

# A Feasibility Study to Direct System Level Change for Hospital Patients With Alcohol Use Disorder

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## Abstract

**Purpose/Background/Significance:** The purpose of this feasibility study was to make system level change using motivational interviewing (MI), tailored discharge education, and electronic medical record (EMR) flow sheet intervention in patients with alcohol use disorder (AUD). Alcohol is known to be one of the most commonly misused addictive substances.

**Methods:** It is a feasibility study with a descriptive exploratory design of an intervention with MI, tailored discharge education, and EMR flow sheet documentation. Participants were patients with AUD chosen over 3 months from two medical surgical floors. Instruments used were the readiness and confidence rulers (reliability/validity = .84 and .77, respectively). Analysis included descriptive statistics, estimation of effect size, and hypothesis generation.

**Results:** Of 14 participants, EMR flow sheet documentation was completed and the mean post readiness and confidence scores were 8.86 (1.167) and 8.07 (1.639), respectively.

**Conclusion:** The pre/post confidence scores were statistically significant ( $p = .095$ ) using the .10 significance level, indicating the intervention was effective in raising the confidence level for behavior change. High scores indicated patients were in contemplation and intending to change. Seven scores increased postintervention suggesting a future hypothesis that MI, tailored education, and EMR flow sheet documentation intervention is feasible for patients with AUD contemplating change in the near future.

**Keywords:** Alcohol Use Disorder, Motivational Interviewing, Self-Efficacy, Tailored Discharge Education, Transtheoretical Model

## INTRODUCTION

### Background

Alcohol-related disorders are the third preventable cause of death in the United States, and it is estimated that 88,000 people die annually (Centers for Disease Control and Prevention, 2019). The use of alcohol alone cost the United States \$249 billion in 2010 because of lost productivity and work days lost (Sacks et al., 2015). The World Health Organization reported in 2014 that alcohol contributed to more than 200 diseases and injury-related health conditions (World Health Organization, 2014). In 2015, 15.1 million adults aged 18 years and older had an alcohol use disorder (AUD; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2020). According to Hinde et al. (2015), 20%–50% of adult patients admitted to trauma centers have an alcohol-related disorder. The economic impact related to AUD cost U.S. communities over \$249 billion (NIAAA, 2020). There were over 10,000 deaths in the United States in 2016 that can be contributed to drunk driving accidents (Federal Highway Administration, 2017), and alcohol-impaired driving fatalities accounted for 29% of driving-related fatalities in 2018 (National Center for Statistics and Analysis, 2019).

As stated by the NIAAA (2020), AUD is a “chronic relapsing brain disease characterized by compulsive alcohol use, loss of control over alcohol intake, and a negative emotional state when not using.” Alcohol can increase the risk of cancer, weaken the immune system, and affect multiple areas of the body such as the brain, heart, liver, and pancreas. Chronic alcohol use can lead to cardiomyopathy, heart arrhythmias, stroke, hypertension, pancreatitis, and cirrhosis of the liver.

### Purpose and Aims

The purpose of this feasibility study was to make a system level change and standardize the discharge process for the population with AUD through motivational interviewing (MI), tailored discharge education material, and interprofessional communication via electronic medical record (EMR) flow sheet documentation to increase readiness and confidence for behavior change in patients with AUD. The first aim was to develop an MI script, a tailored discharge education sheet, and interprofessional communication using the EMR flow sheet. The second aim was to test implementation of this system-wide change and impact on patient outcomes pre/post readiness and

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confidence. The outcomes were readiness and confidence preintervention/postintervention and interprofessional communication measured as a percentage in EMR flow sheet documentation.

## Literature Review

An initial search was completed on major variables of interest using three electronic databases, including CINAHL, MEDLINE, and PsycINFO, for articles in English from January 2007 to April 2018. Independently, three reviewers screened titles and abstracts for eligibility. Studies were included if there was at least 30-day follow-up, participants were adults with AUD, transtheoretical model (TTM) with MI, self-efficacy, appropriate reading comprehension level, or reading comprehension assessment was studied. Data extraction and assessment of methodological quality was undertaken by two reviewers and checked by a third reviewer. Differences in opinion were resolved through discussion and an assessment of methodological quality by two reviewers and checked by a third reviewer. Articles were chosen that were written in English.

Several different designs of studies were analyzed, for example, cohort studies, observational studies, a cross-sectional study, quasi-experimental studies, pilot randomized control studies, and systematic reviews. Data were collected over various amounts of time from 30 days to 2 years. All articles were published in full and were obtained solely from the three databases. The key terminology, both alone and together in phrases related to the objectives of the review, includes the following: alcohol, discharge education, health literacy, reading/communication comprehension, readability, MI, TTM, and self-efficacy. During the initial search, articles containing the flagged key words were further screened by obtaining more information from the abstracts. On the basis of the data gathered and the criteria set forth by the Patient, Intervention, Comparison, Outcome, Time question, articles either were deemed useful for further insight into the project or were discarded. Articles that were excluded from this review of the literature included but were not limited to the following criteria: involving substance abuse other than alcohol, a primary diagnosis other than AUD, the population studied being younger than 18 years old, the primary setting being the emergency department or inpatient treatment, having been written in a foreign language, the intervention not primarily led by nursing, or patients left against medical advice. The necessary inclusion criteria included studies related to alcohol diagnoses among adults, men and women, aged 18 years and older. Some study participants had been hospitalized for their use of alcohol and then discharged. A few studies evaluated how frequently people with AUD access the healthcare system, and some specifically studied the 30-day hospital readmission rate as seen in studies conducted by Jenq et al. (2016) and Walley et al. (2012). Other articles addressed reading comprehension level. Additional studies addressed TTM, MI, self-efficacy, AUD-related discharge education, and reading and communication comprehension level in generalities. Despite this, some of the articles were deemed useful in their contents, as it was relevant to this study.

The TTM is used as a framework for developing substance abuse interventions, including MI (Prochaska & DiClemente, 1984; Velasquez et al., 2005). It has been shown that the stages of change in the TTM allow us to “break down the process of change into distinct and treatment-relevant categories” (Prochaska & DiClemente, 1984, p. 107). In other words, the TTM allows us to see what stage of change the patient is at and to tailor their goals and treatment options from that stages of change they are currently at. MI is a direct, patient-centered counseling style to create behavior change by exploring and resolving ambivalence (Miller, 1996). There are five basic principles to guide MI: express empathy, develop discrepancy, avoid argumentation, roll with resistance, and support self-efficacy (Miller, 1996). In MI, the counselor avoids a confrontational approach while maintaining a comforting and supportive setting for exploration of feelings of doubt, reinforcing reasons for concern, and change. Resistance is deflected to encourage a continued open exploration of options. The goal of MI is to help the patient recognize the pitfalls of their current behavior and the need for a positive change.

Self-efficacy is a major component of the TTM frequently measured with readiness and confidence rulers. The readiness ruler is used to assess a patient's readiness to change, as well as likelihood to respond to brief interventions, and to determine the type of intervention that will be most helpful (LaBrie et al., 2005). The readiness ruler is a ruler-like visual analog scale numbered from 0 (*not ready to change*) to 10 (*ready to change*). The score is determined by how the patient feels at the time of assessment. In addition, the confidence ruler is also a ruler-like visual analog scale numbered from 0 (*not confident at all*) to 10 (*extremely confident*) that providers can use to assess the patient's confidence in his or her own skills to make the desired change, for example, sustain from alcohol use (Velasquez et al., 2005). It has been determined that, despite where a person rates himself or herself on the scale, he or she can present at least one reason as to why the desired change would positively affect his or her behavior. According to Bertholet et al. (2012), the higher the confidence number reported, the more likely that the patient will successfully accomplish the behavioral change, implying that the confidence ruler is a stable predictor of reducing alcohol use.

Screening, brief intervention, and referral to treatment (SBIRT) is an evidence-based approach that helps health care providers quickly determine the level of intervention that is needed among those admitted with an AUD (Gormican & Hussein, 2017). This evidence-based approach is commonly conducted during the admission process in the emergency department but is also seen in primary care settings and community settings (Substance Abuse and Mental Health Services Administration, 2017). The screening part of the SBIRT process helps the health care provider determine the level of intervention needed for the patient (Gormican & Hussein, 2017). Typically, the screening tool used in the SBIRT process is the Alcohol Use Disorders Identification Test-Consumption tool. This tool helps identify those who have an active AUD. During the SBIRT process, there is a brief intervention done to increase the patient's understanding and awareness regarding

their substance use and assess their motivation for a behavioral change (Gormican & Hussein, 2017). The last part of the SBIRT process involves the provider making a referral to treatment. This referral to treatment does not always involve hospitalization. Referral to treatment can be a variety of outpatient resources.

As shown in the research by Dickens et al. (2013), patients are often given reading materials above their health literacy level, specifically their reading comprehension level. Chew et al. (2004) initially created the brief health literacy screener (BHLS) with 16 questions, with each question scaled 0 (*complete confidence and/or ability to read or understand medical forms and materials*) to 4 (*no confidence and/or no ability to read or understand medical forms and materials*). In 2008, Chew et al. modified the BHLS to consist of three questions that help identify patients with either inadequate or marginal health literacy by establishing how confident they are in filling out medical forms, how often they have someone help them read medical materials, and how often they have issues learning about their medical problems (Mantwill et al., 2018). Shortening the tool was necessary to create a more practical screening measure to decrease the amount of time both the patient and the provider spend assessing health literacy.

To ensure that reading materials are not beyond the patient reading comprehension level, the Fry Readability Graph can be used. Fry developed and adapted the graph to measure readability for American readers. To use the Fry Readability Graph, one selects a 100-word passage, skips all proper nouns, counts the number of sentences in the passage, and counts the total number of syllables in the passage (Fry, n.d.). The total syllables and sentences are plotted on a graph of comparing grade levels against syllables and sentence numbers to determine the reading comprehension level (Fry, n.d.).

METHODS

Sample and Design

This is a feasibility study with a descriptive exploratory design and a pretest/posttest of an intervention. The intervention consisted of using MI, tailored discharge education, and interprofessional communication via EMR flow sheet documentation. The outcomes included readiness and confidence (preintervention and

postintervention) and interprofessional communication via EMR flow sheet documentation. For this study, the .10 level of statistical significance was used. Statistical analysis included descriptive statistics of percentage, mean, and standard deviation. For differences preintervention/postintervention, a nonparametric *t* test was used.

**Participants** The participants were the population with AUD admitted to a large urban medical center in the Midwest on two separate inpatient medical/surgical floors. The inclusion criteria were adults aged 19 years and older; able to read, write, and comprehend English at a minimum of a sixth-grade reading comprehension level; have access to a phone; have transportation to and from the hospital postdischarge; and are admitted to the general internal medicine hospitalist service with certain primary or secondary International Classification of Diseases, Tenth revision (ICD-10) diagnosis codes. There were 17 common ICD-10 codes included within the inclusion criteria. Exclusion criteria included unstable medical condition, those who live more than 50 miles from the hospital, or those who do not have access to a phone and/or transportation postdischarge.

Intervention

The intervention consisted of using MI, tailored discharge education, and interprofessional communication using an EMR flow sheet. Table 1 describes each part of the intervention. This intervention took about 15 minutes or less with each patient in the study. MI was used to enhance patients' confidence and desire to self-manage behaviors during the first week of discharge. MI is a direct, patient-centered counseling style to create behavior change by exploring and resolving ambivalence (Miller, 1996). It has been proven to increase an individual's self-efficacy to abstain from alcohol and increase confidence in ability to change. See Figure 1 for the MI script. A tailored discharge education sheet was based on the TTM and at a sixth-grade reading comprehension health literacy level. The themes on this tailored discharge education sheet explained how alcohol affects the body, an illustration showing what counts as one drink, small steps one can take to make a behavior change, and the location, date, and time of the

TABLE 1 Description of the Intervention	
Intervention	Description
Motivational interviewing script	A direct, patient-centered counseling style to create behavior change by exploring and resolving ambivalence (Miller, 1996). This part of the intervention contains a script.
Tailored discharge education sheet	A one-page sheet that explains how alcohol affects the body, an illustration showing what counts as one drink, small steps one can take to make a behavior change, and the location, date, and time of the AA meetings at the local hospital system. This is based on the TTM and is at a sixth-grade reading comprehension health literacy level.
Interprofessional communication via EMR flow sheet documentation	An EMR flow sheet that was for interprofessional communication.
AA = Alcoholics Anonymous; EMR = electronic medical record; TTM = transtheoretical model.	

Question	Answer
1. Do you want to quit drinking? a. Yes, go to step 2 b. No: move to step 3	
2. How important is it to you to make a change? Do you want to make a change? Show patient readiness ruler: On a scale of 1-10, 1 being the least ready, 10 being the most ready, how ready are you to make a change. Have patient circle number on ruler.	
3. Show patient confidence ruler: On a scale of 1-10, 1 being the least sure, 10 being the most sure, how sure are you that you can make a change. Have patient circle number on ruler.	
4. Tell me about your normal day-how much do you drink a day?	
5. What do you like about drinking, what are some of the downfalls of drinking? (example that the patient might say, it lowers my stress, but then I'm hungover the next day)	
6. I am hearing this (reflective listening- repeat patients comments), am I understanding what you are telling me correctly?	
7. Have you done anything in the past to change, if so what did you	

**Figure 1.** Motivational interview script.

do? (reflective listening after their response): Did it work?	
<p>8. A: (If patient wants to change): It sounds like you're ready to make a change, we have AA meetings at Nebraska Medicine.</p> <p>B: (If not ready to make a change): Is there anything that we could talk about that could maybe change your mind?</p>	
<p>9. It sounds like you are ready to make a change, what are some small goals you would like to make?</p> <p>a. Examples: identify your triggers, identify what is causing stress, avoid situations or people that make you want to drink, recognize what causes your stress, identify your triggers, avoid one trigger a day, keep track with a diary, switch from liquor to beer, cut out one drink a day.</p>	
10. Re -administer Readiness and Confidence Rulers- reflect on these changes.	
11. Thank you for taking the time to talk to me, I hope this has helped you better understand the relationship between alcohol and your life.	

**Figure 1.** Motivational interview script, Continued.

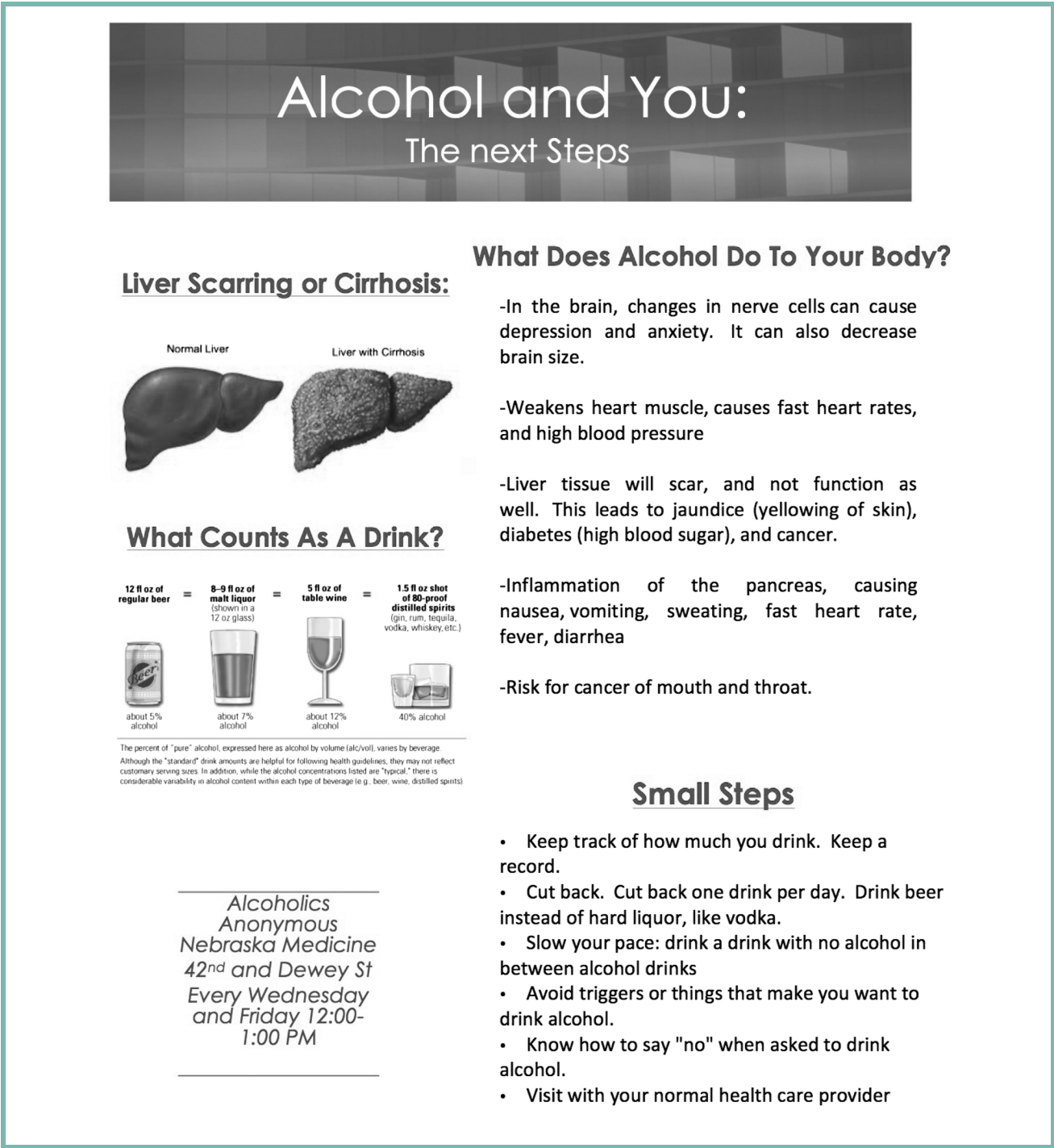


Alcoholics Anonymous meetings at the local hospital system. See Figure 2 for the tailored discharge education sheet. The investigators created an EMR flow sheet. This EMR flow sheet was created for interprofessional communication, which was approved by the hospital. See Figure 3 for details of the EMR flow sheet. It consisted of five questions completed by the investigators, accessible to all members of the interprofessional team. This EMR flow sheet included the following: “Did you perform MI?” (yes/no), the patient's postintervention readiness

score (0–10), the patient's postintervention confidence score (0–10), the patient's current stage of change (1 = precontemplation, 2 = contemplation, and 3 = action), and if the discharge education material was given to the patient (yes/no).

Procedures

The internal-review-board-approved study was conducted from July 23, 2018, to October 12, 2018, at a large urban medical center on two inpatient medical/surgical floors. Three



<b>Alcohol Discharge</b>	
Did you perform motivational interviewing	
Readiness ruler score	
Confidence ruler score	
Stage of change of patient	
Was the discharge information given to the patient?	

<b>Alcohol Discharge</b>	
Did you perform motivational interviewing	Yes No
	Comment-
Readiness ruler score	0 1 2 3 4 5 6 7 8 9 10
	Comment-
Confidence ruler score	0 1 2 3 4 5 6 7 8 9 10
	Comment-
Stage of change of patient	1=Precontemplation 2= Contemplation 3= Action
	Comment
Was the discharge information given to the patient?	Yes No
	Comment-

**Figure 3.** Electronic medical record flow sheet blueprint.

investigators, who are registered nurses currently in a BSN to DNP program, performed this study. Investigators were trained on the protocol. The participants received the intervention in addition to their usual care for discharge. Each day, an investigator called the lead staff nurse to be informed of eligible patients. Data collection procedures took place within 24 hours of the patient discharging in the patient's private room. Once on the floor, an investigator spoke with the nurse caring for the eligible patient asking if they could briefly explain the study to the patient and ask for permission to be in the study. Once the investigators had permission to enter the room, they explained the study to the patient. The investigator assessed the patient for orientation to person, place, time, and situation. Once orientation was established, the informed consent was obtained. Detailed baseline data were collected using the Alcohol Use Disorder Data Collection Sheet (i.e., primary diagnoses, age, gender, race, admit, and discharge date). After collecting the baseline data, the other investigator came into the room. This investigator obtained preintervention readiness and confidence scores before beginning MI and tailored discharge education. MI consisted of a scripted questionnaire that took approximately 10 minutes to complete with each participant. Once MI and discharge education was complete, postintervention readiness and confidence scores were collected. Afterward, EMR flow sheet documentation was completed.

Study Variables

**Tools and Measures** The Alcohol Use Disorder Data Collection Sheet was used to collect biographical data, social determinants of health, a BHLS, and the patient's current stage of change. The data collection sheet contained a BHLS with three questions to measure health literacy. The BHLS is a self-report health literacy

tool that was validated by Chew et al. (2008) by evaluating the sensitivity and specificity of each score value in comparison with two other highly reliable health literacy tools, the REALM and the Short Test of Functional Health Literacy in Adults. Chew et al. (2008) compared the BHLS with the Rapid Estimate of Adult Literacy in Medicine (REALM) and the Short Test of Functional Health Literacy in Adults and found, respectively, the following: confidence interval ranging from 0.66 to 0.72 and 0.72 to 0.84. These findings can be interpreted to be relatively valid. Mantwill et al. (2018) acknowledged that the BHLS and other self-report health literacy tools are being used consistently throughout the United States and are being translated to other languages for use in other countries implying reliability.

The readiness and confidence rulers measured self-efficacy. The readiness ruler was validated using the Readiness to Change Questionnaire (RTCQ), a 12-question tool, based on the TTM. The readiness ruler was further proven valid by a high correlation of .77 between the two tools (LaBrie et al., 2005). The readiness ruler outperformed the RTCQ in intended drinking days per month (Pearson's *r*: ruler =  $-.324$ , RTCQ =  $-.219$ ) and drinks per month (ruler =  $-.206$ , RTCQ =  $-.071$ ; Labrie et al., 2005). The readiness ruler was proven reliable with adequate internal consistency ( $\alpha = .84$ ,  $M = 3.78/7$ ,  $SD = 1.31$ ; Labrie et al., 2005). The confidence ruler shows relatively high validity according to Bertholet et al. (2012), who reported the confidence interval of the confidence ruler to be 0.77–0.82. These authors also reported that the higher the patient confidence score on the confidence ruler, the more likely that the patient will successfully achieve the change. It was suggested by these authors that this implies reliability, as their findings were consistent with other studies.

TABLE 2 Demographic and Descriptive Data	
Demographic Data Results	
Gender	Male: 64.3% Female: 35.7%
Ethnicity (Hispanic, non-Hispanic)	Hispanic: 7.1% Non-Hispanic: 92.9%
Race (White/Caucasian, Black/African American)	White: 92.9% Black/African American: 7.1%
Social Determinants of Health	
Work (yes/no)	Yes: 50% No: 50%
Highest education completed (elementary, high school, community college, some college)	Elementary: 7.14% High school: 42.86% Community college: 0% Some college: 50%
Insurance (yes/no)	Yes: 57.1% No: 42.9%
Living situation (homed or homeless)	Homed: 85.7% Homeless: 14.3%



## Outcomes

The outcomes included readiness and confidence (preintervention and postintervention) and interprofessional communication via EMR flow sheet documentation. There was a positive outcome with increased readiness and confidence from preintervention to postintervention. EMR flow sheet documentation was completed on all 14 participants by the investigators. Table 3 shows the patients' readiness and confidence scores preintervention and postintervention.

## Data Analysis

Estimation of effect size and hypotheses were generated for a future larger study. Descriptive statistics (percentage, mean, and standard deviation) were used for categorical data. For the between-group differences of the pretest/posttest, the Mann–Whitney *U* test, a nonparametric *t* test, was used. Data were analyzed using descriptive statistics, including percentages for nominal data and means and standard deviations for ordinal data.

## RESULTS

The biographical and descriptive data collected are shown in Table 2. During the study period, there were 14 participants from two units of the hospital who agreed to participate. They were assessed within 24 hours of discharge. Many patients who had been admitted with AUD had left against medical advice before this period had even occurred. Of the patients who met study criteria, 11 of those participants refused to be in the study. Of the patients who could be seen within the 24 hours before discharge, two of them did not meet criteria. Of the 14 participants, 35.7% were female, the mean age was 45.57 years (13.838), 7.1% were Hispanic and 92.9% were non-Hispanic, 92.9% were White, and 7.1% were African American. Of the 14 participants, 50% currently had employment and 85.7% currently lived at home, 42.86% completed high school, 50% completed college degree, and 57.14% had insurance.

In the TTM, there are five stages of change. As stated earlier, the TTM is used to determine the stage of change the person is at to tailor their treatments and goals. This is the reason for integrating the TTM into this study. Within the five stages of change, two (14.3%) of the participants were in precontemplation, 11 (78.6%) were in contemplation, and one (7.1%) was in the action stage of change.

Table 3 shows the patients' readiness and confidence scores preintervention and postintervention. Baseline readiness and confidence scores were high. The baseline readiness and confidence scores averaged at 8.36 (1.737) and 7.57 (1.869), respectively. As shown in Table 3, for some of the participants, there was an increase in the readiness and/or confidence ruler scores from preintervention to postintervention. The post readiness and confidence scores averaged at 8.86 (1.167) and 8.07 (1.639), respectively. The change from pretest to posttest of the confidence score was statistically significant ( $p = .095$ ) using the .10 significance level commonly used for a feasibility study. The Mann–Whitney *U* test for readiness was  $p = .233$ , and that for confidence was  $p = .095$ .

TABLE 3 Readiness and Confidence Pretest/Posttest Scores			
Participant	Pre/Post Readiness	Pre/Post Confidence	Point Difference for Each Ruler
1	8/8	7/7	0 0
2	10/10	8/10	0 2
3	10/10	9/10	0 1
4	7/7	9/9	0 0
5	10/10	6/6	0 0
6	9/9	7/7	0 0
7	10/10	10/10	0 0
8	5/7	7/7	2 0
9	8/10	3/6	2 3
10	5/8	8/9	3 1
11	8/8	9/9	0 0
12	10/10	10/10	0 0
13	8/8	7/7	0 0
14	9/9	6/6	0 0

There were 17 ICD-10 codes chosen as commonly used for patients with AUD. These were used for the inclusion criteria. Shown in Table 4 are the 17 ICD-10 codes, and within these ICD-10 codes, seven were seen within this study. The following ICD-10 codes were seen the most: F10.1 Alcohol abuse; F10.20 Alcohol dependence, uncomplicated; F10.23 Alcohol dependence with withdrawal; and F10.239 Alcohol dependence with withdrawal, unspecified. The percentages used for each ICD-10 code are also shown in Table 4.

## DISCUSSION

This is a feasibility study with a descriptive exploratory design and a pretest/posttest of an intervention. The intervention includes MI, tailored discharge education, and interprofessional communication via new EMR flow sheet documentation. The participants were mostly male, lived at home, and were White and non-Hispanic. All participants wanted to quit drinking. The intervention was feasible from a time standpoint as it only took about 15 minutes or less.

TABLE 4 "F10 Alcohol-Related Disorders" ICD-10 Group		
F10.1	F10.1 - Alcohol abuse	21.4%
F10.10	F10.10 - Alcohol abuse, uncomplicated	0%
F10.12	F10.12 - Alcohol abuse with intoxication	0%
F10.120	F10.120 - Alcohol abuse with intoxication, uncomplicated	0%
F10.121	F10.121 - Alcohol abuse with intoxication delirium	0%
F10.129	F10.129 - Alcohol abuse with intoxication, unspecified	0%
F10.20	F10.20 - Alcohol dependence, uncomplicated	21.4%
F10.229	F10.229 - Alcohol dependence with intoxication, unspecified	0%
F10.23	F10.23 - Alcohol dependence with withdrawal	14.3%
F10.230	F10.230 - Alcohol dependence with withdrawal, uncomplicated	0.07%
F10.231	F10.231 - Alcohol dependence with withdrawal delirium	0%
F10.232	F10.232 - Alcohol dependence with withdrawal with perceptual disturbance	0.07%
F10.239	F10.239 - Alcohol dependence with withdrawal, unspecified	21.4%
F10.92	F10.92 - Alcohol use, unspecified with intoxication	0%
F10.920	F10.920 - Alcohol use, unspecified with intoxication, uncomplicated	0%
F10.921	F10.921 - Alcohol use, unspecified with intoxication delirium	0%
F10.929	F10.929 - Alcohol use, unspecified with intoxication, unspecified	0.07%

Note. ICD-10 = International Classification of Diseases, Tenth revision.

The purpose of this feasibility study was to make a system level change and standardize the discharge process for the population with AUD. MI and tailored discharge education were conducted on all participants. These were implemented into their discharge process. The EMR flow sheet documentation occurred postintervention with each participant. A flow sheet was created and added into the EMR system. This system level change was implemented with those who were admitted to the local hospital system. This implementation was tested by the readiness and confidence scores taken preintervention and postintervention. The improved readiness and confidence scores postintervention showed a positive impact from the system level change.

In this study, the baseline readiness and confidence scores were high. This indicates that, for clinicians, they should aim their interventions to the action stage of change. Because many of the participants have tried a variety of options in the past to make a change, they were knowledgeable about what works and what does not work for them. MI is very good in that a large part of the intervention is listening and coaching the patient toward arguments for change and using ways that will work for them. Part of the MI used in this study also involved creating small goals to make a change during the first week postdischarge. With guidance, each participant was successful in finding small goals and writing them down before discharge. The intervention showed effectiveness by the increase of readiness and/or confidence scores of some participants postintervention, which indicates an area for future study. Five of the participants had an increase in score in either or both readiness and confidence postintervention. However, there are seven scores within all readiness and confidence scores that showed an increase. This suggests a future hypothesis that MI, tailored

education, and interprofessional communication via EMR flow sheet documentation change is useful for patients with AUD contemplating change in the near future, and a larger study should be conducted to determine efficacy and further refining of the intervention.

The strength of this study is that the intervention is brief and creates a positive impact for the patients. With the responses to the MI questions and the ruler scores, the interviewer is able to get a clear picture of what stage of change the patient is at. Having a better understanding helps the interviewer determine what are the next steps to take. The study did have some limitations, which must be considered. With this small sample, the assumptions of either statistical test were not met. This is a sensitive topic for the participants, and a therapeutic relationship must be developed for an open conversation to occur. In addition, the study was limited to only two floors, one team of physicians, a short study period of 3 months, a high number of refusals probably because of the sensitive nature of the study's topic, and nursing staff's lack of awareness for predicting discharge date and time. These limitations make this study not generalizable to the whole population of patients with AUD and must be interpreted in light of these limitations.

## CONCLUSION

The purpose of this feasibility study involved MI, tailored discharge education, and documentation on the EMR to increase readiness and confidence in behavior change in patients with AUD. MI script and a tailored discharge education sheet were created, and interprofessional communication occurred with the EMR flow sheet documentation on all 14 participants.

The pre/post confidence score changes showed a minimal change using a  $p$  value of .10 (significance level), which is commonly used for a feasibility study. This could lead to, with further study and a higher sample size, a generation of a hypothesis that therapeutic presence increases a person's readiness and confidence to change. This information can be used to tailor MI and education, which should be used to increase the person's stage of change to action stage.

The responses during MI and the high baseline readiness and confidence scores indicated patients were in contemplation and intending to change. This indicates that the intervention should be targeted to the action stage of change. Seven scores increased postintervention score; this suggests a future hypothesis that MI, tailored education, and interprofessional communication via EMR flow sheet documentation are useful for patients with AUD contemplating change in the near future, and a larger study should be conducted to determine efficacy and further refining of the intervention.

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