ASK, ADVISE, ASSIST AND FOLLOW: AN EVIDENCE BASED PROJECT TO ADDRESS UNHEALTHY ALCOHOL USE IN A FREE CLINIC SETTING

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

of Doctor of Nursing Practice

By

Lisa. K. Floyd

Liberty University

Lynchburg, VA

July 1, 2020

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ABSTRACT

Preventative care in free clinic settings aims to mitigate health risks for vulnerable populations. Heavy alcohol intake is a major threat to physical and mental health. Wellness care for free clinic patients must include regular screening for alcohol use in accordance with national guidelines. The purpose of this project was to implement and evaluate an evidence-based practice change to improve alcohol screening and intervention in a free clinic setting. The NIH/NIAAA screening, brief intervention, and referral for treatment (SBiRT) process was implemented. A convenience sample of de-identified patient charts was reviewed to assess alcohol screening before (n = 38 charts) and after (n = 30) a staff education intervention; data collected (n = 68) did not include demographic or patient identifiers to protect privacy. Comparison of HEDIS scores before and after intervention showed improved alcohol screening and intervention/referral for treatment rates.

Keywords: Alcohol use, SBiRT, free clinic setting, unhealthy alcohol use, interdisciplinary care

Dedication

For my beloved family, especially my great-grandmother, Ella Davis Stuckey, who lost her husband and three of her five children to alcohol and substance use. May God guide us in the mission to help those who use alcohol and other substances to relieve spiritual distress, depression, anxiety, and other disabling mental health conditions. May we ease the suffering of persons in crisis through the grace of our Lord Jesus Christ.

Acknowledgements

This project was implemented during a time of national crisis. Completion was only possible through prayer and the blessing of team members in a Christian organization dedicated to serving the poor. My sincerest appreciation goes to Mark Champagne, Executive Director, for permission to continue the project during the COVID-19 pandemic. Team members included Jaqueline Butler, MD, Clinic Director; Laurie Choate, RN, ADN, Assistant Director; Sarah McDaniel, RN, BSN, Volunteer Staff Nurse; and Beverly Montgomery, MA, Vocational Rehabilitation Counselor. Thank you, team! Your love, support, and humor made this project a joyful journey.

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List of Abbreviations

AACN: American Association of Colleges of Nursing

AUD: Alcohol Use Disorder

AUDIT: Alcohol Use Disorders Identification Test

AUDIT-C: Alcohol Use Disorders Identification Test-Concise

COVID-19: Coronavirus Disease

DNP: Doctor of Nursing Practice

ETOH: Ethyl Alcohol

NIH/NIAAA: National Institutes of Health/ National Institute on Alcohol Abuse and Alcoholism

SASQ: Single Alcohol Screening Question

SBiRT: Screening and Brief intervention or Referral for Treatment

USPSTF: United States Preventative Screening Task Force

SECTION ONE: INTRODUCTION

Diagnosis and treatment of unhealthy alcohol use is a critical issue. Glamorizing alcohol consumption is a cross-cultural phenomenon in literature, advertising, and entertainment. Religious ceremonies, celebrations, social events, and sports often include alcoholic beverages. Alcohol misuse is a worldwide problem as low cost makes it easily accessible across the globe (World Health Organization, [WHO] 2017). Healthcare teams must address prevention, wellness, and treatment of chronic conditions affected by alcohol use, first by asking patients if they drink, then by asking how much, and how often.

Pandemic conditions upended societal norms. Alcohol use changed significantly after March 2020. Health officials closed restaurants and bars which led to increased alcohol consumption at home. Nielson (2020) reported a 234% rise in online alcohol sales and customers began demanding larger package sizes. Alcohol interferes with healthy immune protection. Drinking more alcohol during social isolation may increase a person's susceptibility to infection and interfere with treatment for chronic health conditions (Koob, 2020).

People unwittingly consume too much alcohol unless healthcare teams actively and consistently ask about alcohol use (United States Preventative Screening Task Force [USPSTF], 2019; Kaner et al., 2018; Timko, Kong, Vittorio, & Cucciare, 2016). Providers must ask patients about alcohol use, advise about healthy limits, assist with referral and treatment as needed, and follow-up to sustain improved health outcomes. Health care teams must be ready to address the problem of unhealthy alcohol use (Harris & Yu, 2016). Nurses address the holistic needs of patients with respect, empathy, and caring to maximize wellness in all dimensions. Patients trust nurses to advocate for their needs, goals, and safety.

Background

Heavy drinking contributes to injury, causes organ damage, and interferes with treatment of chronic disease. Ethyl alcohol [ETOH] enters the body quickly after ingestion, then migrates to tissue and cellular levels as easily as water. Neuroscientists struggle to define the actions of ETOH but have learned it affects neurons and neurotransmitters at cellular and molecular levels. Physiologic effects of alcohol vary according to level of exposure, chronicity, and an individual's metabolism. ETOH exposure adversely affects motor and cognitive functioning. Genetic predisposition may result in alcohol use disorder [AUD] and dependence (Abrahao, Salinas & Lovinger, 2017). Alcohol Use Disorder is classified in the International Classification of Diseases (ICD-10) with numerous subcategories for degree of alcohol use, and in combination with other conditions such as anxiety, mood disorders, and insomnia (CDC, 2020).

Nunes, Richmond, Marzano, Swenson, and Lockhart (2017) listed three outcomes associated with unhealthy alcohol use including, "motor vehicle accidents, violence, and loss of workplace productivity" (p. 508). Patients and families experience a decreased quality of life when alcohol use exceeds healthy limits. Jonas and Garbutt (2017) described alcohol-associated mortality as "among the leading causes of preventable death" (p. 824). Inconsistent screening causes missed opportunities. However, patients benefit from education about safe alcohol limits, effects of unhealthy alcohol use, and ways to decrease unhealthy alcohol use (O'Connor et al., 2018; Timko et al., 2016).

Previous reports indicted SBiRT training and use of structured assessment tools improved both screening rates and provider confidence (Agley et al., 2016; National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism [NIH/NIAAA], 2016; Williams et al., 2016). Implementation of quality measurement and tracking of alcohol screening, intervention, and referral for treatment assists in unveiling and treating unhealthy

alcohol use, thereby improving population health (Hepner et al., 2016; National Center on Addiction and Substance Abuse at Columbia University, 2012; Sahker & Arndt, 2016).

Problem Statement

Inconsistent and unstructured alcohol screening contributes to lower identification of patients who drink to excess. An evidence-based alcohol screening protocol is essential and timely considering current increased alcohol use during the COVID-19 pandemic. The program needed written materials, tools, and staff training as the project site/free clinic used paper charts but expressed how training could replace them with written materials and improved tools. The topic was important for free clinic patients motivated to stay healthy, stay employed, and control personal health costs when uninsured. The interdisciplinary teams in the identified free clinic set preventative care as a priority. Volunteers united in a mission to improve the health of the vulnerable population they serve.

Purpose of the Project

The purpose of this project was to implement an evidence-based alcohol screening tool, educate staff members on use of the tool, measure alcohol screening and treatment, and evaluate the effectiveness of the project. Staff received education and training on structured screening using written tools. While piloting the practice change simultaneous evaluation documented the effect on alcohol screening, intervention, and referral for treatment rates in the free clinic site.

Clinical Question: PICOT

Among volunteer health care providers (P), would SBiRT education intervention and use of an NIH/NIAAA screening protocol (I) compared to not using an alcohol screening protocol (C), increase screening practice, and referral HEDIS scores of adult patients ages 19-64 (O,) measurements at six weeks pre/post intervention (T)?

SECTION TWO: LITERATURE REVIEW

Search Strategy

I focused the literature review on exploring knowledge about alcohol use, evidence-based tools, and alcohol screening in a primary care setting. A starting point for the project was The National Institute of Health, National Institute of Alcoholism and Alcohol Abuse (NIH/NIAAA) protocol for alcohol screening, as it was listed under clinic protocols for the designated project site. Search criteria included online full-text sources, peer reviewed articles, English language, and dates of publication not greater than five years old.

I found an extensive literature base concerning alcohol and substance use. Of the 66 publications I retrieved, appraised, and reviewed the article matrix resulted in using 30 sources of evidence (Appendix A). The next step was to expand the literature review expanded from alcohol use and screening to include screening, brief intervention, and referral for treatment (SBiRT). I then refined the concepts to unhealthy alcohol use, alcohol use disorder, and SBiRT with emphasis on screening in the free clinic setting. To identify barriers to SBiRT I added a search for sources describing provider comfort levels and attitudes about alcohol.

Primary search sources included the Cochrane Library, CINAHL Plus with full text, PubMed Central (PMC), Up-to-Date, Ovid, and the Wiley Online Library, all accessed through the Liberty University Jerry Falwell Library. Keywords included *alcohol use, screening, adult alcohol daily use, at-risk drinking, health effects of alcohol, alcohol screening, screening frequency, free clinic setting, poverty and alcohol use, interdisciplinary team SBiRT, and prevention of alcohol use disorder.* I explored Gray literature for background information about alcohol use and alcohol trends during the COVID-19 pandemic. Hand searches proved less effective. I mined reference lists from selected sources. However, publication dates exceeded search parameters and therefore excluding them from

validation screening intervals within the stated criteria. As the project site provides services to adults, I excluded literature addressing alcohol use in pediatric and adolescent patients.

Table 1

Literature Sources and Evidence Levels for Matrix (Appendix A)

Levels of Evidence, Melnyk (University of Michigan, 2020)	Number of Articles
Level 1: Systematic reviews, meta-analysis of randomized controlled trials, clinical guidelines	8
Level 2: One or more randomized controlled trials	3
Level 3: Controlled trial, no randomization	1
Level 4: Case-control or cohort study	11
Level 5: Systematic review of descriptive and qualitative studies	0
Level 6: Single descriptive or qualitative study	4
Level 7: Expert opinion	3
Total:	30

Critical Appraisal

I organized the literature review evidence into two categories, systematic reviews/national guidelines, and research studies/expert opinion. Next, I appraised the sources individually using guidelines from Fineout-Overholt, Cleary-Holdforth, Lake, Magers, and O'Mathúna, (2017) and then summarized the information into a matrix table (Appendix A). Systematic review, meta-analysis, and public health collaboration are the basis for national clinical guidelines. Strong evidence from systematic reviews and secondary analysis reinforced the proposed project for a staff education intervention in a free care clinic serving uninsured patients.

Evidence from clinical guidelines and systematic reviews.

The United States Preventative Screening Task Force (USPSTF) recommended alcohol screening for all adults, including pregnant women, with brief intervention and referral for treatment (SBiRT) if patients exceeded healthy levels of alcohol (USPSTF, 2019). USPSTF based their recommendations on a systematic review of 45 studies and data from

277,881 adult participants. They also suggested using short tools such as the alcohol use disorders identification test (AUDIT- C) and NIH/NIAAA single alcohol screening question (SASQ) in the primary care setting. The USPSTF found insufficient evidence to support AUDIT-C and SASQ screening for adolescents and therefore only applied guidelines to adults.

The basis for the USPSTF guidelines originated from a systematic review of 113 research studies and 314,446 adult participants. O'Connor, et al., (2018) reported on the availability of helpful screening tools to detect unhealthy alcohol use and found evidence of harm from screening. O'Connor et al. (2018) emphasized the importance of screenings unhealthy drinking is prevalent and is "a leading cause of premature mortality" (p. 1910). Screening and intervention in a primary care setting is appropriate for patients who live with chronic disease (Kaner et al., 2018; NIH/NIAAA, 2016; Timko et al., 2016). Unhealthy alcohol use may induce or exacerbate chronic conditions. Chi, Weisner, Mertens, Ross, and Sterling (2017) studied 3811 hypertensive patients, and found lower blood pressure readings 18 months after alcohol screening and brief intervention, Limitations included reliability of blood pressure measurement, as interventions may not have caused a lower blood pressure reading. Sutherland (2017). concluded association and cause may be unrelated.

The National Institutes of Health/ National Institute of Alcohol Abuse and Alcoholism (NIH/NIAAA) published *Helping Patients Who Drink Too Much*, a comprehensive protocol with easy reference diagrams and visual aids for servings and sizes of alcoholic drinks (NIH/NIAAA, 2016). The goal for the protocol (based on 44 sources/studies) was to encourage and assist care free clinic providers to screen patients for alcohol use. The Centers for Disease Control and Prevention (CDC) guidelines for alcohol use screening and treatment are similar, listing a stepwise approach for use in a primary care setting (CDC, 2014). Healthcare providers should consider alcohol use when patients respond poorly to treatment of chronic disease (NIA/NIAAA, 2016).

Timko et al., (2016), reviewed 27 studies of patients with diabetes, hypertension, and depression and concluded screening and intervention may improve outcomes, however, there is a need for research including more chronic disease categories for a wider application to chronic disease and substance use other than alcohol. Kaner et al. (2018) analyzed 69 randomized controlled trials (RCTs) using a rigorous methodological approach to assess the effects of screening and brief intervention on unhealthy alcohol use. Screening and intervention reduced heavy drinking, when compared to no screening and intervention (Kaner et al., 2018).

A systematic review of 36 international studies after an exhaustive search did not recommend employing the alcohol use disorders identification test (AUDIT) in countries with a low prevalence of alcohol use disorder (Lange, Shield, Monterio & Rehm, 2019). Serving sizes of alcohol may differ from country to country, and screening tools must be appropriate for variations in volume served per glass, can, or container. Lange et al. (2019) found AUDIT to be less sensitive in countries with lower prevalence of alcohol use disorder.

National guidelines recommended limiting alcohol intake for adults, and complete avoidance of alcohol for children under 21 years-old, pregnant women or those seeking to become pregnant/at risk for pregnancy, and patients who take medications or for whom alcohol could worsen a health condition (CDC, 2014; USPSTF 2018; NIH/NIAAA, 2016). Recommended limits are age, health, and gender-specific:

- Adult men younger than 65 years (and without health conditions) must limit alcohol to 4 or fewer drinks in one day, and must not exceed 14 drinks in one week
- Adult women and men older than 65 years (and without health conditions) must limit alcohol to less than 3 drinks in one day, and must not exceed 7 drinks in one week
- Patients who have chronic conditions and take medications that interact with alcohol should avoid it completely (NIH/NIAAA, 2016).

A single alcohol screening question (SASQ) prompt begins the screening process with a possible yes or no answer: ‘Do you sometimes drink beer, wine, or other alcoholic beverages?’ (NIH/NIAAA, 2016). Visual reference tools are available in a pocket-sized guide to clarify serving sizes and can help healthcare care team members and patients discuss frequency, volume, and patterns of alcohol use.

Finally, the University of Columbia sponsored an exhaustive literature review, meta-analysis of large data sets, and conducted surveys and interviews to describe alcohol use disorder within the larger context of substance abuse, considered “this nation’s largest preventable and most costly health problem” (The National Center on Addiction and Substance Abuse at Columbia University, 2012, p. ii). Evidence-based recommendations were synthesized from 7000 sources, a collaboration of 175 experts, and inclusion of 360 patients living with addiction. The extensive Columbia University document did not meet date of publication criteria but was a rich source of evidence for consideration.

Evidence from research studies and expert opinion.

Researchers explored the concepts of unhealthy alcohol use, screening and intervention using quantitative, qualitative, and mixed method studies (Kim & Hendershot, 2020; McNeely et al., 2018) .Experts in primary care, public health, and substance abuse synthesized recommendations for alcohol screening from national guidelines, research literature, and clinical experience (Kim & Hendershot, 2020; McNeely et al., 2018). Research and expert opinion supported a single alcohol screening question (SASQ) and screening, brief intervention, and referral for treatment (SBiRT) to address unhealthy alcohol use, and education for interdisciplinary teams about unhealthy alcohol use (Kim & Hendershot, 2020; McNeely et al., 2018).

More patients were referred for treatment after screening when nurses and medical assistants have immediate access to patients and can successfully assess patients for alcohol use (Mertens et al., 2015). Surveys of two groups of adults waiting in a government office

completed an AUDIT-C via computer tablet. Participants (n=2379) asked to recall the previous week's drinking habits reported a lower alcohol intake than the control group. Staudt et al. (2019) concluded underreporting of alcohol use may be a common factor for all responses, and further study would be needed to validate actual alcohol consumption. Easy-to-use technology may be helpful to improve screening efficiency.

Healthcare teams may not have the training or confidence necessary to conduct SBiRT. Williams et al. (2016) found knowledge and attitudes regarding alcohol use may be a barrier to screening. Researchers suggested educating providers and exploring personal convictions. Previous experiences with addicted patients may be a barrier to affective learning domains and further explored with team members.

Puskar et al. (2016) surveyed 81 primary care interdisciplinary team members using the interdisciplinary education perceptions scale (IEPS). Participants were aware of the need for SBiRT training and collaboration with all members of the team. Alcohol screening can be effective, implemented by nurses, medical assistants, and clinical social workers. Busy clinics would benefit from an interdisciplinary approach to SBiRT when all members of the team are equipped to provide alcohol screening and intervention (Jonas, Miller, & Ratner, 2017; Jonas & Garbutt, 2017).

Advanced practice nurses are ideal for implementing SBiRT especially nurse practitioners in primary care settings (Rizer & Lusk, 2017). Nurse practitioners who felt comfortable with alcohol screening after SBiRT training increased the likelihood they would screen patients for alcohol use (Agley et al., 2016). Primary care physicians faced with a challenging daily workflow did not screen all patients for alcohol use (Bazzi & Saitz, 2018). Minimal research exists regarding nurse practitioner and physician assistant use of alcohol screening (Harris & Yu, 2016).

Vulnerable populations are at risk for heavy drinking. Prendergast, McCollister, and Warda (2016) studied 732 adult men and women during and after imprisonment. Interviews

and comparisons between SBiRT groups and control groups showed SBiRT to be ineffective for reducing alcohol intake and substance use after release from prison. Control and SBiRT groups demonstrated similar re-arrest rates of 54.3-61.5% (Prendergast et al., 2016).

There is a need for additional studies investigating possible links between substance abuse, alcohol use, and incarceration (Glass, Rathouz, & Gattis, 2017). Researchers documented how populations living in poverty, without social support, and minority status have higher incidences of binge drinking (Glass et al., 2017). They found associations between people with lower education levels and heavier alcohol intake. However, countries with higher income levels reported heavier alcohol consumption than countries with lower income levels (Huckle et al., 2017). Healthcare providers must have a formal plan for intervention, referral, and treatment (Glass, 2016). Free clinics must find community resources for patients who cannot pay for alcohol treatment.

Tools that screen for alcohol use include the alcohol use disorders identification test (AUDIT), shortened alcohol use disorders identification test (AUDIT-C), and single alcohol screening question (SASQ) test. The USPSTF recommends use of a shorter tool for alcohol screening in primary care (USPSTF, 2019). Johnson, Bembry, Peterson, Lee, and Seale (2015) measured the effectiveness of alcohol only screening tools compared with the alcohol smoking, and substance involvement screening test (ASSIST). Johnson et al. (2015) concluded the ASSIST was more effective for detecting alcohol use disorder, and the SASQ was most reliable for assessing unhealthy alcohol use. The ASSIST tool was a written self-report survey and would target a wider range of substance abuse (tobacco, alcohol, prescription, and street drugs) in an acute care setting (Johnson et al., 2015). Alcohol screening approaches must consider the continuum from unhealthy alcohol use, to binge drinking, and onward to alcohol use disorder including dependence (Iparraguirre, 2015).

Researchers found a need for reliable tools for alcohol screening in primary care settings. Jonas & Garbutt (2017) considered the NIH/NIAAA alcohol screening tool to be

reliable, with sensitivity of 85% and specificity of 79%. Tools with a high sensitivity and specificity can indicate “accuracy of a screening or diagnostic test” (Grove, 2017, p. 388). McNeeley et al. (2015) measured the validity of a computer single item screening questionnaire (SISQ) administered to 459 adults in an urban “safety net” clinic. The one-question screening tool demonstrated a sensitivity of 73.3% and specificity of 84.7 % for detecting unhealthy alcohol use. Computer screening may increase efficiency and screening rates for busy primary care clinics (McNeeley et al., 2015).

Screening, brief intervention, and referral for treatment (SBiRT) increased diagnosis of unhealthy alcohol use, depression, and drug use in a two-group comparison (n= 4176) but identified a need for longitudinal studies to validate SBiRT results in primary care facilities (Dwinnells, 2015). A national survey of 25, 984 adults who used alcohol found primary care visits included alcohol screening, but assessed uninsured persons and older males less often (Sahker & Arndt, 2016).

Nurses and medical assistants had higher rates of alcohol screening when compared to physicians, however, they offered interventions less frequently (Mertens et al., 2015). Self-report of alcohol use may also contribute to underreporting or faulty recall of amounts of alcohol used (NIH/NIAAA, 2016). A personal, non-judgmental, structured clinical interview by healthcare teams may improve detection of unhealthy drinking and alcohol use disorders. Brief intervention, teaching about safe alcohol limits, and referral for treatment with follow-up may improve measurable outcomes for wellness, prevention of injury, and chronic disease management.

An SBiRT intervention aimed at the entire healthcare team, empowers each member to follow the steps thoroughly to improve patient outcomes. Hepner et al. (2016) recommended measuring the effectiveness of SBiRT effectiveness to achieve quality measures. Implementing and sustaining SBiRT approaches a compliance rate of approximately 70% (Singh, Gmyrek, Hernandez, Damon & Hayashi, 2017). Improved

treatment for unhealthy alcohol use and alcohol use disorders must be a national health priority as state and federal governments spend an estimated 250 billion dollars per year, with the highest expenditures related to binge drinking and alcohol related injuries (Sacks et al., 2015).

Knowledge deficits regarding SBiRT procedures and maximum healthy alcohol limits are a barrier to alcohol screening (Barnes Le et al., 2015; Harris & Yu, 2016;). Providers trained for SBiRT reported increased confidence and improved perceptions of patients with unhealthy substance use patterns (Covington et al., 2018). Professional teams treat patients with respect, but attitudes toward alcohol abuse may be an issue. Health care team members who harbored negative feelings and expressed doubt concerning its efficacy were less likely to ask about alcohol use (Staton et al., 2018). Regular alcohol screening should be a routine part of health care (Rahm et al., 2015). Researchers found including patients as key stakeholders in a study of SBiRT perceptions, revealed they acknowledged positive outcomes when screening became regularized and offered to all those seeking care. The scholarly project site had the advantage of being a Christian-based organization. Barnes Le et al. (2015) found a positive association between Christian beliefs and attitudes toward alcohol screening and treatment.

Synthesis

Multiple common themes emerged from the literature:

1. Unhealthy alcohol use exists on a continuum from exceeding daily limits, to binge drinking, to heavy drinking and physiologic dependence.
2. Alcohol screening leads to recognition of heavy drinking and alcohol use disorders.
3. A variety of sensitive and specific screening tools are available; however, the selection of a tool must consider setting and population.
4. Education, experience, and structured tools help build provider confidence.

5. A team approach is ideal for SBiRT education and training for all team members as it improves efficiency and facilitates communication for improved patient care.
6. Provider attitudes toward addiction treatment success may affect screening.

Health care providers unfamiliar with healthy alcohol limits and SBiRT procedures may be less confident about alcohol screening and intervention, and less likely to screen patients (Harris & Yu, 2016; Barnes Le et al., 2015). Finally, health care costs from unhealthy alcohol use make intervention a top priority, exceeded only by the goal to improve quality of life and achieve positive health outcomes.

Conceptual Framework

Conceptual frameworks serve as navigational aids to stay on track and "connect all the important aspects of the project" (Moran, 2017 b, p. 258). The Iowa Model Collaborative developed the Iowa model to guide teams in achieving evidence-based change in diverse, global settings. Indra (2018) described the Iowa model as an algorithm with three major decision points. The first defined triggers, the second assessed the adequacy of evidence, and third discerned whether the change benefits the organization and should become permanent. Hanrahan, Fowler, and McCarthy (2019) found the revised Iowa Model to be essential component of a project to include parents in pediatric recovery rooms thereby improving family satisfaction. The revised Iowa model is practical for use in real-world settings to solve clinical problems using solutions clearly supported by evidence (Steelman, 2016).

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care (Iowa Model Collaborative, 2017) served as a conceptual framework to guide the scholarly project. The stepwise flow diagram provided structure for an evidence-based practice change, with directional flow arrows that specified steps to prioritize, gather evidence, plan, implement, evaluate, and disseminate results. Exit strategies were available if

the project needed reevaluation. I received written permission to use the Iowa Model (Appendix B).

I discovered the project trigger arose from a patient encounter and examined current practices for alcohol screening. The project clinic was not following evidence-based practice for alcohol screening. The project leader based the initial entry point for the project on national initiatives to increase alcohol screenings, brief interventions, and referrals for treatment (SBiRT) in the primary care setting (Bazzi & Saitz, 2018; Healthy People 2020 SA-15, Jonas & Garbutt, 2017; Office of Disease Prevention and Healthy Promotion, 2019; Rizer & Lusk, 2017; USPSTF, 2018). The purpose of the project was to improve screening, brief interventions, and referrals for treatment (SBiRT) for uninsured patients in a free clinic setting through a staff education and training intervention using the publication *Helping Patients Who Drink Too Much* (NIH/NIAAA, 2016), a single answer, single question (SASQ) process.

The Iowa Model Collaborative (2017) identified the first decision point of the model involved prioritization. Questions posed included whether they found the topic meaningful to the organization? I consulted with key stakeholders and included the clinic director, nurse manager, medical director, social worker, and organizational director. Key stakeholders agreed the project was meaningful and of high priority for the clinic population. After forming the project team, I invited key stakeholders to participate. The team, guided by the project leader, met at regular intervals via phone or in the clinic with respect for safe distances and personal protective equipment use during the COVID-19 pandemic. Team members included a nurse practitioner (project leader), assistant clinic manager (nurse), staff volunteer (nurse), and vocational rehabilitation counselor volunteer (counselor).

At the *second decision point,* an extensive literature review established a strong evidence base for implementing SBiRT screening, quality management, and sustainability for the project. The next step provided a detailed design and planning of methodology including sampling of de-identified charts for a retrospective review (Appendix I), formation of an

educational intervention lesson plan, assembling materials from the NIH/NIAAA tool kit, a formal proposal defense, and University Institutional Review Board (IRB) approval. Since the project addressed staff members instead of patients, the project qualified for an exempt status and received IRB approval (Appendix J). Final project plans ensured adequate resources and rigorous data collection.

Baseline data collection began after IRB approval. The team reviewed charts and collected data without patient identification. The project leader advertised the educational offering and delivered a brief narrated PowerPoint presentation via e-mail to all volunteers listed for the clinic. The project leader modified implementation plans to use a brief narrated slide presentation delivered via e-mail for the educational intervention, which included a colorful flip chart placed in clear view on the desk. The NIH/NIAAA made free materials available for use in each exam room.

The team collected post-intervention data for six weeks after the intervention. The project leader remained available during clinical operations to assist staff members and answer questions about alcohol use and screening procedures. Data analysis incorporated IBM® SPSS® Version 25 using frequency tables and chi square analysis.

The efficacy of the process occurred at the *third decision point*, when the project leader reviewed the evaluations to determine if a change was effective. The project leader planned to present findings to key stakeholders to determine continued use of the protocol. Quality indicators can measure sustainment of change along with staff survey of effectiveness with suggestions for improvement, and analysis of resources needed to continue the clinical protocol (Singh, Gmyrek, Hernandez, Damon & Hayashi, 2017). If key stakeholders decide the alcohol screening is unsustainable, the project leader will then consider alterations to the process, or alternative screening methods that are a better fit for the clinic.

Dissemination is a last step on the Iowa model, and the process cycles back to identify triggers or new ways to bring evidence-based change into the organization for improved

health outcomes (The Iowa Collaborative, 2017). Re-entry into the evidence-based process promotes a continued search for evidence with an open-minded approach to improving clinical care and patient outcomes. The healthcare team must aim for improved individual outcomes, but also strive for better population health. The interdisciplinary team constantly looks for any avenues to improve patient outcomes.

Summary

Unhealthy alcohol use is a global issue. The World Health Organization (2020) projected over 3 million worldwide deaths from alcohol in 2016 alone. Alcohol causes 200 types of injuries or diseases (WHO, 2020). In the United States, 35,823 persons died from alcohol-related causes in 2017 (Kochanek, Murphy, Xu, & Arias, 2019). The problem of unhealthy alcohol use and alcohol use disorder is a threat to individuals, families, communities, and populations.

Providers in a free clinic can assess and treat unhealthy alcohol use. Current literature supported a structured approach for alcohol use screening. Researchers recommended evidence-based tools for screening, brief intervention, and referral for treatment (USPSTF, 2019; NIH/NIAAA, 2016). The purpose of this scholarly project was to implement a staff educational intervention, implement clinical use of an evidence-based screening tool, measure outcomes, evaluate, and disseminate results. The overall goal was to improve alcohol screening and treatment in a free clinic setting.

SECTION THREE: METHODOLOGY

Design

The implementation and evaluation of the practice change for alcohol screening, brief intervention, and referral for treatment (SBiRT) was as a pilot project in a free clinic. The project was an evidence-based practice change, guided by the revised Iowa Model conceptual framework (Iowa Model Collaborative, 2017). The evidence-based project used a quasi-experimental approach to collect and analyze data. The free clinic was small, belonged to a larger statewide free clinic association, and agreed to allow the project (Appendix H).

Small pilot projects can pave the way for implementing a practice change on a large scale, to promote a "positive attitude toward the change" (Gallagher-Ford, 2019, p. 116). The change supported a national initiative to decrease the proportion of adults who drink excessively [SA-15, Healthy People 2020] (Office of Disease Prevention and Health Promotion, 2019). Melnyk (2017) recommended a "so what" (p. 132) approach to gauge the importance of a project. Outcomes tied to reimbursement are highly motivating, but the free clinic does not receive compensation. The clinic relies on donations to provide care and keep patients from visiting local emergency rooms in an effort to curb ineffective healthcare spending. Prevention of alcohol-related harm is an outcome that matters.

Measurable Outcomes

Measures from the HEDIS Measure Unhealthy Alcohol Use Screening and Follow-Up (National Committee for Quality Assurance, 2020) were adapted for the three-month project. Outcome measurement reflected only the presence of brief intervention and referral for treatment as opposed to long-term follow-up. The two HEDIS percentage calculations included:

- Screening percentage =

  $$\frac{\text{Number of patients screened for alcohol use}}{\text{Number of patients 18 years or older}}$$

- Counseling and follow-up percentage =

  $$\frac{\text{Patients who received intervention and/or referral for treatment}}{\text{Number of patients 18 years or older who scored positive for unhealthy alcohol use}}$$

HEDIS outcomes are appropriate for continued surveillance of quality outcomes including long-term follow-up. The pilot study tested an evidence-based practice change. On-going measurements would result if the changes improved alcohol screening and intervention for unhealthy use. Tracking alcohol screening rates, intervention, referral, and follow-up is necessary to prevent alcohol-related harm Strong evidence supported the use of alcohol screening and intervention as beneficial.

Setting

The project clinic, located in a small southeastern city, was part of a larger organization to help people in financial crisis. The ministry provided free help with rent and utility bills, food assistance, home repair, emergency shelter, and medical care. Area demographics for 2010 described a population of 39,606 persons [city], and 106,512 [county] (United States Census Bureau, 2019). Statistics for 2010 included a high number of minority persons (47.9 - 48.5 % Black or African American, 4.1- 4.7% Hispanic or Latino). During the 2010 census time period, 18.7 - 20.7% of persons were living in poverty, and 12.8 - 13.3% of persons had no health insurance (United States Census Bureau, 2019).

Limited data from the 2010 census data, may have underestimated poverty rates and lack of health insurance (United States Census Bureau, 2019). The project clinic served adults, aged 19 - 64 years, working or seeking employment, and without health insurance. Requirements included patients submitting applications to the clinic for qualification. The clinic saw patients of all races, genders, sexual orientation, religions, and homeless persons living in local shelters.

The clinic director qualified patients for care, coordinated referral care to community resources, handled supplies and logistics, along with leading operations including provider scheduling, credentialing, and medical records. The clinic used traditional paper medical records, which worked well with a small number of providers. The assistant clinic director retrieved paper charts after treating patients and once the clinic closed. Providers expressed satisfaction in using traditional paper or handwritten charting. An electronic health company donated a cloud-based electronic medical record back up system but required manual entry by the clinic assistant director/nurse manager. Although not accessed for project data collection, the small clinic population could manage the back-up electronic health system.

Specialist providers in the community donated services on a case-by-case basis. The clinic director and administrative nurse-initiated referrals and made calls to specialist providers in the community to request free care appointments. The local medical center had a charitable mission and offered diagnostic imaging and lab services at no cost to clinic patients and low cost to the clinic. Patients who needed non-emergent surgery applied for assistance through the local hospital. The clinic's volunteer vocational rehabilitation counselor coordinated mental health and substance abuse services at no cost to patients.

The vocational rehabilitation counselor volunteer was also a full-time employee at a vocational rehabilitation agency. The counselor was a valuable asset to the interprofessional team with extensive experience and education, along with numerous contacts at local and state levels. Patients who screened positive for unhealthy alcohol use received a brief intervention from the primary care provider and offered counseling from the vocational rehabilitation counselor. Patients diagnosed with alcohol use disorder or dependence received immediate referred to the vocational rehabilitation counselor who provided counseling.

Inpatient or outpatient alcohol treatment was available for all patients regardless of insurance status with assistance from the mental health volunteer (B. Montgomery, personal communication May 26, 2020). All team members communicated regularly for consultation,

referral, and follow-up care. The Christian clinic offered holistic care to include primary preventative care, treatment of acute and chronic conditions, behavioral health, and spiritual care for patients. The process for alcohol and substance treatment was in place prior to the project and continued after project completion.

The goal for the practice change project was to decrease heavy alcohol by identifying patients in need of intervention. The mission for the larger Christian organization was to improve the lives of individuals and families in financial crisis. The medical clinic provided free care and medications to families in need. The project aligned with the goals of a free medical clinic, affirming unhealthy alcohol intake can cause adverse health effects and worsen chronic conditions such as hypertension, diabetes, and depression (Timko et al., 2016). See Appendix H to view the letter of organizational support.

Barriers to implementation included:

- frequency of operations, the clinic was open each Tuesday evening from 1600-2030 (or until service all patients received service)
- volunteer staff members worked full-time at other clinics during the day, or were only able to work one Tuesday per month
- paper documentation, more cumbersome for retrospective chart reviews
- limited timeframe for the project
- COVID-19 requirements for social distancing prevented a group presentation
- potential negative attitudes of health care providers regarding alcohol use
- currency of e-mail list of volunteers

Population

Members at the project clinic reflected a diverse staff including: mixed genders, young adults, elderly, military veterans and retirees, active duty military and families, along with those who work at outside full-time jobs, part-time jobs, or in the home to care for children.

The project was appropriate for a small free clinic with limited resources and a multidisciplinary team. Volunteers included medical receptionists, pharmacy technicians, pharmacists, nurses, medical assistants, physical therapists, nurse practitioners, physician assistants, physicians, and a vocational rehabilitation counselor. Education varied from technician to doctoral degrees and volunteers unified to help patients in need. Staff members used an online scheduling system to sign-up for clinic nights and received e-mail reminders and newsletters from the organization.

DNP Essentials

Nurses and advanced practice nurses collaborate to promote evidence-based change in any setting (Gallagher-Ford, 2019). The project leader planned to demonstrate mastery of skills according to the Essentials of Doctoral Education for Advanced Nursing Practice (American Association of Colleges of Nursing, 2006). Table 2 addresses the DNP essentials as applied to the alcohol screening project:

Table 2

Application of DNP Essentials to the Project

DNP Essentials (AACN, 2006)	Utilization of DNP Essentials in the Scholarly Project
I	Use of scientific process to examine unhealthy alcohol use outcomes
II	Evaluation of alcohol screening/intervention, improved care delivery to patient populations; dissemination aimed a microsystem, mesosystem, and macrosystem levels
III	Critical appraisal of the literature to determine evidence-based procedure for structured alcohol screening and intervention project
IV	Use of analytical software to measure outcomes before and after and evidence-based alcohol screening and intervention project

V	Examining national health care policy goals; advocacy for a population of uninsured patients at high risk for unhealthy alcohol use
VI	Team leadership and interprofessional collaboration to implement evidence-based change for alcohol screening and intervention
VII	Applying the Healthy People 2020 SA-15 objective to reduce the proportion of adults who drink excessively
VIII	Demonstrating expert assessment skills and using evidence-based practice to effectively address unhealthy alcohol use in a culturally diverse, free clinic

Ethical Considerations

The project followed all requirements for the protection of human subjects and did not use manipulation techniques. I collected alcohol screening data and searched medical records, which provided data on alcohol screening, while excluding identifying information. To protect patient privacy the research did not view patient names, birthdates, medical record numbers or other identifying information. The project complied with Health Information Privacy and Accountability Act [HIPAA] regulations and IRB approval conditions. The project qualified for an exempt status (Appendix J) since only retrospective, used de-identified chart data (Matuk, 2019).

Data Collection

The project team examined charts for patients seen six weeks prior to the intervention, and six weeks post-intervention. The clinic was small, making it possible to audit charts for all patient visits during the 12-week period. The project leader coordinated with the clinic director to access charts. Data was limiting and de-identifying data assured compliance with HIPAA requirements (Matuk, 2019). The project leader project leader developed a flow chart (Appendix I) and used a written spreadsheet to record the number of patients screened for

alcohol use, number of patients with positive and negative responses, those offered interventions, or referred for treatment of alcohol use disorder and alcohol dependence.

Piloting the practice change continued for six weeks after the education intervention with retrospective data collection. The project team examined charts for evidence of single answer, single question assessment. They recorded the number of negative and positive screenings, brief intervention delivered, referrals for treatment, along with total number of patients screened for the six-week period. The project leader analyzed the data using IBM® SPSS® Version 25.

Tools

Free evidence-based tools guided interdisciplinary team members to ask about alcohol, advise about healthy limits, and assist patients who need referral for treatment of alcohol use disorder (NIH/NIAAA, 2016; O'Connor et al., 2018). The educational intervention featured recommendations for yearly screening and follow-up after treatment, along with colorful reminders posted throughout the clinic. Prior to initial screenings, staff placed structured screening materials in each chart. Staff members received a personal copy of the laminated pocket guide for the process, to keep for future use.

The clinical protocol for the project clinic listed the NIH/NIAAA publication Helping Patients Who Drink Too Much: A Clinician's Guide (NIH/NIAAA, 2016) The project leader removed the toolkit from the clinic, and then requested copies of the guide, screening tools, and patient education materials from the NIH/NIAAA website. The project leader viewed two-hour educational videos and case studies. All materials were free upon request and written materials were available to upload and reproduce for clinical use.

The project leader phoned the NIH publications office on January 6, 2020 and requested permission to use the guide for a scholarly project. As of January 6, 2020, the materials became temporarily unavailable on the website due to minor revisions. The publications office granted permission for the project leader to use materials received

previously, supplies were adequate for the scholarly project and necessary reproductions. The NIH/NIAAA alcohol screening guide and instruction were available to all clinicians, free of charge, although not in print at the time of the project. The project leader absorbed the cost of copying materials

The clinician's guide, Helping Patients Who Drink Too Much (NIH/NIAAA, 2016) starts with a single alcohol screening question [SASQ] and guides clinic staff through the process for patients who use alcohol. National guidelines for screening recommended the use of this tool to screen all adults in the primary care setting (U. S. Preventative Screening Task Force, 2019). The SASQ is reliable for detecting unhealthy alcohol use (Johnson, Bembry, Peterson, Lee, & Seale, 2015).

The NIH/NIAAA clinician's guide screens for alcohol use from abstinence, to within healthy levels, to dependence. Iparraguirre (2015) emphasized a need for screening that covers all levels of alcohol use. The NIH/NIAAA clinician's guide is a reliable screening tool with a sensitivity of 85% and specificity of 79% (Jonas & Garbutt, 2017), indicating a high level of accuracy for diagnosing unhealthy alcohol use, alcohol use disorders, binge drinking, and alcohol dependence.

Intervention

The intervention included an 11-slide, narrated PowerPoint presentation with a short narration time of seven minutes total, along with notes included at the bottom of each slide for reference. Placing a colorful, desktop laminated flip chart on the clinic staff desk explained the need for a practice change and new procedure. They described the piloted practice change as part of a national priority to improve population health (The National Center on Addiction and Substance Abuse at Columbia University, 2012; U. S. Preventative Services Task Force, 2018). I reproduced the NIH/NIAAA Clinician's guide steps as paper forms.

All volunteers received a test e-mail, resulting in an affirmative response rate of 47%. The volunteers replied to the initial e-mail to determine the currency of the mailing list. They

received the SBiRT training presentation via e-mail as well. One week later all volunteers on the clinic's mailing list received a SBiRT training presentation by email. They also placed a quick-reference flip chart in a prominent view on the clinic desk. A brightly colored basket of laminated SBiRT pocket guides was on the desk for each staff member to have a personal copy. The project leader was available during the 6-week pilot project to observe the process and answer questions from staff members.

Screening tools were available for use along with folders on the desk in examination rooms. They included a SBiRT pocket guide and patient information brochures from the NIH/NIAAA regarding healthy alcohol use. They placed a paper screening form in the chart for all patients scheduled for evening appointments.

The screening nurse used Step 1 (Appendix C) to ask each patient about alcohol use. All screening tools were paper forms. Nurses recorded the patient's name, date of screening alcohol use, and amount used if any by following the prompts for Step 1. Nurses offered positive reinforcement for patients who reported no alcohol, or alcohol within healthy limits. Nurses educated each patient on maximum healthy drinking limits, whether they drank or not.

If a patient drank more than the healthy limits listed in Step 1, the nurse placed a Step 2 and 3 (Appendix D) form into the patient's chart, and quietly notified the provider of alcohol consumption over the maximum recommended limits while maintaining patient privacy. Providers assessed for alcohol use disorder or dependence, then gave a brief intervention using Step 2 and 3 (Appendix E) form and recorded any pertinent data in the patient's progress note.

Patients diagnosed with alcohol use disorder or dependence and agreeable to treatment received referrals to the vocational rehabilitation counselor. Nurses completed the Step 4 form and notified the vocational rehabilitation counselor by phone. The team can coordinate outpatient or inpatient care as needed, at no cost.

Timeline

The project began after IRB approval from Liberty University (Appendix J). Pandemic conditions and social distancing procedures required adjustment of intervention strategies for the delivery of training via a narrated PowerPoint presentation through e-mail communication. This did not affect the project site approved continuation and timelines. The project site implemented new procedures and minimal staffing to meet healthcare adaptations recommended by the CDC for COVID-19 precautions. Project team members attended the clinic and maintained social distancing, wore masks at all times, washed hands frequently, and sanitized rooms between patient visits. Table 3 displays times and activities for project implementation:

Table 3

Project Timeline

Project Timeline

Dates Spring/Summer 2020	Activity	Time Required
March 24	IRB approval	--
April 6-11 May	Data collection for all de-identified patient chart reviews	6 weeks retrospective chart review
Week of May 18-22	PowerPoint presentation e-mailed to all clinic volunteers colorful flip chart posted at provider desk for review	1 week
May 27—July 1	Observation of practice change and post-intervention, de-identified data collection	6 weeks of post-intervention data collection
July 2-14	Data analysis, outcome analysis, results, implications, meet with the chair	2 weeks
July 20-24	Collaboration with APA editor	1 week
July 30	Defense	1 day
August -Sept.	Dissemination	8 weeks

Feasibility analysis

Members of the organization conducted an assessment to determine strengths, weaknesses, opportunities, and threats. The project clinic was a charitable organization, funded through contributions from individuals, communities, and religious organizations. Moran (2017a) described the SWOT analysis as a way to identify an expansive view of internal and external factors of the organization proposing a project. The project site manager agreed to allow the project to continue, although the closure of clinical sites to students occurred.

The project leader observed for new resources and challenges, looked for new opportunities, and tackled challenges as they occurred. Key stakeholders expressed enthusiasm and interest in the project. The nurse manager, vocational rehabilitation counselor, and a volunteer nurse served on the project team. Table 4 categorized strengths, weaknesses, opportunities, and threats for the organization:

Table 4

SWOT Analysis

Strengths (Internal):	**Weaknesses (Internal):**
• 26 years of service • Christian ministry • Dedicated volunteers • Diverse interdisciplinary staff (race, age, experience, specialty) • Medical clinic is part of a larger mission to help persons and families in financial crisis	• Private funding • Interdenominational variation • Volunteers not always available • Training for staff to include alcohol screening and other protocols • E-mail list currency • Costs of medications, supplies

Opportunities (External):

- Support from multiple churches and individuals
- Advertising for more patients, staff, supplies, donations
- Strong economy may increase donations
- EMR expansion to include alcohol screening templates
- Focus on volunteerism for all religions, or no religious beliefs

Threats (External):

- Increasingly secular society: possible perception of evangelism aimed at volunteers and patients
- High crime area
- Older, re-purposed building
- Potential fire hazards
- Loss of funds, facility
- COVID pandemic and illness among patients, staff, volunteers

Stable, balanced internal and external factors adequately supported the scholarly project. I estimated minimal costs. Alcohol screening tools were free from the NIH/NIAAA. Copying and reproduction costs were $209.90 for copying forms and laminated pocket guide reproduction. Adjustment of the intervention reduced total costs, as a luncheon was not possible due to pandemic conditions.

Dissemination costs include the preparation of a professional poster. Canceled in-person meetings and conferences created a need to produce a video presentation or short, narrated PowerPoint presentation to present to the clinic team, organization executive board, and state-level free clinic association's yearly meeting. The state nurses' association meets via videoconferencing, making it possible to present the project by using this platform. I submitted an abstract to the state nurses' association, however, they canceled the fall conference due to COVID-19 precautions.

Data Analysis

The project leader used IBM® SPSS® Version 25 for data analysis. The independent or "predictor variable" (Sutherland, 2017, p. 300) was an (SBiRT) educational intervention sent via e-mail to staff volunteers. Dependent variables included rates for alcohol screening,

results of screening, and intervention/referral for treatment. The 12-week period for data collection worked well for a small convenience sample.

Measurable outcome 1, HEDIS Measure

The project leader calculated HEDIS scores using frequency tables:

Screening Baseline Percentage =

- Number of patients screened for alcohol use
  Number of patients 18 years or older

Post-intervention Screening Percentage =

- Number of patients screened for alcohol use
  Number of patients 18 years or older

Measurable outcome 2, HEDIS Measure

Pre-intervention Counseling and Follow-up Percentage =

- Patients who received intervention and/or referral for treatment
  Number of patients 18 years or older who scored positive for unhealthy alcohol use

Post-intervention Counseling and Follow-up Percentage =

- Patients who received intervention and/or referral for treatment
  Number of patients 18 years or older who scored positive for unhealthy alcohol use

SECTION FOUR: RESULTS

Preliminary Analysis

I hand-recorded nominal (categorical) data on two separate spreadsheets (before and after intervention periods) during the data collection period from May 26-June 30, 2020. Variables categorized in SPSS variable view as:

1. Intervention (yes or no)
2. Screening (yes or no)
3. Results (unknown, yes, or no)
4. Intervention or Referral for Treatment [IRT] (yes or no)
5. Missing (yes or no).

The data collection sheet used before the intervention had one blank line, categorized as missing data. The after-intervention data collection sheet had no missing data. I did not record demographic data in accordance with the project design to protect patient privacy.

Variables 1, 2, 4, and 5 had only two possible answers, yes or no. Variable number 3 (Results) recorded whether the chart identified a patient positive for unhealthy alcohol use or heavy drinking (yes), no alcohol use or within maximum drinking levels (no), or no indication of the amount of alcohol used documented (unknown). Calculating frequency and chi-square assessed any effect of the staff education intervention (variable 1) upon screening rates, alcohol use results, and intervention/referral for treatment rates.

Descriptive Statistics

The project team reviewed a convenience sample of sixty-eight charts (n = 68) during data collection. Thirty-eight charts were reviewed (n = 38) before the staff education intervention with one line on the datasheet left blank (annotated as missing data). After the intervention, a review of 30 charts (n = 30) occurred. Patient numbers were small as fewer people visited the clinic during pandemic conditions.

Measurable Outcomes

A staff education intervention and use of a structured SBiRT tool increased HEDIS outcome measure 1 (rate of alcohol screening) from 67% to 86.7%, an improvement of 19.1%. HEDIS outcome measure 2 (rate of intervention or referral for treatment) increased from 33 % to 100%, an improvement of 67%. The number of patients with unknown alcohol use decreased from 51.4% to 13.3%. Chi-square analysis of intervention versus screening results of screening and intervention or referral for treatment found a significant difference (ρ = 0.004 with 2 df) in patients with unknown alcohol intake amounts, and no significant difference for screening ($\rho = 0.068$ with 1df), or intervention/referral ($\rho = 0.210$ with 1 df).

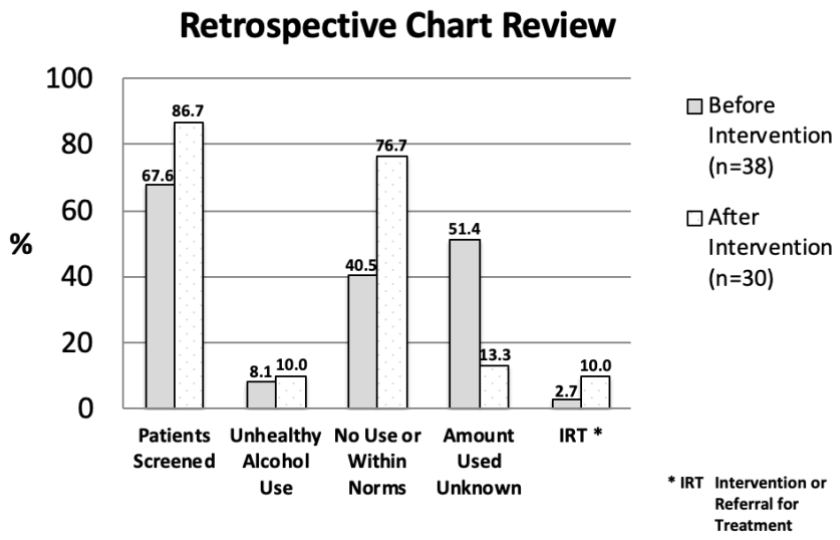
SECTION FIVE: DISCUSSION

Implications for Practice

The project highlighted a clinically significant issue, revealing equipping and training staff improves alcohol screening. Providers must quantify and document alcohol use. Structured alcohol screening improves the detection of hidden, unhealthy alcohol use (Jonas & Garbutt, 2017; Iparraguire, 2015). An SBiRT practice change in the free clinic significantly improved the assessment of alcohol intake by quantifying daily and weekly use. The use of a structured tool and alcohol screening education for volunteers in the free clinic heightened nurses' and providers' awareness of the problem. Nurses asked about alcohol, and improved documentation of quantity used after the practice change. Measurable outcomes (HEDIS 1 and 2) demonstrated improvement after educating and training the staff to use an SBiRT process in the free clinic. Figure 1 displays improvement of screening, discernment of alcohol quantity used by patients, and intervention or referral for treatment [IRT]

Figure 1

Comparison Before and After Implementing Structured Alcohol SBiRT



The Step 1 screening form (Appendix C) guided nurses to quantify alcohol use and provided written maximum limits for healthy alcohol intake (NIH/NIAAA, 2016). Nurses were then able to educate patients about safe limits for alcohol use. A guided approach to

alcohol screening empowered clinic nurses to identify patients who needed intervention for alcohol use and convey screening results to providers.

A strong support system for patients who need help with heavy drinking starts with initial screening, assessment, and advisement from providers, and continues through to referral for treatment and counseling from alcohol and substance abuse specialists. The vocational rehabilitation counselor ensures free care through outpatient group meetings such as Alcoholics Anonymous® (Alcoholics Anonymous, 2020) or inpatient care paid for through community funds. Access to a resourceful vocational rehabilitation counselor is critical, especially for vulnerable populations unable to afford care.

Families of patients who suffer from alcohol use disorder also may attend community outpatient group meetings such as Al-Anon (©Al Anon Family Groups, 2020). Due to current pandemic conditions, patients or families who have internet access may attend outpatient group meetings via online resources. Health disparities may exist for those patients who do not have internet access or technology. The vocational rehabilitation counselor would assess the patient's preferences and access to care.

DNP graduates must lead efforts to improve alcohol screening as preventative care, especially for populations at risk for the effects of heavy drinking. Clinical patient encounters and active surveillance provides opportunities to improve healthcare. DNP education prepares nurses to use the scholarly process for evidence-based care, evaluate outcomes, and collaborate with colleagues to achieve better health outcomes (AACN, 2006).

Limitations

First, pandemic conditions prohibited a live educational session with group participation and return demonstrations. The PowerPoint presentation was brief and included notes, but the project did not record who received and reviewed the slides. A test e-mail sent to clinic volunteers had a response rate of 47%, and the clinic director was unsure that the e-mail list was current and accurate. I limited the results to providers and nurses who I

contacted by e-mail. There is a need to replicate this practice change using a more direct educational format with active participation to compare outcomes. Data collection using electronic health records may have been more accurate, and less prone to missing data (form with blank line).

Second, clinic numbers were small, even smaller due to patients canceling appointments as patients may have feared viral exposure. Limiting the data analysis results to the project clinic aligned with the DNP scholarly project goals to implement and evaluate an evidence-based practice change (AACN, 2006). Zaccagnini & Pechacek (2021) described evidence-based DNP projects as unique to a targeted environment, may be useful in similar settings. Replication of the alcohol screening practice change in a free clinic with higher attendance would provide more data to evaluate the effectiveness of SBiRT education and the use of the NIH/NIAAA screening materials. Providers must also consider that patients may underreport alcohol use (Staudt et al., 2019). Patients trust nurses who can encourage sharing accurate information through expert communication.

Finally, one staff provider declined to use the new process. Further examination of attitudes toward alcohol screening would be informative and the addition of an attitudes survey would shed light upon potential affective barriers to SBiRT alcohol screening. Providers with bias may have previous negative experiences when working with substance abuse patients (Staton et al., 2018). The DNP graduate APRN must role model enthusiasm and hope for all patients, never giving up but working with patients to establish trust and respect. Nurse practitioners in the free clinic take every opportunity to engage patients in patient-directed planning. Personalized, consistent, and structured questions are asked to inquire about alcohol use and encourage healthy behaviors.

Sustainability

The volunteer healthcare team can sustain improved SBiRT practice using the tools already present in the clinic. Nurses perform initial screening, however the clinic

administrative nurse, a volunteer RN, along with the vocational rehabilitation counselor volunteer familiar with the new alcohol SBiRT practice, can fill various roles. The new practice fits well with the intake process for patient visits. Nurses placed alcohol screening forms into in the patient's chart. They also recorded the date of annual screening on the patient summary sheet. The copy leader made extra copies for sustained use.

The project leader serves as a regular clinic volunteer nurse practitioner and will encourage continued use of the SBiRT tools and process. Bringing all providers on board with the practice change will take persistent, positive encouragement with re-training as needed. The DNP graduate will monitor progress and avoid complacency with a return to inconsistent alcohol screening.

Sustainability requires consideration of organizational factors, both internal and external, that affect success for a practice change (Waxman, 2018). The sustainability plan considered the strengths and weaknesses of the organization and found faith-based organizations support any change, which helps the clients of the clinic stay healthy and employed. The ability to sustain the project without additional funding fits well with a free clinic supported by community donations. Volunteers who regularly work in the clinic participated as the project team. They will continue to serve as sustainability champions and cheerleaders for providers who adopt practices to improve alcohol screening, intervention, and treatment. Melnyk (2019) implored nurse leaders to, "walk the talk" by role modeling evidence-based practice changes to all members of the organization, to move from a culture of complacency to one that seeks excellence. The NIH/NIAAA continues to revise the toolkit. The role of the DNP graduate is to alert the team when changes occur and make updates as required.

Dissemination

Spread requires communication. The DNP graduate will seek opportunities and use innovation to disseminate the results of an alcohol SBiRT evidence-based project for the free

clinic. Waxman (2018) recommended dissemination planning during all stages of the project. Global changes occurring due to the COVID-19 virus will lead to alterations to the dissemination plan. I anticipate submitting the project for publication to Liberty University Scholar's Crossing in embargoed status. With great intentionality, the outline reflects meeting formatting standards for submission as a journal article manuscript for peer-reviewed journals.

The project leader submitted an abstract to the state nurses association APRN fall conference Call for Posters, however, the organizers canceled the conference due to the pandemic. The DNP graduate requested time at a state nurses association future web conference to present findings from the alcohol SBiRT project. During this time of increased alcohol consumption, it is imperative to spread the word to peers about the urgent need to screen and educate patients about alcohol use. I will also create a professional poster for display in the clinic, presentation at the meso-organizational level, and executive board. Additional plans for dissemination include presenting the poster to the state free clinic association to facilitate spread to other free clinics.

Conclusion

Alcohol screening, intervention, and treatment has never been more important. Healthcare teams should embrace preventative care to reduce risks to all populations during a time of emotional stress, unemployment, and increased drinking in the home. Advanced practice nurses, especially DNP graduates, can model evidence-based practices. The global crisis driving higher alcohol use requires the healthcare team to ask about alcohol, advise about safe levels for alcohol use, and assist patients who are consuming too much alcohol. Patients and families can benefit from risk avoidance, wellness coaching, and patient-centered partnerships in the free clinic setting and across all health systems.

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Appendix A: Article Matrix

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
U. S. Preventative Services Task Force (2019). *Final recommendation statement: Unhealthy alcohol use in adolescents and adults.* https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/unhealthy-alcohol-use-in-adolescents-and-adults-screening-and-behavioral-counseling-interventions	To update 2013 screening requirements for unhealthy alcohol use	45 studies N=277,881 adolescents, adult men, adult women, and pregnant women	Systematic review	Adults 18 and older, including pregnant women should be screened in primary care setting for unhealthy alcohol use, and offered brief intervention and referral and treatment of alcohol use	Level 1: systematic review (University of Michigan, 2020)	Intervals for screening not specified Evidence for adolescent screening for unhealthy alcohol use in the primary care setting	Yes The recommendation is given a B rating by the USPSTF, and evidence support that screening will benefit patients
O'Connor, E. A., Perdue, L.A., Senger, C. A., Rushkin, M., Patnode, C. D., Bean, S. I., & Jonas, D. E. (2018). Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: Updated evidence report and systematic review for the US Preventative Services Task Force. *Journal of the American Medical Association,* 320(18)1910-1928. https://doi.org/10.1001/jama.2018.12086	To support the updated USPSTF guideline on screening and intervention; this review was the basis for USPSTF recommendation	113 research studies N=314,446 adults Studies included the U.S. and other countries	Systematic review	Screening tools are readily available and appropriate for identifying patients with unhealthy alcohol intake There is no evidence that use of screening tools causes harm	Level 1: systematic review (University of Michigan, 2020)	Studies applied to adults only More research is needed for screening and treatment of unhealthy alcohol use in adolescents	Yes This study supports the use of a screening tool for adults in the primary care setting Screening and early intervention may prevent disease progression

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Centers for Disease Control and Prevention (2014). *Planning and implementing screening and brief intervention for risky alcohol use: A step-by-step guide for primary care practices*. https://www.cdc.gov/ncbddd/fasd/documents/AlcoholSBIImplementationGuide-P.pdf	To establish clinical guidelines for alcohol screening and brief intervention in primary care settings	National guideline, no sample	Compilation of national guidelines by the CDC; a collaborative work by public health researchers and officers	Comprehensive structure for implementing alcohol screening Step by step manual for beginning a health screening process for unhealthy alcohol use and treatment	Level 1: guideline (University of Michigan, 2020)	Guideline, not a research study Reference list: 19 sources Exceeds 3-5-year timeline	Yes Reliable information from a national agency whose primary mission is improved public health
U. S. Department of Health and Human Services, National Institute on Alcohol Abuse and Alcoholism (2016*). Helping patients who drink too much: A clnician's guide*. NIH Publication No. 07-3769 https:// www.niaaa.nih.gov/publications	To establish national guidelines and increase ability of primary care and other areas to screen patients for unhealthy alcohol use, give brief information regarding use, and refer patients who have alcohol use disorders	N=44 studies/ sources	Examination of current evidence and collaboration of NIAAA physicians, advanced practice nurses, clinical researchers, and physician assistants	A comprehensive guide to implement screening, brief intervention, referral, and treatment parameters Provides education and tools for primary care clinics to implement screening for alcohol	Level 1: guideline (University of Michigan, 2020)	Guideline, not a research study Relies on patient self-report, patients who cannot read will need assistance with written materials	Yes Guidelines from the National Institutes of Health Clinical site lists this tool in protocols but has not used the materials in practice

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Kaner, E. F. S., Beyer, F. R., Muirhead, C., Campbell, F., Peinaar E. D., Bertholet, N… Burnand, B. (2018). Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database of Systematic Reviews,* 2, 1-246. https://doi.org/10.1002/14651858.CD004148.pub4	To determine whether screening and brief intervention reduced heavy drinking	69 randomized controlled trials N=33,642: adult primary care patients, including first visit urgent care and emergency room patients	Cochrane methodological analysis	Screening and brief intervention reduced unhealthy alcohol consumption when compared to no intervention	Level 1: systematic review (University of Michigan, 2020)	Publication bias (Funnel plot) Self-report bias by patients and under-reporting of alcohol intake	Yes This is an extensive document, 152 pages with meticulous reporting Authors included spirited criticism and response on p. 240
Timko, C., Kong, C., Vittorio, L., & Cucciare, M. A. (2016). Screening and brief intervention for unhealthy substance use in patients with chronic medical conditions: A systematic review. *Journal of Clinical Nursing,* 25, 3131-3143. https://doi.org/10.111/jocn.13244	To assess evidence regarding alcohol screening tools for use in primary care for patients with chronic disease	27 Studies of adults with diabetes, hypertension, or depression who were screened for alcohol use with a screening tool Primary care setting	Systematic review	Screening adults with diabetes, hypertension, or depression, coupled with a brief intervention, improves outcomes and leads to healthier self-care.	Level 1: systematic review (University of Michigan, 2020)	Review was limited to three chronic conditions; more research needed for a wider application to chronic disease	Yes. Data highlighted the role of nurses at the frontline for alcohol screening in the primary care setting Leadership support will be needed

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Mertens, J., Chi, F. W., Weisner, C. M., Satre, D. D., Ross, T. B., Allen, S…Sterling, S. A. (2015). $Physician versus non-physician delivery of alcohol screening, brief intervention, and referral to treatment in adult primary care: the ADVISe cluster randomized controlled implementation trial. *Addiction Science and Clinical Practice,* 10(26), 1-17. https://doi.org/ 10.1186/s13722-015-0047-0	To study alcohol screening implementation rates between physicians, nurses and medical assistants in the primary care setting	N=54 primary care clinics N= 639,613 adult primary care visits	Randomized controlled trial, parallel groups with cluster randomization	Nurses and medical assistants scored highest on patient screening, as they generally see the patient for initial assessment More patients were referred for alcohol treatment as compared to control group	Level 2: one or more randomized controlled trials (University of Michigan, 2020)	Primary care clinic environment is fast paced, hectic which limited physician time Possible negative staff toward alcohol use, privacy and screening	Yes This study supports initial screening by nurses and medical assistants to increase the amount of patients screened for unhealthy alcohol use
Sahker, E. & Arndt, S. (2016). Alcohol use screening and intervention by American primary care providers. *International Journal of Drug Policy,* 41, 29-33. https://doi. org/ 10.1016/j.drugpo.2016. 11.013	To determine how often patients are assessed for alcohol use, and if intervention occurs	Adults 17 and older, paid to answer the 2014 US National Survey on Drug use and Health N= 25,894	Retrospective data analysis of de-identified patient records Regression analysis	Most patients (76.5%) were asked about alcohol use during a primary care visit Uninsured persons and older males were asked about alcohol less often	Level 4: cohort study (University of Michigan, 2020)	Survey did not specify which health care team member performed screening Self-report, possibly faulty memory	Yes Information about uninsured patients justifies a plan to increase screening in a free clinic

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Hepner, K. A., Watkins, K. E., Farmer, C. M., Rubenstein, L., Pederson, E. R. & Pincus, H. A. (2016). Quality of care measures for the management of unhealthy alcohol use. *Journal of Substance Abuse Treatment,*76, 11-17. https://doi.org/10.1016/j.jsat.2016.11.00	To describe, develop and validate quality measures for alcohol use screening and treatment of unhealthy alcohol use	N= 25 Measures for alcohol screening synthesized from literature review	Literature review Rand/UCLA Appropriateness Method	25 quality measures prioritized and scored for validity Measures developed cover a continuum: unhealthy alcohol use to inpatient treatment, follow-up	Level 6: single descriptive study (University of Michigan, 2020)	Literature review process and sources not described Silo approach to panel of experts, did not include multi-disciplinary team Expert bias possible	Yes The study supports use of a metric for evaluating the quality of care The project plan will include using a HEDDIS score for auditing charts
Prendergast, M. L., McCollister, K., & Warda, U. (2016). A randomized study of the use of screening, brief intervention, and referral to treatment (SBIRT) for drug and alcohol use with jail inmates. *Journal of Substance Abuse Treatment,* 74, 54-64. https://doi.org/ 10/1016./j.jsat.2016.12.011	To study alcohol use screening, brief intervention, referral and treatment (SBIRT) in a population of persons at risk for alcohol and substance abuse, and recidivism	N= 732 Incarcerated adults, men and women	Randomized controlled trial Interviews, outcome comparison of substance use after intervention and release from jail	SBIRT did not significantly reduce alcohol or substance use after release from prison Control and SBIRT groups 50-60% rate of re-arrest	Level 2: randomized controlled trial (University of Michigan, 2020)	IRB approved, but vulnerable population Compensation for participation Inmates may have underreported substance abuse	Yes The project clinic/target population includes unemployed persons, homeless persons, and persons using illegal drugs (at risk for prison)

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
McNeeley, J., Cleland, C. M. Strauss, S. M., Palamar. J. J., Rotrosen, J., & Saitz, R. (2015). Validation of self-administered single-item screening questions (SISQs) for unhealthy alcohol and drug use in primary care patients. *Journal of General Internal Medicine,* 30(12) 1757-1764. https://doi.org/10.1007/s11606-015-3391-6	To measure the validity of a computer single item screening questionnaire (SISQ), as compared to a traditional interview format	N=459 Adult patients in two 'safety net' primary care clinics co-located with a hospital in an urban setting	Mixed methods Patient survey, self admin., using a computer tablet Saliva samples from one subset of patients (N=230)	71% of subjects were able to use tablet and answer survey Sensitivity for detecting unhealthy alcohol use was 73.3% and specificity 84.7% using the computer SISQ Use of technology may increase screening rates and improve time efficiency	Level 4: cohort study (University of Michigan, 2020)	Vulnerable population, low access to care English only, language bias Validity of saliva testing tool not described	Not useful to support a change, but will be considered in the discussion of DNP Essential IV, technology to improve patient care Will address technology in D & I plan
Johnson, J. A., Bembry, W., Peterson, J., Lee A., & Seale, J.P. (2015). Validation of the ASSIST for detecting unhealthy alcohol use and alcohol use disorders in urgent care patients. *Alcoholism Clinical and Experimental Research,* 39(6), 1093-1099. https://doi.org/10.1111/acer.12733	To measure the effectiveness of the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)in an acute care clinic	N=442 Acute care patients	Pencil and paper survey (ASSIST); Single alcohol screening question (SASQ) follow-up interview after 90 days	The ASSIST tool is more sensitive and specific for identifying alcohol use disorder; SASQ more sensitive and specific for unhealthy alcohol use	Level 4: correlational design (University of Michigan, 2020)	Convenience sample Recruitment bias Three urgent care clinics in dissimilar communities	Yes; SASQ is an effective tool to identify unhealthy alcohol use; Use AUDIT to follow SASQ if positive

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Iparraguirre, J. (2015). Socio-economic determinants of risk of harmful alcohol drinking among people aged 50 or over in England. *British Medical Journal Open,* 5,(e007684), 1-14. https://doi.org/10.1136 /bmjopen-2015-007684	To identify social and economic risk factors for unhealthy alcohol use	N=9251 Adults older than 50 years, living in England	Logistic regression analysis of public data	Women over 50 with higher income had higher levels of alcohol intake and binge drinking behaviors Screening tool must address daily and weekly alcohol intake to identify binge drinking	Level 4: cohort study (University of Michigan, 2020)	Length of study not sufficient to address generational drinking trends Results specific to a limited population	Yes Information supports the use of a screening tool that asks about daily and weekly use, to detect binge drinking
Sacks, J. J., Gonzales, K. R., Bouchery, E. E., Tomedi, L. E., & Brewer, R. D. (2015). 2010 national and state costs of excessive alcohol consumption. *American Journal of Preventative Medicine,*49(5), e73-e79. https://doi.org/ 10.1016/j.amepre.2015.05.031	To examine data and describe the financial impact of unhealthy alcohol use and alcohol use disorders, and provide state-by-state estimates for 2010 alcohol-related health costs	26 cost components Death rates, average alcohol prices, medical care costs associated with excessive alcohol use	Data from 2006 cost components were applied and adjusted to estimate financial impact of unhealthy alcohol use in 2010	Excessive alcohol intake is a financial burden for state and federal governments: $250 billion dollars for one year alone, 40% of the cost was covered by government funds; 75 % of alcohol related health spending was due to binge drinking	Level 6: descriptive study (University of Michigan, 2020)	Cost estimates are subject to error, esp. under-estimation. Causes of death may not record alcohol as a contributing factor; Productivity losses not captured	Yes Screening and intervention are needed to reduce health spending Information helps to justify project

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
The National Center on Addiction and Substance Abuse at Columbia University. (20 12). *Addiction medicine: Closing the gap between science and practice.* https://www.centeronaddiction.org/addiction-research/reports/addiction-medicine-closing-gap-between-science-and-practice	To describe addiction, screening, and treatment To create evidence-based recommendations for addressing a national health problem	7000 sources, 5 large data sets, 175 experts on alcohol, focus groups, national surveys, examination of state and federal policy, and 360 patients living with addiction	Literature review, interviews and surveys, analysis of large data sets,	Treatment of additions is a national priority to improve population health. Public health initiatives should address education, cost barriers, special populations, screening, treatment, and management of addiction	Level 1 and 7: systematic review and expert opinion (University of Michigan, 2020)	Literature review method not described Sheer scale of report (over 400 pages); time-intensive for retrieval of information Exceeds 3-5 years, but a rich source	Yes High level synthesis that describes alcohol use within the scope of all addictions Applies to DNP Essential VII: Clinical prevention/ population health
Bazzi, A., & Saitz, R. (2018). Screening for unhealthy alcohol use. *Journal of the American Medical Association,* 320(18), 1869-1871. https://jamanetwork.com	To summarize national guidelines for alcohol screening, brief intervention, and referral for treatment (SBIRT)	N/A, not a study Scope: physician readers	Summary of guidelines/ recommendations	Data suggested all patients are not being screened for unhealthy alcohol use in primary care setting Physicians may be too busy to screen	Level 7: expert opinion (University of Michigan, 2020)	Publication for narrow audience of physicians Inconclusive evidence for using SBiRT for adolescents	Yes Direct, brief description of need for and tools to implement SBIRT Justifies project plan to use SBiRT

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Agley, J., McNelis, A. M., Carlson, J. M., Schwindt, R., Clark, C. A., Kent, K. A…Crabb, D. (2016). If you teach it, they will screen: Advanced practice nursing project leaders' use of screening and brief intervention in the clinical setting. *Journal of Nursing Education,*55(4), 231-235. https://doi.org/10.3928/01484834-20160316-10	To assess the effectiveness of teaching APRN project leaders to conduct alcohol screening and brief intervention in a clinical learning environment	N=21 Graduate nursing project leaders at a mid-western university	Mixed methods No Randomization Survey, educational intervention, measurement of alcohol screening in clinical encounters	Project leaders who felt comfortable and competent with screening skills were more likely to screen patients for alcohol use SBiRT training increases provider confidence	Level 4: cohort study (University of Michigan, 2020)	Small sample Convenience sampling Project leaders had clinical inexperience Project leader role may have increased screening (seen as compulsory for grade)	Yes Findings support an SBiRT training plan Education and training (staff nurses in particular) at the project site may increase the number of patients screened
Glass, J. E., Rathouz, P. J., Gattis, M., Young, S. J., Nelson, J. C., & Williams, E. C. (2017). Intersections of poverty, race/ethnicity, and sex: alcohol consumption and adverse outcomes in the United States. *Social Psychiatry and Psychiatric Epidemiology*, 52, 515-524. https://doi.org/10.1007/s00127-017-1362-4	To test intersectionality theory by association of demographic data and unhealthy alcohol use	N=21,140 Adults who drink alcohol Data from the 3-year National Epidemiologic Survey on Alcohol and Related Conditions	Descriptive analysis with correlation of race, gender, and poverty status with alcohol use	Binge drinking was associated with Black men and women in poverty; White and Hispanic culture had more social support, drank less alcohol	Level 6: descriptive study (University of Michigan, 2020)	Over-sampling of Black and White groups Other minority groups not included	Yes The project site is a free clinic with patients living in poverty; alcohol use must be addressed

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence to Supports Change?
Lange, S., Shield, K., Monteiro, M., & Rehm, J. (2019). Facilitating screening and brief interventions in primary care: A systematic review and meta-analysis of the AUDIT as an indicator of alcohol use disorders. *Alcoholism: Clinical and Experimental Research,* 43(10), 2028-2037. https://doi.org/10.1111/acer.14171	To measure the Alcohol Use Disorders Identification Test (AUDIT) usefulness for clinical practice	N=36 inter-national studies from an exhaustive literature review Studies without sensitivity, specificity or clear description of alcohol use ranges were excluded	Systematic review, data extraction, pooling and meta-analysis	The AUDIT tool is not recommended for use in countries with a low prevalence of alcohol use disorder (AUD). Consider other tools, especially with patients who have chronic medical conditions such as hypertension	Level 1: systematic review and meta-analysis (University of Michigan, 2020)	Standard drink sizes varied in some studies, which may decrease detection of AUD	Yes; The project will use an interview and brief intervention process; (AUDIT is to diagnose AUD) (NIH, NIAAA, 2016); referral for treatment by mental health spec.
Huckle, T., Romeo, J. S., Wall, M., Callinan, S., Holmes, J., Meier, P…Casswell, S. (2017). Socioeconomic disadvantage is associated with heavier drinking in high but not middle-income countries participating in the international alcohol study. *The Authors Drug and Alcohol Review,* 37(2), S63-S71. https://doi.org/10.1111/dqr.12810	To investigate alcohol use patterns associated with country income status, personal income, and education level	N=9862 Adults 18-65 years old from Australia, Scotland, England, Peru, Thailand, and Vietnam	Descriptive, with randomized sampling from each country Alcohol intake survey via phone/tablet, compared to income and education	Persons with low education and income drink more heavily Those from higher income countries drink even more than people from lower income countries	Level 4: correlational design (University of Michigan 2020)	Missing income data; Limited geographic variation and response for some countries, possible under-estimation	Yes; project site is a free clinic, in which population has less education and less income, higher risk

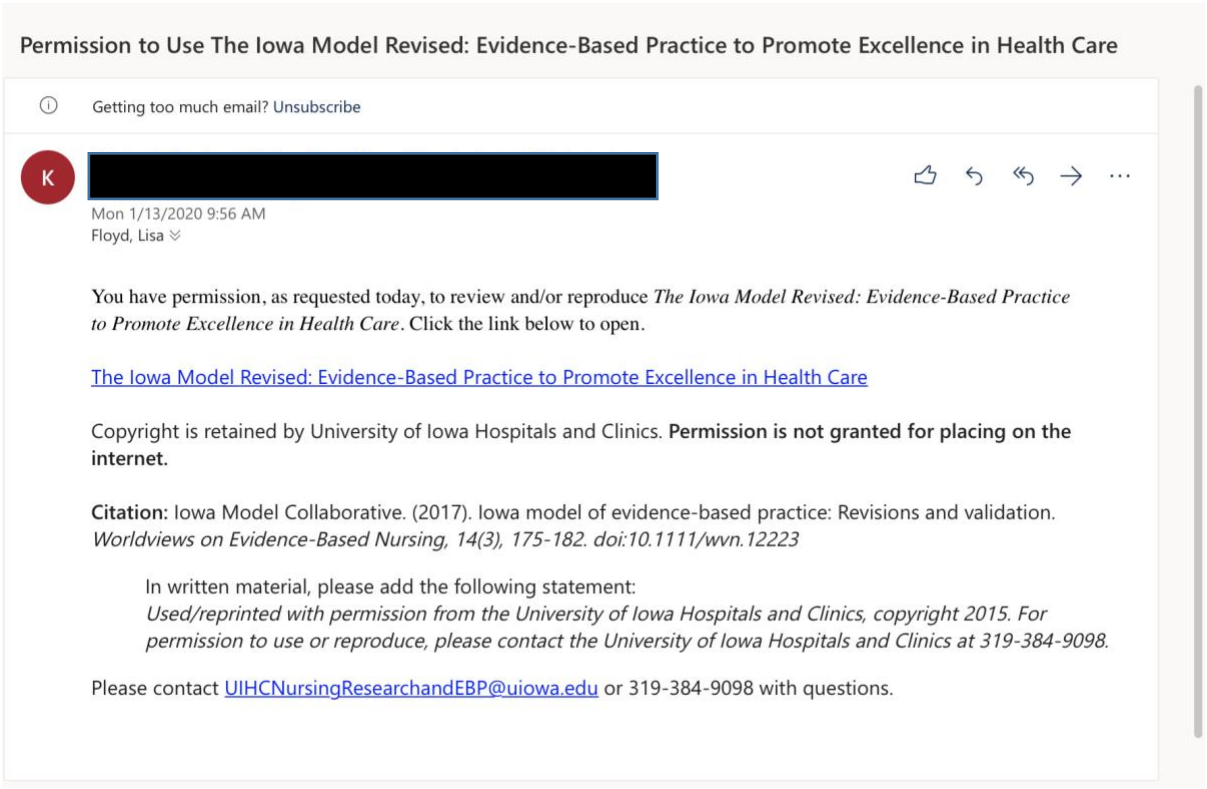
Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence to Supports Change?
Puskar, K., Mitchell, A., Albrecht, S. A., Frank, L. R., Kane, I., Hagle, H…Talcott, K.S. (2016). Interprofessional collaborative practice incorporating training for alcohol and drug use screening for healthcare providers in rural areas. *Journal of Interprofessional Care,* 30(4), 542-544 https://doi.org/ 10.1018/13561820.1178219	To measure the effects of alcohol screening, brief intervention, referral, and treatment (SBiRT) training for health professionals	N=81 Nurses, behavioral health specialists, and public health professionals in a rural area in the northwestern U.S.	Quasi-experimental Inter-disciplinary Education Perceptions Scale, (IEPS) measured pre-training, after an online training session, and again after a web conference	IEPS scores were consistently higher after training Participants were more cognizant of the need for interprofessional collaboration to improve SBiRT screening, and viewed interprofessional education as a helpful method for SBiRT training	Level 4: cohort study (University of Michigan, 2020)	Convenience sample, no randomization No control groups Participants primarily white and female	Yes The project clinic site is an inter-disciplinary team The project will implement an inter-professional training intervention for SBiRT
Dwinnells, R. D. (2015). SBiRT as a vital sign for behavioral health identification, diagnosis, and referral in community health care. *Annals of Family Medicine,* 13(3), 261-263. https://doi.org/ 10.1370/afm.1776	To measure effectiveness of a screening, brief intervention, referral and treatment (SBiRT) intervention in two primary care clinics	N=2,482 adults in intervention group; N= 1,685 adults (control group) U.S. patients at or below the poverty level, mid-western location	Quasi-experimental two group design	SBiRT group detected more patients 25.3% with unhealthy alcohol use, depression, and drug use than the control group (11.4%).	Level 3: Quasi-experimental design (University of Michigan, 2020)	No randomization Longer study period needed to confirm results	Yes. Integration of SBiRT in free clinic for adults is needed to prevent and intervene in unhealthy alcohol use

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence to Supports Change?
Williams. E. C., Achtmeyer, C. E., Young, J. P., Rittmueller, S. E., Ludman, E. J., Lapham, G. T…Bradley, K. (2016). Local implementation of alcohol screening and brief intervention at five veteran's health administration primary care clinics: Perspectives of clinical and administrative staff. *Journal of Substance Abuse treatment,* 60, 27-35. https://doi.org/ 10.1016/j.jsay.2015.7.011	To describe the attitudes and perceptions of a multidisciplinary team toward SBiRT for unhealthy alcohol use in VA clinics	N=32 Key informants: Physicians, NPs, Nurses, and social workers, and medical assistants Purposive sample	Semi-structured interview	Key informants identified the need for more training to feel prepared for conducting SBiRT; clinical reminders without training were not helpful Attitudes regarding the effectiveness of SBiRT were a barrier to implementation	Level 6: descriptive design (University of Michigan, 2020)	Small sample Fast-paced, crowded clinics Did not address variation between clinics	Yes Information supports the need for an educational project to implement SBiRT; training will also address attitudes about the effectiveness of SBiRT in primary care
Chi, F., Weisner, C. M., Mertens, J., Ross. T. B., & Sterling, S. (2017). Alcohol brief intervention in primary care: Blood pressure outcomes in hypertensive patients. *Journal of Substance Abuse Treatment,* 77, 45-51. https://doi.org/ 10.1016/j.sat.2017.03.009	To investigate the effect of brief intervention (BI) for unhealthy alcohol use on blood pressure in hypertensive patients	N=3811 adults with a past history of hypertension, and who screened positive for unhealthy alcohol use	Secondary analysis from the Alcohol Drinking as a Vital Sign trial; two group comparison	Blood pressure readings were lower at 18 months for those patients who received BI; physicians were more likely to provide brief intervention, and non-physicians were more likely to provide screening alone	Level 4: correlational design (University of Michigan, 2020)	Reliability of blood pressure equipment not addressed Association does not infer cause	Yes All team members will be trained for SBiRT; the potential normotensive effects of moderated alcohol intake justifies a change

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence to Supports Change?
Jonas, D. E., & Garbutt, J. C. (2017). Screening and counseling for unhealthy alcohol use in primary care settings. *Medical Clinics of North America,* 101(4), 823-837. https://doi.org/10.1016/ j.mcna.2017.01.011	To provide "evidence-based approaches" (p. 826) for identifying and treating unhealthy alcohol use and alcohol use disorders (AUD) in a primary care setting	No sample 68 sources cited	Expert opinion from two prevention health researchers	Comprehensive, current information that describes the problem, specific limits for alcohol use, diagnostic criteria, national guidelines, evidence-based screening tools, counseling, medications, treatment for AUD	Level 7: expert opinion (University of Michigan, 2020)	Authors acknowledge the lack of screening and treatment; providers need training and support from leadership	Yes This article describes sensitivity (0.85) and specificity (0.79) of NIH/NIAAA tool to be implement-ed in project
Jonas, D. E., Miller, T., Ratner, S., McGuirt, B., Golin, C. E., Grodensky, C…Pignone, M. (2017). Implementation and quality improvement of a screening and counseling program for unhealthy alcohol use in an academic general internal medicine clinic. *Journal of Healthcare Quality,* 39(1), 15-27. https://doi.org/10.1097/ JHQ.00000000 00000069	To design and test an alcohol use screening, intervention, and follow-up plan for patients with unhealthy alcohol use	N=5,352 adult patients at an internal medicine clinic University-based, southeastern U.S.	Researcher-developed screening algorithm, interventio n materials, training for providers; IHI QA model for improveme nt	Screening accomplished for over half of participants "52%" (p. 5) Half of all screened reported no alcohol use, "5.5%" (p. 5) positive for heavy drinking AUDIT/brief intervention documented for "57%" (p. 5)	Level 4: cohort study (University of Michigan, 2020)	Large number of physicians; not all able to attend training Busy, fast-paced clinic Providers did not have time to address alcohol use	Yes This study produced the tools that will be used for the project, and are available free through NIH/NIAAA Nurses and CSW will also be trained for SBiRT

Article Title, Author (Current APA Format)	Study Purpose	Sample	Methods	Study Results	Melnyk's Level of Evidence	Study Limitations	Evidence Supports Change?
Singh, M., Gmyrek, A., Hernandez, A., Damon, D., & Hayashi, S. (2017). Sustaining screening, brief intervention, and referral to treatment (SBiRT) services in health-care settings. *Addiction,* 112(2), 92-100. https://doi.org/ 10.1111/ add.13654	To measure sustainability of an SBiRT intervention after project funding ended	N=34 administrators, staff members, providers from 103 sites in the U. S.: clinics and hospitals that previously received grant funding to implement SBiRT	Interviews, quantitative data collection	Sustainability approached "70%" (p. 92) for continued use of SBiRT Additional sites (non-grant funded) began to implement SBiRT Sustainability attributed to staff "champions" (p. 96), funding from new sources and partnerships	Level 4: correlational design (University of Michigan, 2020)	Staffing changes after funding expired Referral for treatment process hindered care for alcohol use disorder New staff without SBiRT training	Yes The clinic is funded through donation from churches and community sources: no funding specifically for SBiRT services The project must assess sustainability and cost-effectiveness
Rizer, C. A., Lusk, M. D. (2017). Screening and initial management of alcohol misuse in primary care. *The Journal for Nurse Practitioners,* 13(10), 660-667. https://doi.org/ 10.1016/jnurpra.2017.08.011	To inform nurse practitioners about the importance of and procedures for screening, brief intervention, and referral for treatment (SBiRT)	No participants, 31 sources cited	Literature and guideline reviews, stepwise description of SBiRT	All adults should be screened for unhealthy alcohol use in primary care Nurse practitioners are well-placed for primary prevention of alcohol-related health effects	Level 7: expert opinion (University of Michigan, 2020)	Silo approach Narrow application to nurse practitioner role	Yes The project leader is an FNP; Project will aim to include all inter-disciplinary team members

Appendix B: Permission to Use Iowa Model



Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

Getting too much email? Unsubscribe

K [redacted]

Mon 1/13/2020 9:56 AM
Floyd, Lisa

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care*. Click the link below to open.

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

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Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

In written material, please add the following statement:
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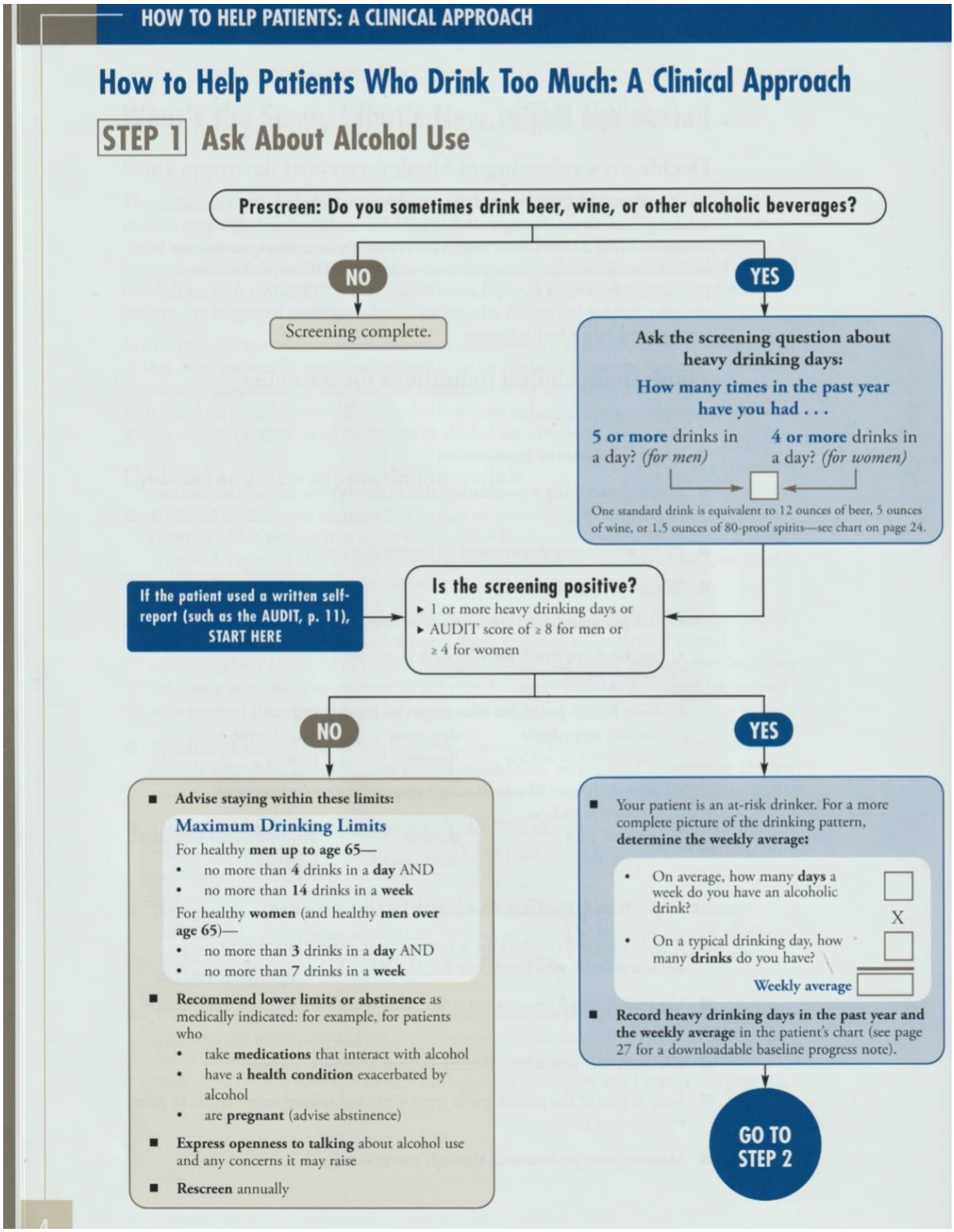
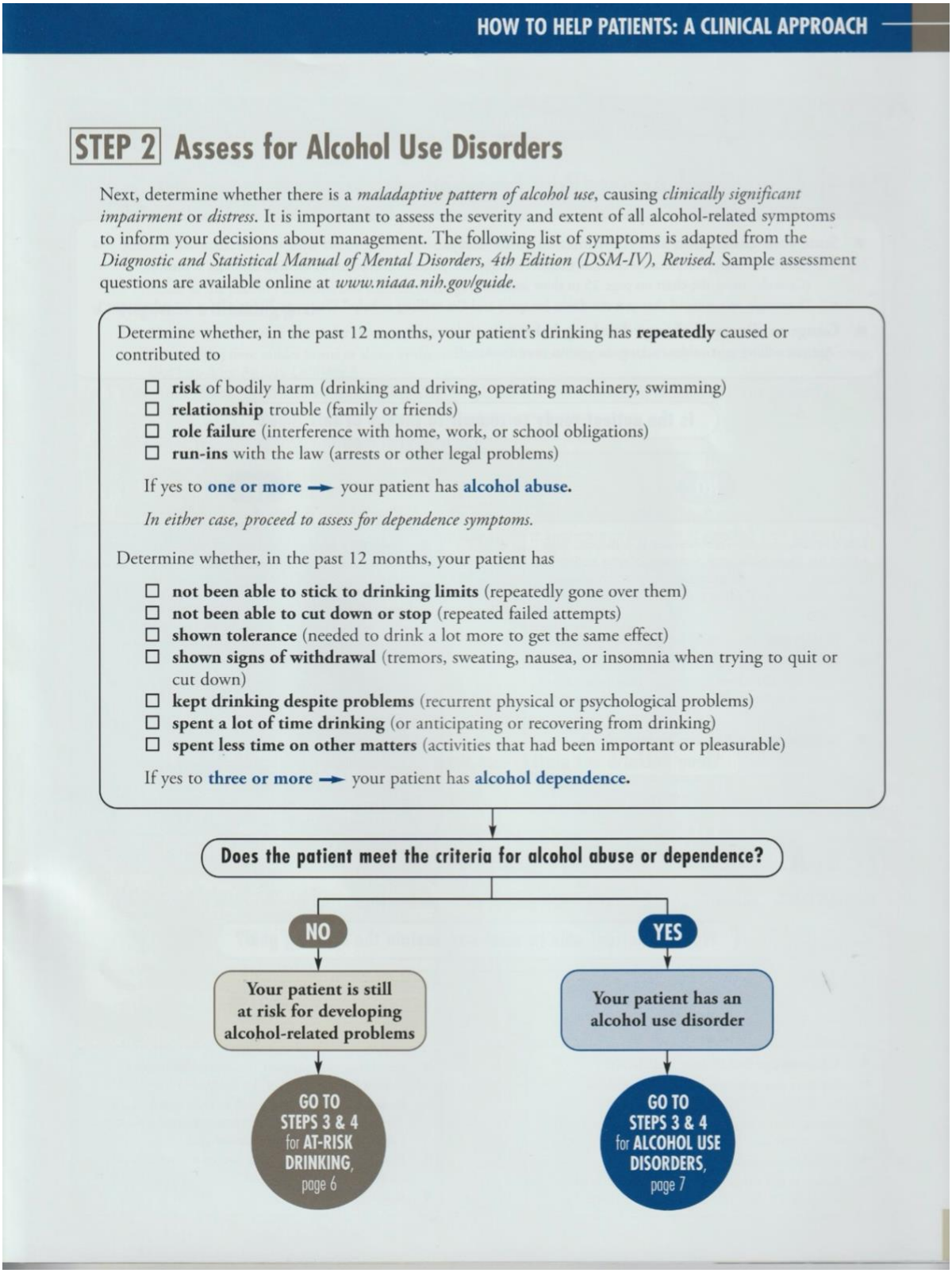
Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

Appendix C: Step 1 Ask About Alcohol Use



Reproduced with permission from the U. S. Department of Health and Human Services National Institute of Health, National Institute of Alcohol Abuse and Alcoholism [NIH/NIAAA], (2016).

Appendix D: Assess for Alcohol Disorders



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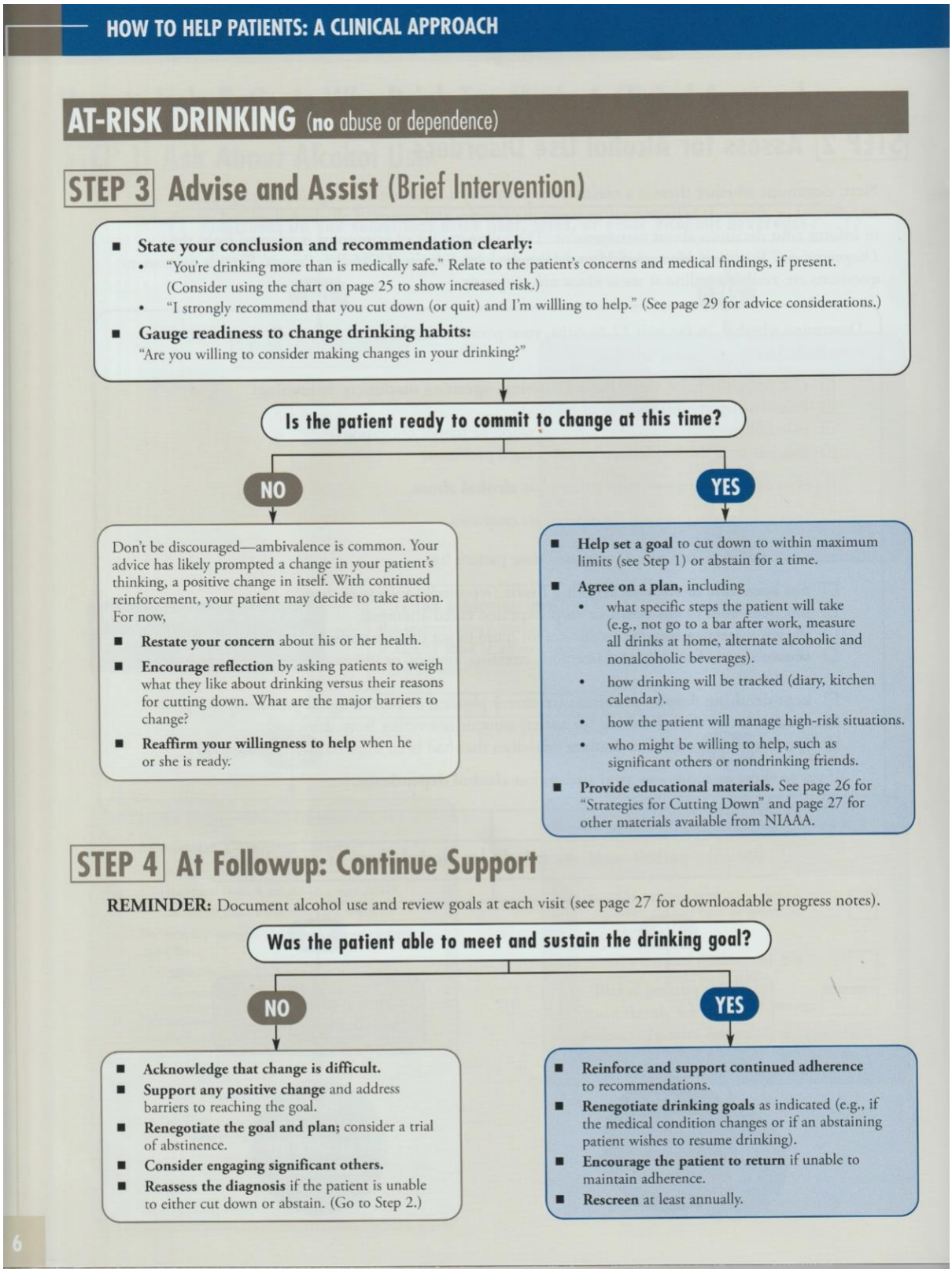
Appendix E: Advise and Assist (Brief Intervention)



HOW TO HELP PATIENTS: A CLINICAL APPROACH

AT-RISK DRINKING (no abuse or dependence)

STEP 3 Advise and Assist (Brief Intervention)

- **State your conclusion and recommendation clearly:**
  - "You're drinking more than is medically safe." Relate to the patient's concerns and medical findings, if present. (Consider using the chart on page 25 to show increased risk.)
  - "I strongly recommend that you cut down (or quit) and I'm willling to help." (See page 29 for advice considerations.)
- **Gauge readiness to change drinking habits:**
  "Are you willing to consider making changes in your drinking?"

Is the patient ready to commit to change at this time?

NO

Don't be discouraged—ambivalence is common. Your advice has likely prompted a change in your patient's thinking, a positive change in itself. With continued reinforcement, your patient may decide to take action. For now,

- **Restate your concern** about his or her health.
- **Encourage reflection** by asking patients to weigh what they like about drinking versus their reasons for cutting down. What are the major barriers to change?
- **Reaffirm your willingness to help** when he or she is ready.

YES

- **Help set a goal** to cut down to within maximum limits (see Step 1) or abstain for a time.
- **Agree on a plan,** including
  - what specific steps the patient will take (e.g., not go to a bar after work, measure all drinks at home, alternate alcoholic and nonalcoholic beverages).
  - how drinking will be tracked (diary, kitchen calendar).
  - how the patient will manage high-risk situations.
  - who might be willing to help, such as significant others or nondrinking friends.
- **Provide educational materials.** See page 26 for "Strategies for Cutting Down" and page 27 for other materials available from NIAAA.

STEP 4 At Followup: Continue Support

REMINDER: Document alcohol use and review goals at each visit (see page 27 for downloadable progress notes).

Was the patient able to meet and sustain the drinking goal?

NO

- **Acknowledge that change is difficult.**
- **Support any positive change** and address barriers to reaching the goal.
- **Renegotiate the goal and plan;** consider a trial of abstinence.
- **Consider engaging significant others.**
- **Reassess the diagnosis** if the patient is unable to either cut down or abstain. (Go to Step 2.)

YES

- **Reinforce and support continued adherence** to recommendations.
- **Renegotiate drinking goals** as indicated (e.g., if the medical condition changes or if an abstaining patient wishes to resume drinking).
- **Encourage the patient to return** if unable to maintain adherence.
- **Rescreen** at least annually.

6

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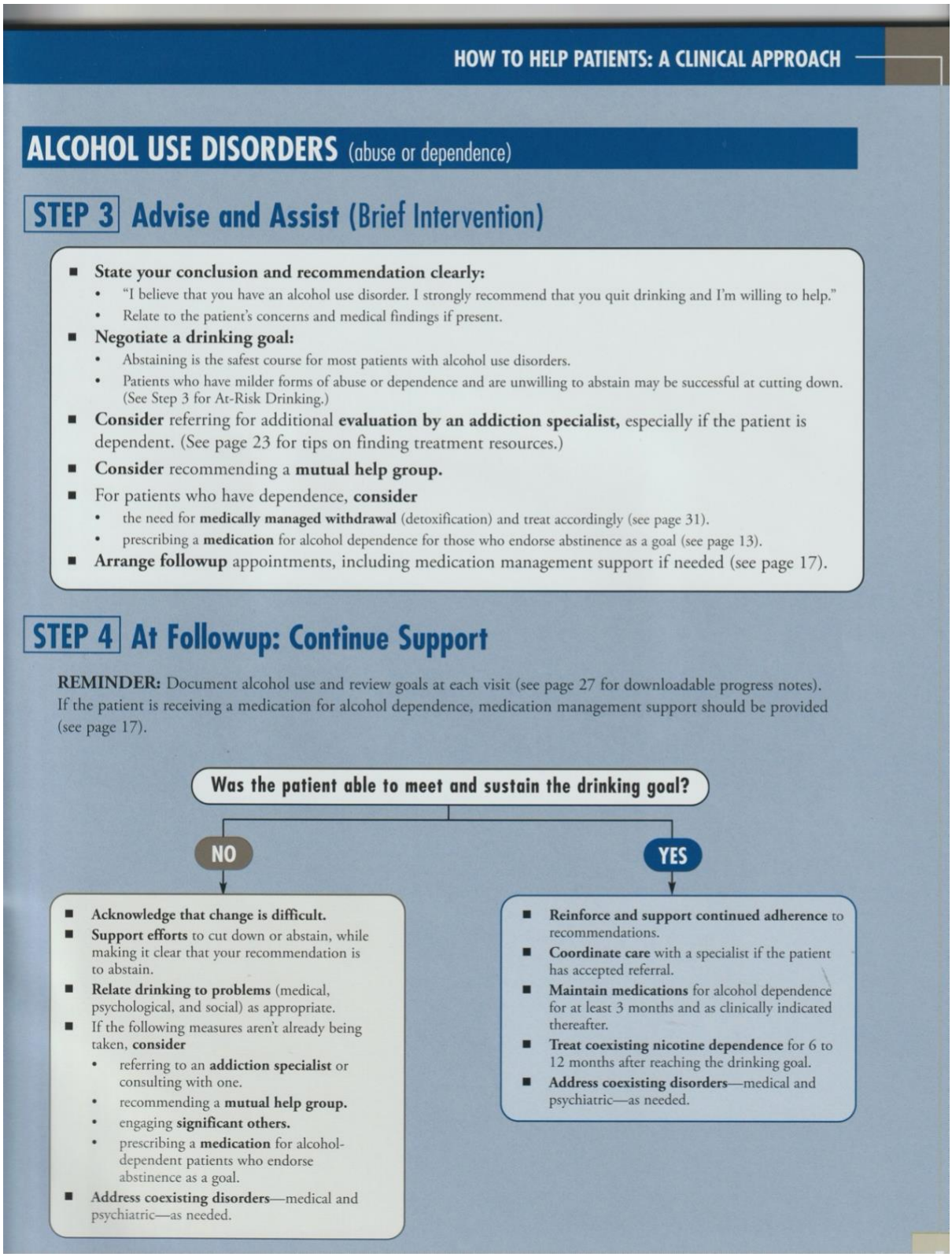
Appendix F: Step 3 and 4 Alcohol Use Disorders



Reproduced with permission from the U. S. Department of Health and Human Services National Institute of Health, National Institute of Alcohol Abuse and Alcoholism [NIH/NIAAA], (2016).

Appendix G: CITI Certificate of Completion

CITI PROGRAM

Completion Date 06-Jan-2020
Expiration Date 05-Jan-2023
Record ID 34395517

This is to certify that:

Lisa Floyd

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher (Curriculum Group)
Biomedical & Health Science Researchers (Course Learner Group)
1 - Basic Course (Stage)

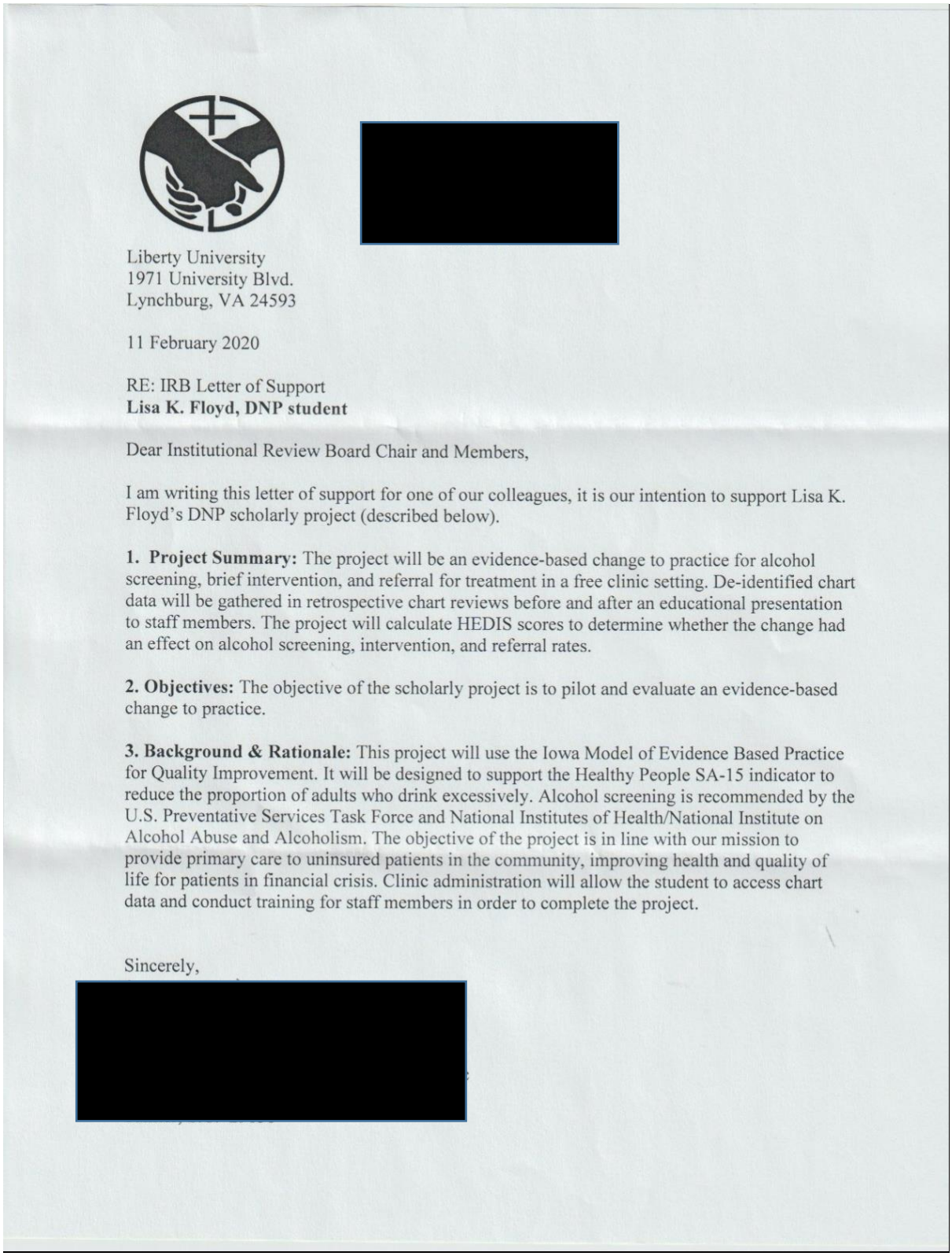
Under requirements set by:

Liberty University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w5615f3a4-77a5-4785-b7b6-51cb5d464c88-34395517

Appendix H: Organizational Letter of Support



[redacted]

Liberty University
1971 University Blvd.
Lynchburg, VA 24593

11 February 2020

RE: IRB Letter of Support
Lisa K. Floyd, DNP student

Dear Institutional Review Board Chair and Members,

I am writing this letter of support for one of our colleagues, it is our intention to support Lisa K. Floyd's DNP scholarly project (described below).

1. Project Summary: The project will be an evidence-based change to practice for alcohol screening, brief intervention, and referral for treatment in a free clinic setting. De-identified chart data will be gathered in retrospective chart reviews before and after an educational presentation to staff members. The project will calculate HEDIS scores to determine whether the change had an effect on alcohol screening, intervention, and referral rates.

2. Objectives: The objective of the scholarly project is to pilot and evaluate an evidence-based change to practice.

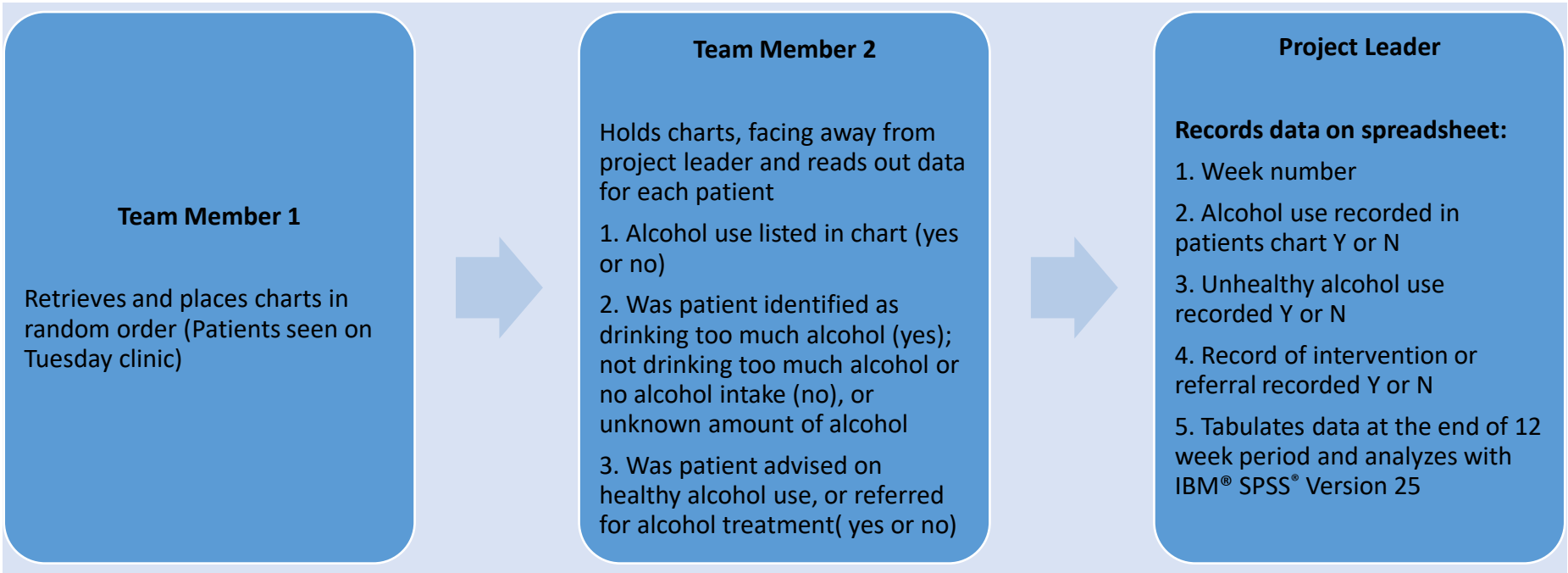
3. Background & Rationale: This project will use the Iowa Model of Evidence Based Practice for Quality Improvement. It will be designed to support the Healthy People SA-15 indicator to reduce the proportion of adults who drink excessively. Alcohol screening is recommended by the U.S. Preventative Services Task Force and National Institutes of Health/National Institute on Alcohol Abuse and Alcoholism. The objective of the project is in line with our mission to provide primary care to uninsured patients in the community, improving health and quality of life for patients in financial crisis. Clinic administration will allow the student to access chart data and conduct training for staff members in order to complete the project.

Sincerely,

[redacted]

Appendix I: Data Collection Flow Diagram

Data Collection Procedure: Team members followed infection control and pandemic requirements by physical spacing, wearing masks, and using handwashing before and after handling charts.



L. Floyd , 2020

Appendix J: IRB Approval Letter

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

IRB-FY19-20-193 - Initial: Initial - Non-Human Subjects Research

irb@liberty.edu <irb@liberty.edu>

Tue 3/24/2020 9:44 AM

To: Floyd, Lisa <lfloyd9@liberty.edu>; Kopis, Sharon Jean (Doctoral Nursing) <skopis@liberty.edu>

March 24, 2020

Lisa Floyd Sharon Kopis

Re: IRB Application - IRB-FY19-20-193 Ask, Advise, Assist and Follow: An Evidence-Based Project to Address Unhealthy Alcohol Use in a Free Clinic Setting

Dear Lisa Floyd, Sharon Kopis:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research
Explanation: Your study does not classify as human subjects research because:

(2) evidence-based practice projects are considered quality improvement activities, which are not considered "research" according to 45 CFR 46.102(d).

Please note that this decision only applies to your current research application,

and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

[redacted]

Administrative Chair of Institutional Research

Research Ethics Office