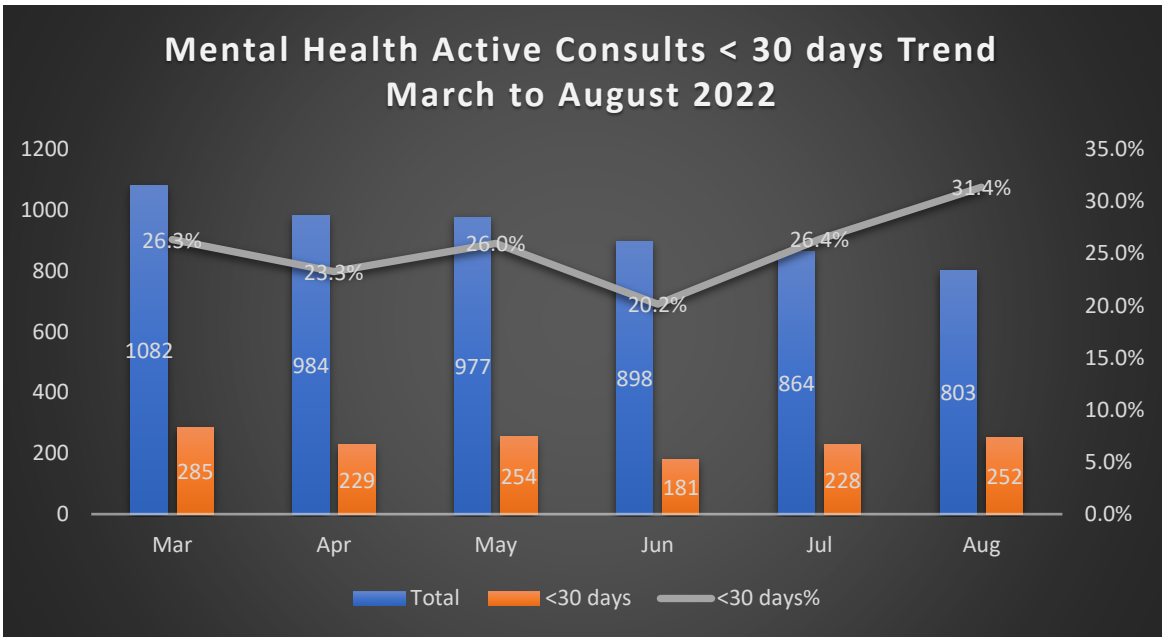


Figure 2. Mental Health (MH) Active Consults < 30 days Trend — March - August 2022

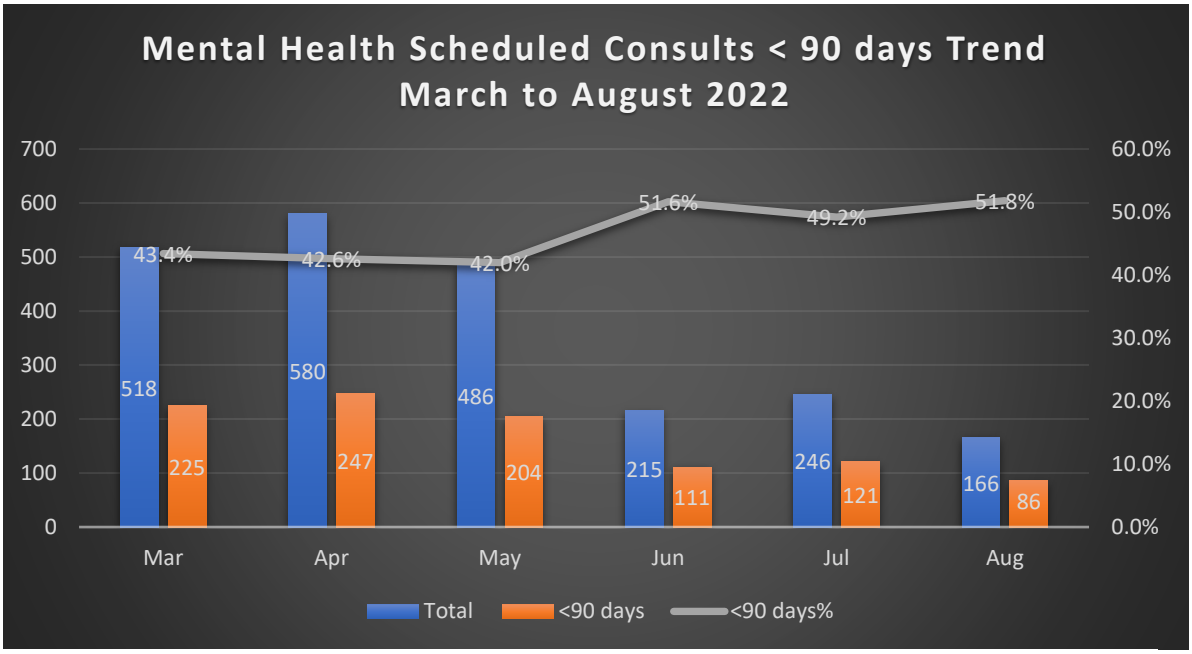


Figure 3. MH Scheduled Consults < 90-day Trend — March - August 2022

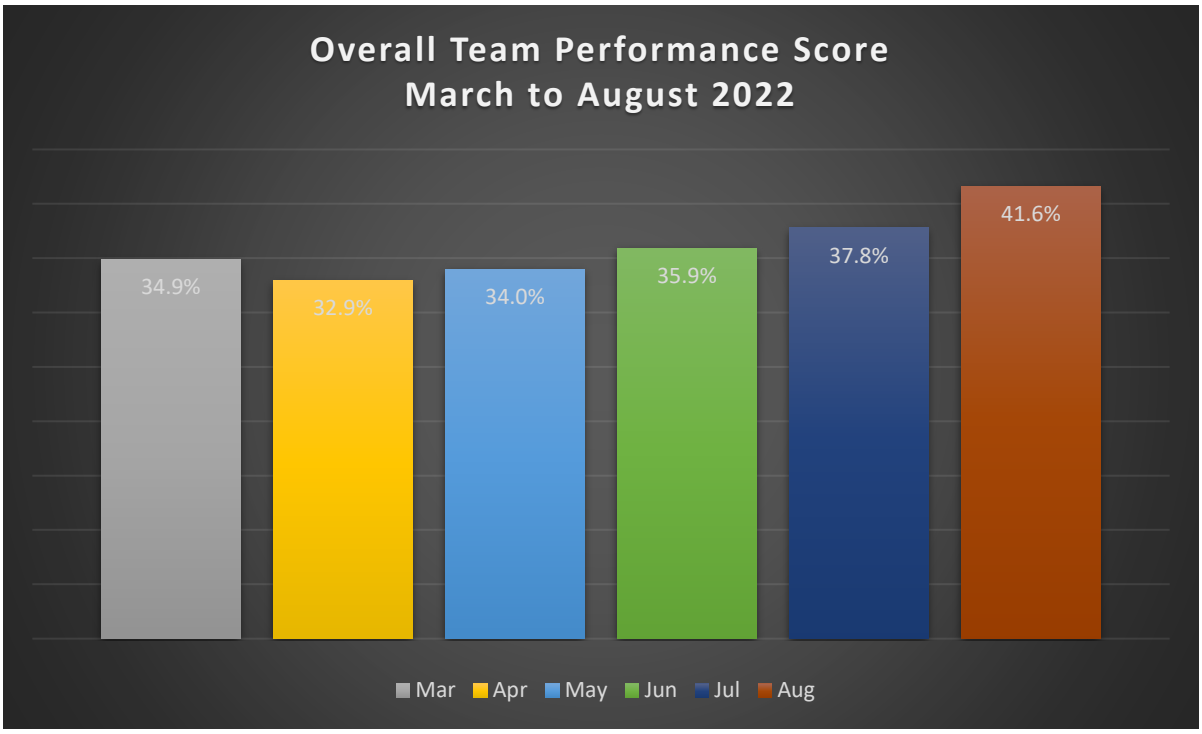


Figure 4. MH Overall Team Performance Score — March - August 2022

Consult backlog numbers were also monitored during the huddle. Consults in active status greater than 30 days and scheduled status greater than 90 days are considered backlog. There was a significant decrease in consult backlog since the huddle started. Figure 4 shows the consult backlog numbers and percentage decrease. The total number of consults decreased to 997 (32%) from 1470 at the beginning of the project. The number of active consults > 30 days decreased to 540 (28%) from 748, and the number of scheduled consults > 90 days reduced to 79 (68%) from 247 at the beginning of the project. The significant decrease in backlog signifies the positive impact of regular huddles in CITC. According to Glymph et al. (2015), team huddles help improve interprofessional communication, teamwork, team performance, patient safety, and outcomes. These outcomes were consistent with previous research findings.

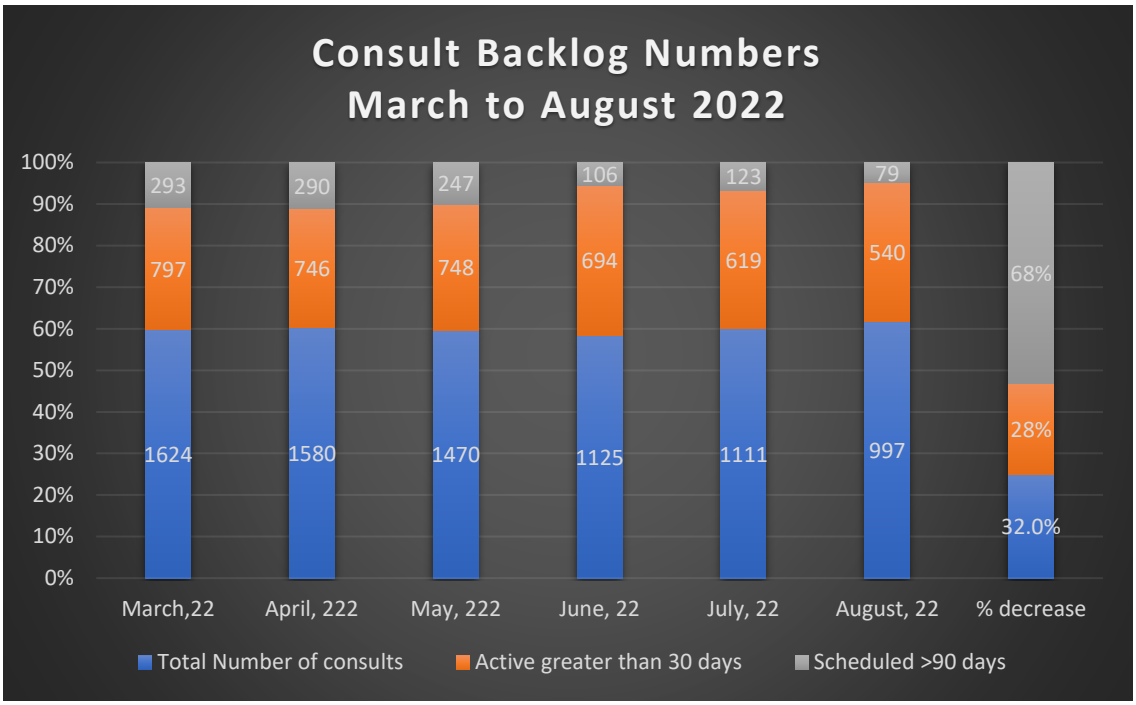


Figure 5. MH Consult Backlog Numbers — March - August 2022

The main issues or barriers identified and addressed during the huddles were community vendor-related issues, including vendors leaving the VA network, difficulty in communicating with the vendors to follow up on the progress of the consult, and challenges in obtaining medical records from the vendors. Additional barriers mentioned are difficulty contacting the veteran timely and staff not consistently following the consult management policy. The project leader collaborated with the CITC vendor relations (VR) team to organize meetings with the identified community vendors to resolve issues. The vendor relations team organized three meetings with different vendors during the pilot period; the PL and the team members attended all three sessions. They also communicated with several other mental health vendors via phone and email and updated the group accordingly. The VR team joined four huddles to provide updates and answer all the questions and concerns of the team. They also updated the in-network provider list

and emailed it to the team for easy access. The PL regularly updated the chief, medical director, and nurse manager on the scheduling challenges and emailed the list of providers that left the VA network during the pilot period. The chief joined two huddles and answered all the staff questions. The chief also collaborated with the in-house mental health team to discuss the scheduling challenges and the possibility of seeing more veterans at the VA.

The PL provided refresher training to the team on the consult cancellation policy and mandated scheduling efforts. There was no clear direction on what to do if the staff could not contact the veteran and provider to get scheduling information after multiple attempts after sending the referral to the community vendor. As a result, the consults remained in active status for a long time. The PL researched the VA community care resources and found the office of community care veteran self-scheduling "unable to contact" letter template in one of the VA memorandums. The PL discussed with the chief, deputy chief, and nurse manager the possibility of using a modified version of the letter in the Durham VA CITC, and they agreed. The PL modified and submitted the letter to all three for review and approval. After obtaining permission from the CITC leadership, the PL presented the letter to the Veteran Health Education Committee (VHEC) coordinator for review and approval. The VHEC committee made a few recommendations, the suggestions were approved, and the modified letter received final approval on 07/05/2022. The PL then collaborated with the Durham VA Clinical Application Coordinators (CAC) to embed the template into the VA's electronic health record, the Computerized Patient Reporting System (CPRS). The letter template, named the Veteran Self-Scheduling No Contact Letter Template, was added to CPRS on 07/13/2022 and was available for staff use. The staff could cancel the consults seven days after sending this letter if the veteran

did not respond. The PL provided staff training to the MH team and all the staff. The staff was very appreciative of having a guideline to follow.

The team was very enthusiastic about the huddle. The initial plan was to start the project on 06/07/2022, but the project began on 6/2/22 per staff request. The project leader did regular weekly and monthly check-ins to obtain feedback and modify the huddle flow accordingly. During the one-month follow-up on 07/5/22, the team suggested changing the huddle from Tuesdays and Thursdays to Tuesdays and Fridays, as they thought Thursday to Monday was a long gap.

The PL requested staff feedback after the pilot. The staff verbalized that the huddles were incredibly helpful in identifying and addressing scheduling challenges, keeping an eye on the backlog numbers and team performance metrics, and improving team communication and member relationship. Staff commented, "The huddles helped us with better communication and timely information sharing."; "I like identifying the focus every week and getting a list to work on, which helps me prioritize my work"; and "The huddles helped me improve efficiency."

The huddle implementation in the CITC mental health team helped improve teamwork, collaboration, communication, and interpersonal relationships. The huddles also decreased the consult backlog and improved team performance metrics. Extending the team huddles to all CITC teams would help enhance teamwork, team performance, and staff satisfaction.

Discussion

This pilot QI project aimed to determine whether implementing team huddles in the CITC mental health team would improve teamwork and huddle adherence. As studies suggest, regular huddles are essential to achieve their full benefits. The huddle adherence of 96.3%

indicates the staff's interest and engagement in huddles. We had to cancel one of the huddles due to mandatory all-staff training.

The valid and reliable T-TPQ tool was used to measure the improvement in teamwork. The mean scores for 4 out of 5 teamwork elements on the T-TPQ survey increased from pre- to post-test. There was no statistical difference in scores. While the mean scores for team function, leadership, situation monitoring, and communication increased, the mean score for mutual support decreased slightly. The decrease in scores for mutual support could be attributed to the increased stress from the lack of adequate in-network providers and the need for rework. One of the major mental health community vendors and several small facilities dropped out of the VA network during the pilot, contributing to reprocessing an average of 140 consults. More vendors leaving the VA network exacerbated the already existing scheduling difficulty. The staff had to attend several meetings with the VR team, community vendors, and CITC leadership to address the vendor issues and devise a plan to reprocess the consults during the pilot period.

Staff participation is paramount to the success of the huddle. All team members attended 21 out of 26 (80.8%) huddles; the participation was 75% on three huddles and 50% on two huddles. The decreased participation was due to unavoidable circumstances and team members' scheduled leave. Full participation in more than 80% of the huddles indicates that the initiative was a huge success and contributed to improved outcomes.

The huddles also helped reduce the consult backlog and improved team performance metrics. There was a significant reduction in consult backlog for active > 30 days (28%) and scheduled > 90 days (68%). A 38% decrease was noted in total consult volume. The team performance metric improved by 22.4% from huddle implementation. The systematic review by Glyph et al. (2015) supported improved communication and performance metrics from huddle

implementation. The team verbalized that reviewing the backlog and performance metrics helped in keeping track of them and planning accordingly. They also mentioned that identifying the focus for the week and discussing who left the VA network and whether new providers joined the network helped manage the consults better. One of the team members mentioned that they utilize the huddle chat to communicate back and forth throughout the day with the team members, which helped alleviate a lot of stress and improve efficiency.

During the feedback session at the end of the pilot, the team members verbalized that the huddles were extremely helpful in improving teamwork, communication, and team member relationship, keeping track of metrics and backlog numbers, and timely addressing issues. Timely identification and resolution of the challenges aid in efficient consult management and effective care coordination. All responses mentioned positive outcomes from the huddles and stated that the huddles added value to proper consult management and care coordination.

The staff responses are consistent with the research findings. The implementation of team huddles in a long-term care mental health facility with 79 residents supported the effectiveness of team huddles in the timely identification and addressing of issues (Wagner et al., 2014). The majority (67.4%) of the issues identified and addressed by this study were related to staffing, teamwork, and communication. Burr et al. (2021) report that twice-daily huddles in the respiratory department of a 200-bed children's hospital assisted in the timely identification of issues, collaborative problem-solving, and improved interprofessional communication. According to the study, they were able to resolve 47.5% of the opportunities within the respiratory care department, 43% required interdisciplinary involvement, and a small portion of the issues (9.5%) needed interventions from the organizational leadership, highlighting the importance of huddles in interdisciplinary and departmental collaboration to resolve issues and to

improve patient care. Several studies report that team huddles positively impact teamwork, communication, collaboration, and performance (Chapman et al., 2020; Glymph et al., 2015; Kalish et al., 2017; Kellish et al., 2015; Wagner et al., 2014; Zhu et al., 2020).

Team huddles are evidence-based interventions that can be easily incorporated into healthcare settings to enhance teamwork and collaboration. Implementing team huddles in the CITC mental health team at the DVAHCS hospital has been successful. Extending the team huddles to other CITC teams can be beneficial and add value. The CITC leadership support throughout the pilot period was paramount to the success of the huddle and the positive outcomes. The PL reported the outcomes of the huddle to the leadership team. The leadership team was very supportive, engaging, and resourceful.

Silver et al. (2016) describe sustainability as the ability to hold on to the gains of the QI initiatives, despite staff and organizational turnover; performance boards, process control boards, and standard work processes help sustain QI initiatives. Continuation of the huddle after the pilot is crucial to maintain the improvements made. At the end of the pilot, the PL leader met with the team to identify a team leader to lead the future huddles and discuss the plan to continue the huddles. Each team member is aware of their role and expressed willingness to help the leader if needed. Since the backlog and team metrics are improving and everyone knows the expectations, the team decided to change the huddle frequency to once a week on Tuesdays from 0915-0945.

PL created the meeting invite for future huddles and sent it to all. Also, the PL trained the team leader on the huddle details, the use of the huddle agenda and tracking sheet, and how to pull the performance metrics and backlog numbers to continue the huddle in the future. The PL shared the agenda and tracking template with the team via email for future reference. The PL has helped the team members several times since the end of the pilot to gather agenda items and to

lead the huddle when the team lead was absent. We identified a backup team lead as well. Upon checking with the team leader on 10/14/22, she stated that the huddles were going well.

Limitations

The project was limited to the mental health team at the CTIC department with 4 participants. The initial intent was to pilot the team huddles in two teams, but we could not do it due to staffing and other challenges. COVID-19 caused a significant staffing shortage for CITC. Only a few CITC COC teams were fully staffed at the time of project planning and implementation and the other fully staffed teams were doing a different pilot, limiting this project to the MH team. Another significant limitation was the lack of adequate in-network MH community providers. One of the major community vendors leaving the VA network during the pilot further escalated staff stress, scheduling difficulty, and required rework on top of the existing backlog, which potentially negatively affected the project outcomes.

Conclusions

Effective teamwork is vital to the VA CITC department to efficiently coordinate care and ensure timely healthcare services to the veterans. Teambuilding is a practical approach to positive communication and collaboration. Team huddle implementation in the mental health team helped improve teamwork, communication, team performance, and reduce consult backlog. The huddles allowed the team to communicate regularly with the leadership team about their issues and challenges with consult management and facilitated open communication and collaboration among team members. The huddles also helped identify and resolve barriers to consult management, improving the efficiency and effectiveness of consult management and care coordination.

Team huddles have effectively improved communication, teamwork, and performance in various healthcare settings, including acute, long-term, outpatient, and ambulatory care. The literature search did not yield previous studies in CITC settings, so this may be the first study to review the huddle process in the CITC setting. Although the CITC team setting may vary across the different VAs, all the CITC departments manage and coordinate outgoing referrals from the VA to the community providers.

All study participants spoke highly about the value of huddles to the team and CITC. Extending the huddles to all DVAHCS hospital CITC COC teams would help improve teamwork, communication, care coordination, and patient and unit outcomes. After implementing the huddles in all COC teams, the plan is to do a more extensive evaluation. Also, the plan is to share the results with other VA CITCs and encourage them to consider using huddles if they are not.

This project's recommendations include continuing weekly team huddles in mental health teams to sustain the outcomes and extend them to the other COC teams. Expanding the team huddles to all COC teams in the CITC would help improve the efficiency and effectiveness of care coordination and timely delivery of services to the veterans in the community.

APPENDIX A: HUDDLE OCCURRENCE AND ATTENDANCE

HUDDLE ATTENDANCE						Huddle Occurrence
Date	**Participant 1**	**Participant 2**	**Participant 3**	**Participant 4**	**Total %**	**Yes/No**
6.2.22	Y	Y	Y	Y	100%	Y
6.7.22	Y	Y	Y	Y	100%	Y
6.9.22	Y	Y	Y	Y	100%	Y
6.14.22	Y	Y	Y	Y	100%	Y
6.16.22	N	N	Y	Y	50%	Y
6.21.22	Y	Y	Y	Y	100%	Y
6.23.22	Y	Y	Y	Y	100%	Y
6.28.22	Y	Y	Y	Y	100%	Y
6.30.22	Y	Y	Y	Y	100%	Y
7.5.22	Y	Y	Y	Y	100%	Y
7.8.22	Y	Y	Y	Y	100%	Y
7.12.22	Y	Y	Y	Y	100%	Y
7.15.22	Y	Y	Y	Y	100%	Y
7.19.22	NA	NA	NA	NA	NA	N
7.21.22	N	Y	N	Y	50%	Y
7.26.22	Y	Y	Y	Y	100%	Y
7.29.22	Y	Y	Y	Y	100%	Y
8.2.22	Y	Y	Y	Y	100%	Y
8.5.22	Y	N	Y	Y	75%	Y
8.9.22	Y	Y	Y	Y	100%	Y
8.12.22	N	Y	Y	Y	75%	Y
8.16.22	Y	Y	Y	Y	100%	Y
8.19.22	Y	Y	Y	Y	100%	Y
8.23.22	N	Y	Y	Y	75%	Y
8.26.22	Y	Y	Y	Y	100%	Y
8.30.22	Y	Y	Y	Y	100%	Y
9.2.22	Y	Y	Y	Y	100%	Y

APPENDIX B: HUDDLE PROCESS MAP
ADAPTED FROM KITTITAS VALLEY HEALTHCARE

Prepare	Gather the Team	Conduct	Conclude	Follow Up
-Develop huddle plan including participants: - Huddle participants - Huddle method - Huddle time - Huddle duration - Huddle Agenda - Expectations to follow - Documentation procedures -Identify team leader, person responsible for taking notes and record keeping - Gather metrics for review during huddle - Create tracking sheet for documenting and tracking progress and action items - Arrange scheduling - Provide staff training - Introduce goals and huddle plans to the staff	-Prompt staff to gather -Start on time	- Staff check in and announcements - Review of team metrics - Review of backlog numbers -Identify issues and barriers to consult processing and care coordination -Follow up of tracked items -Identify and share best practices -Focus for the day and week -Input from staff Keep on track *Target time $\leq$ 15 minutes*	- End on time - Positive closure - Document huddle (attendees, time, content) -Enter the decisions, issues identified, and action items on tracking sheet	-Communicate action taken or reasons for action not yet taken if issues are still pending resolution - Provide update to the leadership team -Hold follow up meetings as needed to address the issues brought up during huddle -Periodically evaluate the process and impact of the huddle

APPENDIX C: TEAM HUDDLE AGENDA

CITC Team Huddle Agenda	
Date: Time: Location:	Participants:

Agenda Items

1. Greetings and announcements

2. Review of team metrics

3. Review of backlog numbers:

   - Estreem
   - Consults

4. Barriers and challenges

5. Review of tracked issues

6. Sharing of best practices

7. Focus of the day and week

8. Input from staff

9. Adjourn

APPENDIX D: HUDDLE TRACKING SHEET

CITC HUDDLE TRACKING SHEET										
Date & Time	Participants	Team Performance Metrics	Backlog Numbers		Issues Identified	Action Items	Responsible Person	Best Practices Identified	Focus	
			Consult	Estreem					Day	Week

APPENDIX E: TeamSTEPPS TEAMWORK PERCEPTIONS QUESTIONNAIRE

https://www.ahrq.gov/teamstepps/instructor/reference/teamperceptionsmanual

Team Structure	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The skills of staff overlap sufficiently so that work can be shared when necessary.					
2. Staff are held accountable for their actions.					
3. Staff within my unit share information that enables timely decision-making by the direct patient care team.					
4. My unit makes efficient use of resources (e.g., staff supplies, equipment, information).					
5. Staff understand their roles and responsibilities.					
6. My unit has clearly articulated goals.					
7. My unit operates at a high level of efficiency.					
Leadership	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
8. My supervisor/manager considers staff input when making decisions about patient care.					
9. My supervisor/manager provides opportunities to discuss the unit's performance after an event.					
10. My supervisor/manager takes time to meet with staff to develop a plan for patient care.					
11. My supervisor/manager ensures that adequate resources (e.g., staff, supplies, equipment, information) are available.					

12. My supervisor/manager resolves conflicts successfully.					
13. My supervisor/manager models appropriate team behavior.					
14. My supervisor/manager ensures that staff are aware of any situations or changes that may affect patient care.					
Situation Monitoring	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15. Staff effectively anticipate each other's needs.					
16. Staff monitor each other's performance.					
17. Staff exchange relevant information as it becomes available.					
18. Staff continuously scan the environment for important information.					
19. Staff share information regarding potential complications (e.g., patient changes, bed availability).					
20. Staff meets to reevaluate patient care goals when aspects of the situation have changed.					
21. Staff correct each other's mistakes to ensure that procedures are followed properly.					
Mutual Support	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
22. Staff assist fellow staff during high workload.					
23. Staff request assistance from fellow staff when they feel overwhelmed.					
24. Staff caution each other about potentially dangerous situations.					

25. Feedback between staff is delivered in a way that promotes positive interactions and future change.					
26. Staff advocate for patients even when their opinion conflicts with that of a senior member of the unit.					
27. When staff have a concern about patient safety, they challenge others until they are sure the concern has been heard.					
28. Staff resolve their conflicts, even when the conflicts have become personal.					
Communication	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
29. Information regarding patient care is explained to patients and their families in lay terms.					
30. Staff relay relevant information in a timely manner.					
31. When communicating with patients, staff allow enough time for questions.					
32. Staff use common terminology when communicating with each other.					
33. Staff verbally verify information that they receive from one another.					
34. Staff follow a standardized method of sharing information when handing off patients.					
35. Staff seek information from all available sources.					

APPENDIX F: DIRECTIONS TO CREATE SELF-GENERATED IDENTIFICATION CODE

Please use the information below to create your self-generated Identification code to protect your anonymity.

Please circle the letter below that represents the **First Letter** of your **MOTHER'S FIRST NAME:**

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

Please *circle* the letter below representing the **First Letter** of your **FATHER'S FIRST NAME**.

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

How many ***Older Brothers*** do you have? _____ (Both alive and deceased, step or otherwise)

How many ***Older Sisters*** do you have? _____ (Both alive and deceased, step or otherwise)

Please **circle** the month in which you were born.

January - May 01 - September 05 - 09
February - June 02 - October 06 - 10
March - July 03 - November 07 - 11
April - August 04 - December 08 - 12

Please *circle* the letter below representing the ***First Letter*** of **Your Middle Name**.
(If you have no middle initial, circle the letter N)

A B C D E F G H I J K L M N

O P Q R S T U V W X Y Z

Adapted from Damrosch, S. P. (1986). Ensuring anonymity by use of subject-generatedidentification codes. *Research in Nursing & Health, 9,* 61-63

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