IMPLEMENTATION OF RISK REDUCTION STRATEGIES FOR ADHD MANAGEMENT AMONG COLLEGE STUDENTS USING A STANDARDIZED CARE PATHWAY: A QUALITY IMPROVEMENT INITIATIVE

by

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DEDICATION

To my mother, who in just eleven short years taught me more about life, love, and grace than most could in a lifetime. Even in your absence, your legacy pulses through the way I show up in my work, my relationships, and the nurse I strive to become. I carry your love as my compass and hope to live each day in a way that reflects the generosity and empathy you showed so effortlessly.

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ABSTRACT

Background: Attention-deficit/hyperactivity disorder (ADHD) impacts 5.2% of U.S. adults, significantly affecting college students who face high risks of stimulant misuse and diversion, with 45% reporting prescription misuse and 70% admitting diversion (Jain et al., 2017; Loskutova et al., 2020; SAMHSA, 2020).

Local Problem: College student health centers face challenges in delivering consistent and safe ADHD care management due to the absence of national guidelines, variations in monitoring practices, and a lack of standardized protocols.

Methods: Guided by the Plan-Do-Study-Act framework, this quality improvement initiative revised and standardized ADHD care pathways at a Northwestern U.S. college health center, incorporating diagnostic certainty, structured follow-up protocols, and monitoring strategies.

Interventions: Key components of the pathways included initial and annual urine drug screening, prescription drug monitoring program reviews, stimulant contracts, and consideration of alternative treatment strategies. Standardized electronic health record templates and provider education supported adherence. The project evaluated providers' perceptions of the revised care pathways, confidence in managing ADHD among students, and extent to which the pathways were utilized. Evaluation metrics included run charts to assess template utilization, with a 75% target adherence rate, and pre/post-intervention surveys aiming for a 50% confidence increase.

Results: Across 45 ADHD-related visits, overall template use reached 28.9%, with greater use during establishing care appointments. Urine drug screening and stimulant contracts were documented in 100% of New Mental Health and 66.7% of Initial visits. Prescription monitoring checks were documented in 44.4% of total visits. Two providers completed both pre- and post-surveys, showing an average confidence increase of 21.6%, with the greatest gains, 33.3%, in managing positive drug screening results and applying consistent workflows.

Conclusion: While full template adoption was limited, strong uptake of safety measures and early gains in provider confidence indicate meaningful progress toward safer, more consistent ADHD care. These findings support continued refinement of scalable models that embed risk mitigation into routine workflows and can be adapted across student health settings.

Keywords: ADHD, stimulant misuse, diversion, college students, standardization, care pathway

CHAPTER ONE

REVIEW OF THE LITERATURE

Introduction

Attention-deficit/hyperactivity disorder (ADHD), as defined in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), is a neurodevelopmental disorder characterized by ongoing difficulties with inattention, hyperactivity, and/or impulsivity that negatively impacts daily life and development (American Psychiatric Association [APA], 2013). When undiagnosed or left untreated, ADHD can lead to a variety of negative outcomes, including impaired academic and occupational performance, increased risk of substance use disorders, higher rates of unemployment, difficulties in maintaining relationships, and/or a higher likelihood of comorbid psychiatric conditions such as anxiety and depression (Hamed et al., 2015; Kosheleff et al., 2023; Vashak & Taylor, 2013). ADHD is one of the most common psychiatric diagnoses in childhood, often persisting into adulthood or being diagnosed later in life when symptoms become more apparent. Recent estimates indicate that the global prevalence of persistent adult ADHD is approximately 2.6%, while symptomatic adult ADHD affects about 6.8% of the general adult population and impacts upwards of 366 million adults (Song et al., 2021). Based on national data, 35% to 78% of those diagnosed in childhood continue to meet the criteria for ADHD later in life, with research estimating that ADHD affects approximately 5.2% of all adults in the United States (U.S.) (Jain et al., 2017; Schein et al., 2022). In Montana, the reported prevalence of ADHD in children is 9.1%, which is higher than the national average of 8.4% (Danielson et al., 2022); while data regarding adult ADHD prevalence in the state remains

unavailable. This quality improvement (QI) initiative focuses on young adults, particularly college students, as they represent a population with unique challenges related to post-diagnosis ADHD management.

Background and Significance

Adult ADHD Management

The U.S. Federal Drug Administration has approved several medications for the treatment of adult ADHD, including stimulant medications like methylphenidate (Ritalin) and amphetamine-based (Adderall) formulations, alongside non-stimulant options like atomoxetine (Strattera). While prescribed stimulants are highly effective in improving focus, concentration, and organization skills, leading to enhanced academic and professional success, they are also classified as Schedule II controlled substances due to their high potential for addiction and misuse. The psychoactive properties of stimulants can lead to significant risks, including physical or psychological dependence (Weyandt et al., 2016). In addition to their therapeutic effects, stimulant medications are associated with side effects, such as elevated heart rate, hypertension, appetite suppression, and sleep disturbances. In more extreme cases, stimulant use can lead to cardiovascular complications, seizures, and even sudden death, especially with long-term misuse or when combined with illicit substances that produce an additive effect (Substance Abuse and Mental Health Services Administration [SAMHSA], 2020).

Recent findings shared by Dr. Timothy Wilens during the November webinar hosted by the American Professional Society of ADHD and Related Disorders (ASPARD) further underscore these risks. Based on data from the 2022 National Survey on Drug use and Health and other recent research, the webinar highlighted a concerning increase in stimulant-related

overdoses and revealed that prescribed stimulants are now the most misused category of controlled substances, surpassing benzodiazepines and opioids (Wilens, 2024). Alarmingly, stimulants are more often misused than prescribed, suggesting concern for diversion, with misuse peaking at age 21, aligning with the median age of traditional undergraduate college students (Wilens, 2024).

Adult ADHD is primarily managed by primary care providers (PCPs), who often have limited training regarding ADHD management (Mallo & Powers, 2021). Surveys indicate that only 8% of PCPs feel "extremely confident" in treating ADHD in adulthood, with many expressing concerns about the risks associated with stimulant medications, including misuse and diversion (Goodman et al., 2012). Additionally, 52.4% of family physicians report feeling unprepared to educate patients on risky behaviors, drug abuse, medication misuse, and prevention strategies (Loskutova et al., 2020). Currently, in the U.S., there are no clinical guidelines for the management of adult ADHD despite a steady increase in adults seeking treatment (Childress et al., 2023). This absence of standardized protocols contributes to inconsistent practices in ADHD treatment across both primary care and mental health settings, often resulting in suboptimal patient outcomes (Ford, 2020; Mallo & Powers, 2021). Risk management practices are also inconsistent. While tools like random drug screening, review of prescription drug monitoring program (PDMPs), and pill counts could help ensure compliance and reduce medication misuse, their use is not widespread (Loskutova et al., 2020). According to one study, only 42.3% of providers conduct random drug screenings, and even fewer, 18.6%, perform pill counts to monitor compliance (Loskutova et al., 2020). Without evidence-based

guidelines, healthcare providers struggle to deliver consistent and effective care to this at-risk population needing targeted support and interventions.

Economic Impact

Adult ADHD contributes significantly to economic costs in the U.S., resulting in an annual excess societal cost of $122.8 billion; several factors contribute to these costs, such as unemployment, accounting for $66.8 billion, followed by productivity loss at $28.8 billion, and healthcare services at $14.3 billion (Schein et al., 2022). The economic impact may be greater in those with untreated ADHD, who are more likely to struggle with job retention, career advancement, and overall productivity, leading to a cycle of underemployment, absenteeism, and poor performance that further amplifies the economic burden associated with unemployment rates and lost productivity (Schein et al., 2022).

Pharmaceutical companies play a significant role in the economic landscape of ADHD treatment. A study by Chan et al. (2023) found that global consumption of ADHD medication increased by an average of 9.72% each year between 2015 and 2019. Similarly, Piper et al. (2018) revealed that the use of stimulant medications in the U.S. doubled between 2006 and 2016. The growing reliance on stimulant-based treatment for ADHD raises concerns that it may overshadow the need for comprehensive care approaches such as non-stimulant medication options and behavioral interventions.

ADHD on College Campuses

While research on ADHD prevalence in college students is limited, studies suggest that diagnosable ADHD levels among American students fall between 2% and 8% (Nugent & Smart, 2014). Disparities in ADHD care among college students are particularly concerning, given that

young adults aged 18 to 24 represent the most prevalent demographic for symptomatic adult ADHD, with over 75 million cases worldwide (Song et al., 2021). College students face unique challenges in managing ADHD, which often coincides with increased academic pressure, social changes, and the transition to independent living. These stressors can exacerbate ADHD symptoms, making it harder to maintain focus, organization, and time management, which are critical for academic success. Consequently, many students with ADHD turn to prescription stimulants as their primary treatment option.

Stimulant medications, while effective, also carry a high risk for misuse and diversion on college campuses. Misuse refers not only to taking a prescription without a legitimate prescription, but also to using it in ways not intended by the prescribing physician. This includes taking higher doses than prescribed, using the medication for non-medical purposes like academic performance enhancement, or altering the form of administration, such as crushing pills to snort or inject them. According to the SAMHSA (2020), nearly 45% of young adults who used prescription stimulants in the past year misused them, with college students being particularly at risk compared to their non-college-attending peers.

Diversion, on the other hand, involves sharing or selling prescribed medications to individuals for who they were not intended. This issue is widespread on college campuses, with one study reporting that 25 to 33% of college students prescribed stimulants have diverted their medication, and over 50% stating they have been asked to either share or sell their medication (Molina et al., 2020). However, another study found that 70% of college students reported diverting their stimulant medications at least once in their lifetime (Loskutova et al., 2020). The consequences of misuse and diversion extend beyond academic settings, as these behaviors

contribute to rising rates of emergency room visits related to stimulant misuse, which increased by 68% between 2005 and 2010 (Molina et al., 2020). Consequently, there is a pressing need to establish consistent protocols that address the unique challenges faced by college students with ADHD.

Methods

Overview

The objective of this scoping review is to explore the current evidence surrounding post-diagnosis ADHD medical care and management in college students seeking services at student health centers. Specifically, the review aims to identify best practices for managing adult ADHD in these settings, focusing on standardizing treatment protocols, policies, and interprofessional collaboration. The review will also investigate key areas such as treatment initiation, medication monitoring, utilization of stimulant contracts to mitigate misuse and diversion, and follow-up practices. The findings will inform a QI intervention designed to enhance the quality of ADHD care provided within college student health settings.

Search Strategy

Relevant peer-reviewed literature was identified through various searches conducted in September of 2024. Clinical and scientific research were obtained from the following databases: Web of Science, PsycInfo, Sage Online Journals, and Taylor & Francis Online. Additional studies were identified through citation tracking and consulting relevant organizational reports to broaden the scope and address limited data. The initial database search benefited from the expertise of a health sciences librarian, who guided search strategy development, including the

construction of Boolean operators. Keywords used included (“adhd” OR "attention deficit hyperactivity disorder" OR add OR "attention deficit disorder") AND ((college OR university OR "young adult") students) AND (prevent* OR intervention OR protocol OR document* OR polic*). To manage the search results efficiently, EndNote 21 was used to organize references, remove duplicates, and track articles throughout the screening and selection process.

Eligibility Criteria

The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure clarity and consistency in the methodology and reporting of results (see Appendix A). Studies were included if they were written in English, available in full text, and published between 2014 and 2024 to account for the limited research on adult ADHD treatment initiation and management. Eligible studies focused on adult, young adult, college, or university student populations with a diagnosis of ADHD, specifically examining post-diagnosis treatment initiation and follow-up. Studies conducted in any clinical setting were considered, with a preference for those based in primary care clinics, student health centers, or similar environments. Exclusion criteria were applied to studies published in a language other than English, available only as abstracts, published before 2014, or not peer-reviewed. Additionally, studies focusing solely on pediatric or adolescent populations without transitioning insights to adult care, focused on pretreatment diagnosis or screening, or those that did not include ADHD-diagnosed populations were excluded. Literature was also limited to Western healthcare systems, including the U.S., United Kingdom (U.K.), and other comparable countries, to ensure applicability and relevance to QI settings in the U.S.

Results

Literature Search

The literature search identified 61 articles, and after removing duplicates, 42 were screened. Out of these, 28 full-text articles were assessed for eligibility, while 12 were excluded because they either didn't fit the focus or the full text was unavailable. Ultimately, 16 articles were included in this review: three qualitative studies, eight quantitative studies, two mixed-methods studies, and three review articles. The qualitative studies (n = 3) explored barriers in ADHD care, patient and provider experiences, and the impact of structured care pathways. The quantitative studies (n = 8) evaluated how well different intervention programs and monitoring strategies worked to improve treatment adherence and reduce instances of medication misuse. The mixed-methods studies (n = 2) combined qualitative and quantitative data to evaluate the outcomes of structured management protocols and tailored interventions to optimize ADHD care. Additionally, three review articles (n = 3) synthesized existing evidence regarding ADHD care management, structured care pathways, and stimulant misuse prevention.

The literature also examined a range of populations. A significant number of studies (n = 7) focused specifically on college students or young adults aged 18-25, exploring their challenges in young adulthood and academic settings. Meanwhile, three studies (n = 3) centered on adolescents and the importance of transitional care as they move into adulthood. These adolescent-focused studies highlighted the gaps in continuity of care and the need for integrated care models to ensure a smooth transition from pediatric to adult ADHD services. Additionally, several studies (n = 6) looked at broader adult populations, providing further insights into ADHD care beyond the college demographic. Geographically, the research included studies from the

U.S. (n = 11) and other Western developed countries (n = 5), including England, Ireland, Scotland, France, and Canada. These international studies were included because many of these countries have established guidelines for adult ADHD management, unlike the U.S., which currently lacks standardized protocols.

Characteristics of the Literature

The literature consistently points out key themes that are essential for improving adult ADHD treatment and management. These themes included barriers to accessing care, the need for structured care pathways, issues with stimulant misuse and diversion, monitoring strategies and collaboration, and tailored interventions for college students and young adults, highlighting the unique challenges faced by this patient population. Understanding and addressing these themes is crucial, as they directly influence how well patients adhere to their treatment plans, maintain continuity of care, and ultimately benefit from ADHD management strategies.

Synthesis of Literature

Barriers to Accessing Care. Many studies highlighted barriers faced by both patients and healthcare providers in managing adult ADHD effectively. For instance, Modesto-Lowe et al. (2015) and Fields et al. (2017) discussed the lack of provider training and the inconsistencies in prescribing practices, often resulting in suboptimal patient outcomes. Similarly, Gudka et al. (2024) and McGuier et al. (2023) emphasized the challenges adolescents face when transitioning from pediatric to adult care, pointing out that insufficient support during this period can lead to treatment gaps. This highlights a critical need for improved transitional care protocols and specialized training for providers to enhance continuity of care.

Need for Structured Care Pathways. Several studies highlighted the use of structured care pathways as a key strategy for improving ADHD treatment consistency (Coghill & Seth, 2015; McGrath, 2024). These studies, such as the Dundee ADHD Clinical Care Pathway and the ADMiRE pathway in Ireland, showed that standardized approaches lead to more effective and reliable care (Coghill & Seth, 2015; McGrath, 2024). By establishing clear protocols, these pathways help providers follow best practices, minimizing variations in treatment, and enhancing patient adherence. Similarly, Huang et al. (2020) and Richmond & Butler (2020) found that implementing monitoring agreements and structured pathways not only improved adherence but also reduced misuse. These findings further emphasize the importance of structured approaches in effective ADHD management.

Stimulant Misuse and Diversion. Another recurring theme across the literature was the issue of stimulant misuse and diversion, especially in college settings. Molina et al. (2020) and He et al. (2015) reported high rates of misuse among college students, showing the need for prevention programs. Studies like Antshel et al. (2024) and Amyx et al. (2015) evaluated interventions designed to mitigate misuse, demonstrating that structured prevention strategies significantly reduced misuse rates. These findings suggest that tailored interventions and monitoring programs can effectively address misuse risks in high-risk populations such as college students. Tay et al. (2023) further highlighted that the effectiveness of PDMPs varies across different countries, indicating that strategies should be tailored to the specific regulatory environment and cultural context.

Monitoring Strategies and Collaboration. Monitoring practices, such as PDMPs and controlled substance agreements, were highlighted as critical elements in reducing misuse and

enhancing adherence. Tay et al. (2023) systematically reviewed PDMPs across several countries, demonstrating their effectiveness in managing stimulant use. Richmond & Butler (2020) found similar results in a Veterans Health Administration setting, where consistent monitoring led to improved outcomes. Additionally, Huang et al. (2020) highlighted pharmacists' valuable role in monitoring and managing ADHD medications, showing that collaborative efforts among healthcare professionals can enhance treatment outcomes through consistent and coordinated oversight.

Tailored Interventions. Research by Aluri et al. (2023) and Antshel et al. (2024) demonstrated that interventions specifically adapted to the academic and social pressures experienced in college settings can significantly enhance treatment effectiveness. These findings underscore the need for continuity in care, consistency in treatment protocols, and tailored strategies that align with the unique needs of this population, reinforcing the value of structured pathways, monitoring, and interprofessional collaboration in achieving optimal outcomes. Furthermore, Gudka et al. (2024) emphasized that tailored approaches are particularly important for young adults transitioning from pediatric care, advocating for integrated support systems to ensure continuity of care.

Discussion and Conclusions

Summary

The literature consistently featured several interconnected themes essential for enhancing adult ADHD management within college settings. One recurring issue is the barriers in care, showing that gaps in provider training and transitional support lead to inconsistencies in treatment delivery. The research also stresses the importance of clear, evidence-based protocols,

demonstrating that structured care pathways, such as the Dundee and ADMiRE models, have proven effective in standardizing treatment, reducing variability, and enhancing adherence. The issue of stimulant misuse and diversion, particularly prevalent in college populations, highlighted the need for prevention and monitoring strategies tailored to this high-risk group. Studies show that having strong monitoring practices, such as PDMPs and controlled substance agreements, helps reduce misuse and supports medication adherence. Furthermore, the role of tailored interventions specifically designed for the academic and social environments of college students was a significant finding, as these strategies align treatment approaches with the unique needs of young adults, making them more effective. Altogether, these themes highlight the need for a comprehensive, standardized approach that integrates monitoring, interprofessional collaboration, and targeted strategies to improve outcomes for this at-risk group.

Implications for Practice

The findings from this review make it clear that young adults and college students are a vulnerable group, particularly at risk for complications related to ADHD treatments. The SAMHSA advisory (2020) points out that misuse is widespread among young adults, especially college students, because of the availability and perceived benefits of stimulants for boosting academic performance. The review also shows that primary prevention strategies, like medication agreements, patient education, and consistent monitoring through tools like PDMPs, are effective in reducing misuse and supporting treatment adherence. These strategies are crucial given the high potential for misuse, which not only raises the risk of addiction but also brings serious health concerns, including cardiovascular events, overdose, and other severe complications.

A holistic approach that combines medication with behavioral interventions and risk mitigation strategies is essential. The literature supports using structured clinical pathways, such as the Dundee ADHD Clinical Care Pathway and the ADMiRE pathway, to standardize and optimize care, ensuring that providers have clear guidelines to follow. These pathways also help bridge gaps in care continuity, particularly during critical transition periods, like moving from pediatric to adult services or from adolescence to young adulthood.

For a QI intervention to be effective, it should focus on developing and implementing a standardized clinical pathway specifically designed for this demographic, ensuring consistent ADHD treatment across college health settings. This intervention might include policies like stimulant agreements, routine drug screenings, and educational initiatives aimed at reducing misuse risk concerns. Even though there are currently no comprehensive guidelines in the U.S. for adult ADHD management, such a pathway could serve as a model to enhance care quality, promote safety, and reduce the long-term impact of ADHD on college students' academic and life outcomes.

CHAPTER TWO

QUALITY IMPROVEMENT PROPOSAL

Introduction

Attention-deficit/hyperactivity disorder (ADHD) affects approximately 6.8% of adults globally (Song et al., 2021) and 5.2% in the U.S. (Jain et al., 2017). In Montana, data on adult ADHD prevalence is unavailable, though childhood rates exceed the national average by 0.7% (Danielson et al., 2022). College students with ADHD are a particularly at-risk population, facing unique academic and social pressures that heighten their risk of stimulant misuse and diversion. Nearly 45% of young adults report misusing prescription stimulants within the past year, with college students showing greater vulnerability compared to non-college peers (SAMHSA, 2020). College campuses are also high-risk environments for diversion, where up to 33% of students with prescriptions report sharing their medications, and over half are approached to sell or share them (Molina et al., 2020). Alarmingly, 70% of college students with ADHD have diverted their stimulant medications at least once in their lifetime, increasing access for peers or those in the community who are not under medical supervision, thereby amplifying the potential of dangerous drug interactions, overdose, and severe health risks (Loskutova et al., 2020). Additionally, many primary care providers (PCPs) report low confidence in managing adult ADHD, particularly when it comes to educating patients on stimulant use, identifying misuse, and implementing effective prevention strategies (Loskutova et al., 2020). Given the risks associated with prescribing controlled substances to this high-risk population, implementing

standardized care protocols and consistent monitoring are essential to enhancing patient safety and mitigating misuse and diversion risks.

Problem and Aim Statement

College student health centers face distinctive challenges in delivering consistent and safe ADHD care. These challenges stem from the lack of national guidelines for adult ADHD treatment, variations in prescribing and monitoring practices among providers, and the absence of standardized protocols for stimulant initiation and follow-up. This quality improvement (QI) initiative targets these gaps by introducing a structured ADHD care pathway, allowing the designated site to align its practices with effective prevention strategies that accommodate both student needs and clinic workflows. Implementing standardized protocols can improve provider confidence in delivering appropriate, evidence-based care for ADHD while minimizing concerns regarding the risks of misuse and diversion. By focusing on building a strong therapeutic alliance, clarifying student expectations, and embedding prevention into treatment, the project aims to enhance safety, promote adherence, and reduce adverse outcomes related to stimulant medications in this at-risk college student population.

The primary inquiry question guiding this QI initiative is: How can the implementation of a structured ADHD care pathway at a college student health center improve provider confidence in managing ADHD treatment and reduce stimulant-associated risk, misuse, and diversion concerns? This project will primarily assess provider perceptions of the care pathway, their confidence in treatment provision, and pathway utilization, focusing on identifying facilitators and barriers to effective implementation. Additionally, the initiative intends to promote the pathway's adoption through standardized templates, electronic health record (EHR) prompts, and

ongoing education on the initiative's purpose and implementation process. The overarching objective of this project is to establish standardized ADHD management protocols within the college student health center to enhance provider confidence, support consistent medication monitoring, and address stimulant misuse and diversion risk concerns. Ultimately, the goals of this QI initiative include (1) the development and finalization of a revised ADHD care pathway and corresponding standardized templates through an iterative approach to enhance consistency and usability, (2) consistent documentation in the EHR that demonstrates utilization of the care pathway in at least 75% of all ADHD clients seen, and (3) increased provider confidence in managing ADHD by 50% from baseline, as measured through pre- and post-implementation surveys.

Context

This QI initiative will be implemented within the medical services department of a student health center located on a college campus in the northwestern U.S. Serving a diverse population of undergraduate and graduate students, including those from a local community college, the center provides essential healthcare in a geographically expansive and often underserved area. Many students attending the college come from rural communities within the region, where access to specialized mental health and ADHD services can be limited. The center offers comprehensive health services and resources, including medical, dental, counseling, laboratory, pharmacy, recreation, and health advancement. Students are eligible to use these services by payment of a health services fee that is automatically included in their tuition and fees for those enrolled in at least seven credits. Students who have not already paid the health fee with their tuition can add it during their first visit, making services accessible to all students

regardless of their credit load. In-person and telehealth visits with medical providers are included at no additional cost, while specific laboratory and other services have variable charges that can be submitted to outside insurance for possible reimbursement. This fee structure ensures broad access to services for all students, regardless of whether they hold college-sponsored health insurance.

ADHD care at this college follows a comprehensive multi-step process. Initially, front desk staff provide guidance to students seeking evaluation or treatment regarding their next steps. Those without a prior diagnosis receive a list of vetted community providers qualified to conduct ADHD evaluations. For students with a previously documented diagnosis, external records are obtained and reviewed to verify their eligibility for continued ADHD care within medical services. Once approved, students are scheduled for an initial ADHD appointment with one of the seven continuity care providers, a team comprising doctors, nurse practitioners, and physician assistants. This QI initiative starts with a target population of students who have been accepted for ADHD care by the medical services team. Currently, there are inconsistencies among providers in the application of risk management practices, such as stimulant contracts, urine drug screens (UDS), pill counts, and checks in the prescription drug monitoring program (PDMP). Additionally, documentation practices for initial and follow-up appointments vary, contributing to potential gaps in continuity and quality of care. Recognizing these challenges, the site representative requested this QI initiative to assess and address gaps in ADHD management and promote standardized practices. Providers expressed strong support for implementing structured protocols, emphasizing the need for clear guidelines and agreement among providers to ensure consistency and address safety concerns effectively.

Provider Interviews

A needs assessment was conducted to identify and understand inconsistencies in ADHD care and assess the requirements for a QI initiative to address these gaps. Structured interviews with four providers were carried out to explore current practices, workflow challenges, and potential barriers to consistent ADHD care within the student health center. These interviews, conducted either in person or by phone, used open-ended questions to gather in-depth insights into provider experiences and perceptions. The questions used are detailed in Appendix B.

In discussing current practices, providers highlighted a generally shared approach to initial ADHD appointments that included conducting mental health screenings, referral of students with complex mental health concerns or substance use, and reviewing the stimulant contract. The frequency and consistency of UDS practices varied significantly among providers. While the general goal was to conduct a UDS annually, several providers acknowledged that this standard fell short in practice. Some providers administered UDS at the initiation of stimulant treatment, while others attempted to get a random screening once within the first year. However, due to workflow challenges, including the limited 45-minute duration for new mental health (NMH) visits and varying perceptions of risk, adherence to the annual UDS standard was inconsistent. Additionally, pill counts were not conducted among the providers interviewed, and checking the PDMP was infrequent. It was expressed that tools for preventing misuse and diversion were underutilized, highlighting a gap in the consistency of risk management practices.

Discussion of documentation practices also revealed significant variability, with most providers opting to create personalized templates, SOAP notes, or type free text over the embedded templates available in the EHR, which were considered impractical and time-consuming. Several providers noted that a streamlined ADHD care template, tailored to include

key components like stimulant contracts, UDS results, and PDMP checks, could enhance consistency and reduce documentation burden. One provider suggested that it would be beneficial for the EHR to include a feature that flags reminders for upcoming UDS screenings and clearly displays the dates of prior screenings, which could improve workflow efficiency and ensure continuity in care. The collaborative environment among providers emerged as a positive theme, with continuity care meetings and peer consultations supporting shared approaches to ADHD management. Providers felt that these interactions fostered cohesion, particularly when covering for one another or addressing complex cases. However, covering for other providers posed challenges, as scrutiny levels and adherence to risk management practices like UDS varied, leading to students experiencing differing levels of monitoring and follow-up depending on the provider available at the time of their visit. These issues were more common during summer breaks when fragmented schedules required more frequent provider coverage. Despite these challenges, one provider observed that they are “less siloed than other clinics,” suggesting that a collaborative approach to ADHD care practices would be both possible and effective.

To address these inconsistencies, providers shared several suggestions for practice improvements. A common recommendation was the implementation of standardized ADHD management guidelines, including a universal understanding of UDS practices, guidance for addressing positive UDS results, and streamlined documentation processes. Providers also expressed feeling “empty-handed” when it came to offering students learning strategies or behavioral treatment resources, suggesting that access to updated resource handouts and an ADHD learning specialist could be valuable for students needing support beyond medication.

Providers emphasized the significance of establishing uniform policies applicable to all students, particularly in addressing their frustrations with the treatment process. They expressed the belief that such policies could help sustain a therapeutic rapport with students by reiterating that requirements like UDS and stimulant contracts are standard practice. To enhance prescription management of future fills given, they suggested documenting "do not fill until" dates to avoid accidental early refills. A desire for flexibility in certain situations was also voiced, such as the option for one early refill in specific cases, balancing patient satisfaction with safety. Concerns were raised about prescription quantity standards, noting that students skipping weekend doses could quickly accumulate a surplus, with upwards of 96 extra pills annually. This surplus increases the risk of diversion on campus, highlighting the need to carefully consider prescription quantities to minimize potential misuse. In summary, the provider interviews highlighted a readiness among team members to embrace a structured ADHD care pathway. Providers believed that establishing standardized protocols would enhance care consistency, bolster provider confidence, and reduce risks associated with stimulant medication management.

Documentation Review

In addition to provider interviews, a clinical audit of 10 randomly selected ADHD student charts from the previous semester were conducted with strict adherence to privacy protocols. No protected health information (PHI) was gathered, recorded, or included in this review. Charts were selected based on documentation indicating ADHD as the reason for the visit, and all 10 charts included both the initiation and follow-up of stimulant treatment. This audit aimed to further evaluate current documentation practices at the student health center, specifically examining the completion and documentation of risk management practices and the use of

embedded EHR templates. The review revealed notable patterns and gaps in consistency and thoroughness, highlighting areas for potential improvement.

In examining UDS practices, only half of the charts (5 out of 10) documented at least one completed UDS. Three of these were conducted before initiating stimulant treatment, with one clearly documenting a negative result, while the other two noted completion without specifying the results. The remaining two UDS were completed after a stimulant prescription was submitted, with one instructed to be completed prior to picking up their prescription and another being conducted over four years later. Only two of the five charts with an initial UDS had a follow-up UDS documented, with intervals of 14 and 18 months after the original. Additionally, one chart documented an initial positive UDS for cannabis (THC); however, follow-up appointments lacked documentation on discussing THC use, providing education on the effects of THC with stimulant medications, or conducting a follow-up UDS. Overall, these findings indicate a 50% rate of UDS completion across the charts reviewed, with notable gaps in timing and follow-up. None of the charts reviewed (0%) included documentation of pill counts as part of the ADHD management plan.

Documentation of stimulant contracts was present in 60% (6 out of 10) of the charts, with most signed before the initiation of stimulant therapy. One case showed a contract signed 16 days after the initial prescription, while another indicated a missing contract nine months into treatment, necessitating re-signing. One chart mentioned the contract as provided but did not clarify whether it was reviewed or signed, and another omitted any reference to a contract. None of the charts (0%) documented follow-up or renewal of the stimulant contract, despite seven charts showing follow-up documentation extending beyond one year. Additionally, only two

charts recorded checks of the PDMP, indicating either minimal use of this resource as part of risk management or lack of documentation. No charts (0%) appeared to utilize standardized EHR templates, which could contribute to the observed inconsistencies.

Documentation practices for both initial and follow-up appointments varied significantly. Only three of the ten charts included a complete patient health questionnaire (PHQ) screening during the NMH appointment, and the documentation reviewed didn't address whether ADHD was a historical or new diagnosis or noted previous ADHD treatments. Although all initial and follow-up visits recorded vitals and weight, few charts tracked trends over time or referenced these metrics in decision-making. Documentation of side effect discussions was limited, with only a few charts noting common stimulant-related side effects, such as effects on sleep, mood, or appetite. Prescription records showed all scripts were provided in standard 30-day supplies, with only one exception of a smaller 20-pill quantity for a student who did not take medication on weekends. Overall, the needs assessment highlighted themes of practice variability, provider confidence, and the need for standardization in managing ADHD, underscoring opportunities to enhance consistency, safety, and continuity of care.

Quality Improvement Model

For this initiative, the Plan-Do-Study-Act (PDSA) cycle from the Institute for Healthcare Improvement (IHI) toolkit and model for QI was selected due to its iterative and adaptable nature, which is essential in implementing effective change within clinical settings (n.d.). The PDSA model allows for systematic development, testing, and refinement of the proposed ADHD care pathway to be implemented. In the planning phase, a comprehensive ADHD care pathway will be revised with expert input from the clinic psychiatrist, providers, and other stakeholders,

outlining specific levels of scrutiny based on risk. This phase includes feedback from providers to ensure the pathway's relevance to clinic workflows. During the do phase, the pathway and templates will be implemented following an ADHD focused educational session that introduces the intervention to providers, ensuring a smooth transition to new practices. The study phase will evaluate outcomes using pre- and post-surveys and weekly chart reviews, with run charts visualizing adherence to protocols and pathway effectiveness. Finally, in the act phase, adjustments will be made based on feedback given midway through the implementation. By incorporating provider insights and initial data, a second cycle will be completed if needed to refine the pathway further. The PDSA model's cyclical process supports continuous improvement, enhancing the initiative's responsiveness to emerging needs within the clinic environment (IHI, n.d.).

Methods

Implementation Summary

The proposed intervention focuses on standardizing ADHD care protocols within a college student health center to enhance safety, consistency, and provider confidence in managing ADHD. The target population will be college students previously diagnosed with ADHD who receive care at the college health center, with a particular focus on supporting clinical staff involved in ADHD treatment and follow-up management. This intervention aims to reduce risks associated with stimulant medication use, such as misuse and diversion, and improve care outcomes through a structured ADHD care pathway. The intervention will delineate between dual pathways of differing levels of scrutiny, with specific protocols based on the assessed risk level of each client. A regularly scheduled continuing education session will be

reallocated to introduce the pathway via a presentation to all the providers prior to its implementation. Beyond creating and implementing the revised pathway, additional goals include integrating it into the EHR using standardized note templates and reminders, as well as updating the stimulant contract to align with the pathway protocols. Primary outcomes will be evaluated through pre- and post-intervention provider surveys and run charts to monitor adherence. The intervention will begin after the ADHD focused educational session in January, with a review at the midpoint to implement any necessary adjustments, and all intervention cycles will be completed by mid-March.

Intervention and Implementation Plan

The planned QI intervention aims to standardize ADHD management protocols within the college medical services clinic to reduce risks of stimulant misuse and enhance care consistency. This initiative will revise a structured ADHD care pathway informed by evidence-based practices and adapted with the help of the National Council for Mental Wellbeing's toolkit on care pathways (n.d.). The pathway will incorporate protocols for UDS to assess for potential comorbid substance use, which can complicate ADHD treatment and lead to substance-induced ADHD-like symptoms. Additionally, it will include standardized procedures for monitoring stimulant prescriptions through risk-based stratification.

In the initial plan phase, the revised pathway development will involve collaboration with the project site representative, incorporating provider feedback and relevant literature. The pathway will be designed to include two levels of care: a lesser diagnostic certainity pathway for students who present greater assessed risk and a greater diagnostic certainity pathway for students with lesser risk, based on outside records, individual risk factors, and the provider's

initial evaluation. Additionally, the protocol will outline suggested steps for addressing situations when UDS results are positive for non-prescribed substances, such as cannabis, other stimulants, or opioids. The framework provided by the care pathway toolkit will assist in structuring these processes and ensuring they meet clinical and administrative requirements for effective care pathway management (National Council for Mental Wellbeing, n.d.).

Following pathway revising and approval, the do phase of the PDSA cycle will commence with an ADHD focused educational session scheduled for January 29th to introduce providers to the new pathway. The session will emphasize the practical application of the pathway, including the rationale for standardization and its anticipated impact on student care and safety. During this session, providers will receive guidance on using the pathway, EHR templates, and reminders specifically designed to embed the care pathway into daily workflows. These templates will streamline documentation and assist providers in adhering to the standardized protocol. Prior to the implementation in January, the Doctor of Nursing Practice (DNP) student will work closely with the site representative and the medical services' designated information technology (IT) specialist to ensure that all necessary components are in place within the EHR system to support the integration of the pathway. This preparation involves creating standardized note templates, aligning reminders with the pathway's protocols, and updating the current stimulant contract to reflect these new standards.

Anticipated barriers to successful implementation include potential resistance to change from providers and the technical complexity of integrating the pathway into the existing EHR system. The introduction of new documentation workflows and adherence protocols may cause discomfort or hesitation among providers. To address this, the project will offer ongoing support,

including regular reminders and reinforcement of the pathway's benefits for student safety and care consistency. Provider feedback will be actively sought during the educational session and throughout the initial phases of implementation to ensure that any concerns are addressed in a timely manner. Another challenge may be the time and technical expertise needed to fully integrate the care pathway into the EHR system. The DNP student and IT specialist will work collaboratively to streamline the setup process and resolve technical issues as they arise, ensuring that all EHR components are functional before the go-live date. This project will be implemented at no cost to the organization, as existing resources, including the IT specialist's expertise and EHR infrastructure, will be utilized to support integration without additional financial burden.

SMART Goals

Table 1. SMART Goal #1

SMART Goal #1: Revision of the current ADHD care pathways based on current evidence found in the scoping review and through an iterative process in collaboration with the site representative, continuity care providers, and relevant stakeholders by January 29, 2025. This pathway will incorporate standardization of medication monitoring and follow-up, and the creation of subsequent templates for standardized documentation in the EHR.		
Strategies to accomplish the goal include facilitating regular collaboration meetings with stakeholders to ensure input from all involved parties. The creation of standardized templates to align with the pathway involves collaboration with IT specialist to ensure they are practical, user-friendly, and integrated seamlessly into existing workflows, enhancing usability and efficiency.		
Data to be collected	**Collection Process**	**Planned data analysis**
Documentation of meeting minutes, iterative drafts of the care pathway and templates, and verbal stakeholder and expert feedback. A checklist will track the completion of key milestones in the development process, with numerical progress by percentage completed.	The DNP student will document input during collaboration meetings, including verbal feedback from stakeholders, and compile iterative drafts of the pathway and templates. A project management checklist will be maintained to monitor progress toward development goals and track numerical completion percentages for each milestone.	The checklist will be analyzed to calculate the milestones completed on schedule. Progress will be visualized using a run chart to display the cumulative percentage of milestone completion over time to help identify trends, bottlenecks, or delays, allowing for timely adjustments to ensure the pathway and templates are completed by the deadline.

Table 2. SMART Goal #2

SMART Goal #2: Achieve consistent documentation in the EHR that demonstrates utilization of the care pathway in at least 75% of ADHD clients seen between January and mid-March 2025.		
Strategies to accomplish the goal include implementing EHR templates and reminders, conducting an ADHD focused educational training on the pathway, and monitoring documentation regularly.		
Data to be collected	**Collection Process**	**Planned data analysis**
Track the frequency of EHR documentation that follows the care pathway. [Number of ADHD cases documented using the pathway template/ Total number of ADHD cases seen]	EHR chart pulls will occur weekly during implementation to capture all ADHD-related charts. The DNP student will conduct weekly reviews and tally data.	Run charts will display adherence trends over time. Descriptive statistics will compare documentation adherence rates to the 75% target to assess whether the intervention meets the goal.
UDS Compliance: Track the frequency of UDS documentation as part of the ADHD care pathway protocol. [Number of ADHD cases with completed UDS documentation/ Total number of ADHD cases requiring UDS]	Weekly EHR chart pulls to capture UDS documentation for all ADHD cases. The DNP student will review charts and tally compliance data each week. Data will be securely stored in the project's central database, aligned with HIPAA requirements.	Trend analysis in run charts will further monitor compliance across the intervention timeline.

Table 3. SMART Goal #3

SMART Goal #3: Increase provider confidence in managing ADHD by 50% from baseline between January and mid-March 2025 as measured through a pre- and post-implementation survey assessing both qualitative themes and increasing quantitative Likert scale scores. Open-ended questions within the survey will explore how the process addressed provider concerns related to stimulant misuse and diversion.		
Strategies to accomplish the goal include conducting educational training on the standardized care pathway prior to implementation and providing ongoing support through regular check-ins to address provider concerns. Creation of a brief Likert-scale survey to measure provider confidence and assess their perception of the process change.		
Data to be collected	**Collection Process**	**Planned data analysis**
Provider Confidence Scores: Measure provider confidence in managing ADHD pre- and post-implementation. Survey responses will be rated on a Likert scale. [Post-intervention confidence scores/ Baseline confidence scores]	Collected through anonymous surveys distributed electronically at the beginning and end of the intervention using Qualtrics. Survey results will be are stored in a secure, password-protected database.	Descriptive statistics will compare average baseline and post-intervention confidence levels. The data will be analyzed to determine whether the target of a 50% increase in provider confidence has been achieved. Open-ended questions will be analyzed to identify recurring themes.

Evaluation and Analysis

Data collection and evaluation will be conducted via pre- and post-intervention provider surveys to assess changes in confidence and perceived ease of use, alongside chart reviews to evaluate compliance with the new protocols. Run charts will visualize trends in adherence to stimulant monitoring and UDS completion rates over the intervention period. Midway through the implementation, feedback from providers regarding barriers and facilitators to adherence to the pathway will be collected qualitatively to identify emerging barriers. This feedback will inform iterative adjustments for the second half of the intervention. In addition, run charts will allow for real-time identification of deviations in adherence trends, prompting targeted interventions to ensure consistency and effective implementation.

The analysis will include run charts to visualize weekly trends in pathway adherence and UDS completion rates, enabling early identification of deviations from established protocols. Descriptive statistics will summarize overall adherence rates, UDS compliance, and survey responses, with an assessment of pre- and post-intervention changes in provider confidence. Midway through the implementation, initial data will be analyzed to assess progress, with any identified barriers addressed through targeted adjustments, such as provider support or EHR template refinements. This data driven, iterative approach will ensure ongoing improvement throughout the intervention period, in line with the principles of the PDSA cycle.

Safety and Confidentiality

All data will be kept confidential and stored in a secure, password-protected database accessible only to authorized project team members. Survey responses will be anonymized, and chart review data will be de-identified before analysis to ensure the privacy of PHI. This QI

intervention introduces no additional risks beyond those associated with routine clinical care. The new ADHD care pathway will directly guide treatment plans for providers, which may standardize clinical decisions and ultimately influence client experiences and outcomes. To mitigate any unintended effects on patient care, the intervention focuses on enhancing safety and consistency in ADHD management through structured protocols rather than altering direct patient interactions. Providers will be trained on using the pathway with a focus on clinical judgment and client-centered care, ensuring that individual patient needs remain prioritized within the standardized framework.

Data will be collected using both primary (survey) and secondary (chart review) methods. All information extracted from the EHR will exclude identifiable details to maintain confidentiality. No PHI will be removed from the clinic. All data will be de-identified at the point of collection by removing direct identifiers. No data will be retained beyond the necessary period for evaluation. Support from site stakeholders has been obtained, and the project will undergo Institutional Review Board (IRB) review. Documentation from site representatives and IRB approval forms will be submitted as part of the IRB application in TOPAZ.

CHAPTER THREE

QUALITY IMPROVEMENT MANUSCRIPT

Contribution of Authors and Co-Authors

Manuscript in Chapter 3

Author: Brittany Helen Davidson, BSN, RN, DNP-PMHNP Candidate

Contributions: Developed the project proposal, conducted the literature review, revised and implemented the care pathway, created electronic health record (EHR) templates, engaged stakeholders, facilitated data collection and provider education, analyzed and interpreted data, and drafted and revised the manuscript for publication.

Co-Author: Dr. Annie Brown, PhD, MSN, RN

Contributions: Served as project chair and advisor, provided first review and editing, assisted with the development of implementation methods, guided data analysis, and provided final manuscript approval.

Co-Author: Dr. Stacy Stellflug, PhD, APRN, FNP-BC

Contributions: Served as project committee member, provided second review and editing, reviewed content for consistency and clarity, and contributed expertise regarding the project's feasibility.

Manuscript Information

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Clinical Problem

Attention-deficit/hyperactivity disorder (ADHD) is a prevalent neurodevelopmental disorder that affects approximately 5.2% of United States (U.S.) adults, with 2% to 8% of college students meeting diagnostic criteria (Jain et al., 2017; Nugent & Smart, 2014). Despite the increasing prevalence of adult ADHD, no clinical guidelines currently exist in the U.S., leaving providers without a consistent framework to ensure effective and safe care (Childress et al., 2023). The transition to college life brings unique challenges such as independent living, heightened academic pressures, and difficulties with time management, all of which can exacerbate ADHD symptoms. While stimulant medications are highly effective and considered first-line treatment for ADHD in children and adolescents, their primary use in the college student population introduces significant risks, including potential misuse and diversion. Nearly 45% of young adults misuse prescription stimulants annually, a risk that is particularly high among college students due to increased academic demands and peer pressures (SAMHSA, 2020). More than half of students with prescriptions are approached to share or sell their medications, and up to 70% report having diverted their stimulants at least once (Molina et al., 2020; Loskutova et al., 2020). Recent findings presented by Wilens (2024) underscore these concerns, showing that stimulant misuse now surpasses that of opioids and benzodiazepines, with diversion contributing to a rise in overdoses and peak misuse occurring around age 21. In addition, risk management practices such as drug screenings and pill counts are often applied inconsistently, and many primary care providers report low confidence in managing adult ADHD, especially in addressing misuse and diversion (Goodman et al., 2012; Loskutova et al.,

2020). These issues make college students with ADHD a particularly vulnerable population in need of structured care approaches to mitigate these significant risks.

Review of Literature

The literature supports the need for a structured, evidence-based approach to managing ADHD among college students. Barriers such as limited provider training and inadequate transitional care from pediatric to adult services contribute to inconsistent treatment practices and poor outcomes, highlighting the need for improved transitional care protocols and specialized provider training to enhance continuity of care (Modesto-Lowe et al., 2015; Fields et al., 2017; Gudka et al., 2024). Structured care pathways, including the Dundee and ADMiRE models, were associated with improved treatment adherence, reduced variability in prescribing, and enhanced coordination of care through standardization (Coghill and Seth, 2015; McGrath, 2024). Studies also emphasized the importance of consistent monitoring practices, including prescription drug monitoring program (PDMPs), urine drug screening (UDS), and medication agreements, as primary prevention strategies shown to reduce stimulant misuse and support long-term treatment adherence (Tay et al., 2023; Richmond & Butler, 2020).

Research also supports the use of targeted interventions that address the academic, social, and developmental needs of college students to enhance engagement and improve outcomes (Aluri et al., 2023; Antshel et al., 2024). These strategies often include education, behavioral supports, and structured risk management protocols designed to prevent misuse in high-risk environments. The literature consistently affirms that a comprehensive approach combining provider education, standardized protocols, and monitoring tools can strengthen ADHD management. In the absence of U.S. clinical guidelines for adult ADHD, the implementation of a

structured care pathway offers a practical model to ensure safer and more consistent care delivery within college health settings.

Conceptual Framework

The Plan-Do-Study-Act (PDSA) cycle served as the guiding framework for this quality improvement (QI) initiative due to its adaptability and suitability for facilitating iterative, data-driven change in clinical settings. Its application was especially appropriate for a college health center involving multiple providers, as it supported collaboration and flexibility in workflow adaptation. In the Plan phase, an existing ADHD care pathway was revised with input from the site representative, providers, and other relevant stakeholders to align with clinic workflows and address varying levels of student risk based on diagnostic certainty. Templates were also created within the EHR to streamline documentation and promote consistent application of care standards.

During the Do phase, the updated pathway and EHR templates were introduced following an ADHD-focused educational session to prepare providers for implementation. In the Study phase, outcomes were evaluated through weekly chart reviews and pre- and post-surveys, with run charts used to visualize adherence to care protocols and changes in provider confidence. Finally, the Act phase involved reviewing feedback and data collected during implementation to inform pathway revisions. This process ensured that the care pathway remained responsive to provider needs, supported long-term integration into practice, and upheld the principles of continuous QI.

Purpose and Aim

This QI project was designed to strengthen clinical consistency and safety in the management of ADHD within a college student health setting. In the absence of national guidelines and amid variability in monitoring and prescribing practices, the project sought to refine and implement a standardized care pathway tailored to the needs of both providers and the student population. Through a proactive approach that integrates early prevention strategies into clinical workflows, the project emphasized the importance of aligning treatment processes with both evidence-based practice and the realities of academic life for students.

Key project aims included evaluating provider experiences with the revised pathway, assessing changes in confidence related to ADHD care and stimulant risk management, and tracking how consistently the pathway was applied in documentation. The initiative also aimed to foster adoption through EHR-integrated templates and sustained provider support. The overarching goal was to promote safer stimulant prescribing and consistent monitoring by fostering mutual understanding of student expectations and embedding risk reduction strategies into routine clinical practice.

Methods

Context

This project was implemented within the medical services department of a college student health center located in the northwestern U.S. The department operates under a health fee model, ensuring comprehensive access to primary care, behavioral health, and psychiatric medication management for a diverse student population. Students served include undergraduate

and graduate learners, many of whom come from rural areas with limited access to mental health services. The clinical team includes medical doctors, nurse practitioners, and physician assistants who share continuity of care responsibilities. Prior to implementation, ADHD care management within the clinic lacked standardization and had a limited use of risk mitigation strategies.

A comprehensive needs assessment identified key gaps in clinical practice. Among ten randomly reviewed ADHD-related charts, half documented a completed UDS, but only one recorded a negative result prior to stimulant prescribing. Just two charts included follow-up UDS after one year, and none documented pill counts. Although stimulant contracts were a long-standing clinic protocol, only 60% of charts reflected their use. Only two charts referenced PDMP checks, and none used the existing ADHD-specific EHR templates. Informal provider interviews reinforced these findings, revealing workflow inconsistencies and strong provider support for implementing clear, unified protocols to ensure safety, consistency, and therapeutic rapport. These findings informed the design and implementation of the QI initiative.

Practice Change

Following the needs analysis, it became clear that inconsistencies in ADHD care could be attributed to variable provider practices, documentation gaps, and a lack of standardized protocols. Although ADHD care pathways existed within the clinic, they were not clearly defined or uniformly applied. A key area of concern for providers was the wide variation in the diagnostic rigor of previously established ADHD diagnoses. While all students seeking ADHD care at the clinic carried a diagnosis, many had received that diagnosis without comprehensive assessment, such as neuropsychological testing or formal documentation of symptom history across settings. When diagnostic certainty was unclear, the absence of a consistent approach

introduced risk to both clients and providers, particularly in the context of initiating or continuing stimulant medication. To mitigate these risks, the intervention emphasized the use of structured risk-reduction strategies and standardized assessments during the intake process for students seeking ADHD management at the student health center.

The practice change involved the revision, standardization, and implementation of a structured ADHD care management pathway, designed to support diagnostic clarification and guide consistent medication monitoring (Appendix C). The care pathway was divided into two primary tracks based on diagnostic certainty, each associated with a specific appointment and documentation template name. The greater diagnostic certainty pathway corresponded with the "ADHD Initial" (Initial) appointment and was designed for lower-risk cases. These included students with well-documented, long-standing ADHD diagnosis, evidence of prior treatment efficacy, and/or a comprehensive diagnostic evaluation. While stimulant medications were typically considered first-line in this track, the pathway also encouraged consideration of non-pharmacological interventions and clinical exceptions when co-occurring symptoms were present.

The lesser diagnostic certainty pathway was associated with the "New Mental Health/ADHD" (NMH) appointment type and applied to higher-risk or higher-scrutiny cases. These included students who had received past ADHD treatment without diagnostic evaluation, those presenting with limited documentation, or those with new evaluations consistent with an ADHD diagnosis. The NMH pathway emphasized broader mental health screening, consideration of alternative or co-occurring diagnoses, and the potential need for referral to psychiatric or neuropsychological services. Both the Initial and NMH pathways were developed

to ensure that core safety and risk-reduction strategies were implemented prior to stimulant initiation. These included completion of a UDS, review of the PDMP, and completion of a stimulant contract. In addition, both pathways promoted shared decision-making, incorporation of non-pharmacological interventions, and consistency in care across providers.

The third component of ADHD care management was the "ADHD Follow-Up" (F/U) appointment and template. This pathway reinforced consistent misuse prevention strategies and standardized ongoing monitoring for students already prescribed stimulant medication. The F/U template prompted completion of an annual UDS, PDMP review prior to refills, reassessment of medication effectiveness and tolerability, and renewal or review of the stimulant contract as needed. The goal of this component was to establish consistent follow-up care expectations, ensure long-term safety, and create a standardized documentation process that reflected agreed-upon practices across all providers.

Each appointment type was paired with a structured EHR template aligned with its corresponding pathway expectations (Appendix D). These templates included prompts for clinical reasoning, risk-benefit discussions, informed consent, stimulant contract completion, and safety screening. Template names were matched directly to appointment scheduling options in the EHR to promote workflow clarity and consistency. Development of the pathway and templates followed a collaborative, iterative process led by the Doctor of Nursing Practice (DNP) student, in partnership with the site psychiatrist, continuity care providers, and information technology (IT) specialist. Over the course of the academic year, provider feedback was continuously gathered and integrated into multiple rounds of revisions. Elements that did not align with provider workflow preferences were removed, and key features necessary for

thorough documentation were added. The final versions reflected a streamlined, user-centered design that supported efficiency and clinical completeness.

To support successful implementation, a provider ADHD-focused educational training was held prior to the go-live date of the intervention. Co-facilitated by the DNP student and the site psychiatrist, this session included a review of supporting literature, findings from the needs assessment, and a detailed explanation of the three ADHD care pathways. Providers were introduced to the finalized documentation templates and reviewed proposed supporting tools, including decision-making resources for standardizing the approach to positive UDS results (see Appendix E) and updated stimulant contract language aligned with the pathway protocols. During the session, providers reached consensus on the implementation plan, including agreement to require urine drug screen completion within two business days (excluding weekends) prior to prescribing stimulant medications. A follow-up summary was sent to providers, outlining the group decisions and confirming that the templates would go live in the EHR system the week following the session.

Prior to the go-live date, the DNP student and the clinic's IT specialist tested the templates in the training environment of the EHR to confirm functionality, documentation flow, and alignment with clinic workflows. Once finalized, the templates were activated in the live EHR system. The front desk team was informed of the new appointment names to ensure that ADHD-related appointments could be accurately scheduled under the correct type, allowing providers to access the appropriate template during the visit.

Measures

The effectiveness of the practice change was evaluated through three specific SMART goals, each aligned with a key process or outcome measure. SMART Goal 1 focused on the successful development and implementation of the revised ADHD care pathways and corresponding EHR templates. Progress toward this goal was tracked using a project management checklist, which documented milestone completion across pathway revisions, stakeholder feedback sessions, provider education, and IT integration. Milestones were quantified as percentages to track the pace and timeliness of progress over the implementation period.

SMART Goal 2 assessed pathway utilization and documentation fidelity. Weekly EHR chart reviews were conducted throughout the implementation period to determine the frequency of ADHD-related appointments that used the appropriate NMH, Initial, or F/U templates. Template adherence was calculated as a percentage of total ADHD appointments. In addition to overall template usage, pathway-specific components such as completion of UDS were also reviewed and tallied to assess consistency in risk-reduction practices.

SMART Goal 3 measured changes in provider confidence related to ADHD management and use of the standardized care pathway. Confidence was assessed using pre- and post-intervention surveys distributed via Qualtrics (Appendix F). Survey items used Likert-scale questions to evaluate provider self-assessed confidence in initiating treatment, monitoring for misuse, and applying risk-reduction strategies. Open-ended questions explored provider perceptions of workflow impact and clinical decision-making.

Analysis

Data collected during the implementation period were analyzed using descriptive statistics. Frequencies and percentages were calculated for categorical data, such as template usage, UDS completion, and stimulant contract documentation. Run charts were created to visualize trends in documentation adherence and risk-reduction practices over time. Provider confidence survey responses were analyzed by calculating mean scores for Likert-scale items, and open-ended responses were thematically reviewed to identify patterns in provider feedback. These combined methods allowed for assessment of both process integration and outcomes related to the intervention.

Results

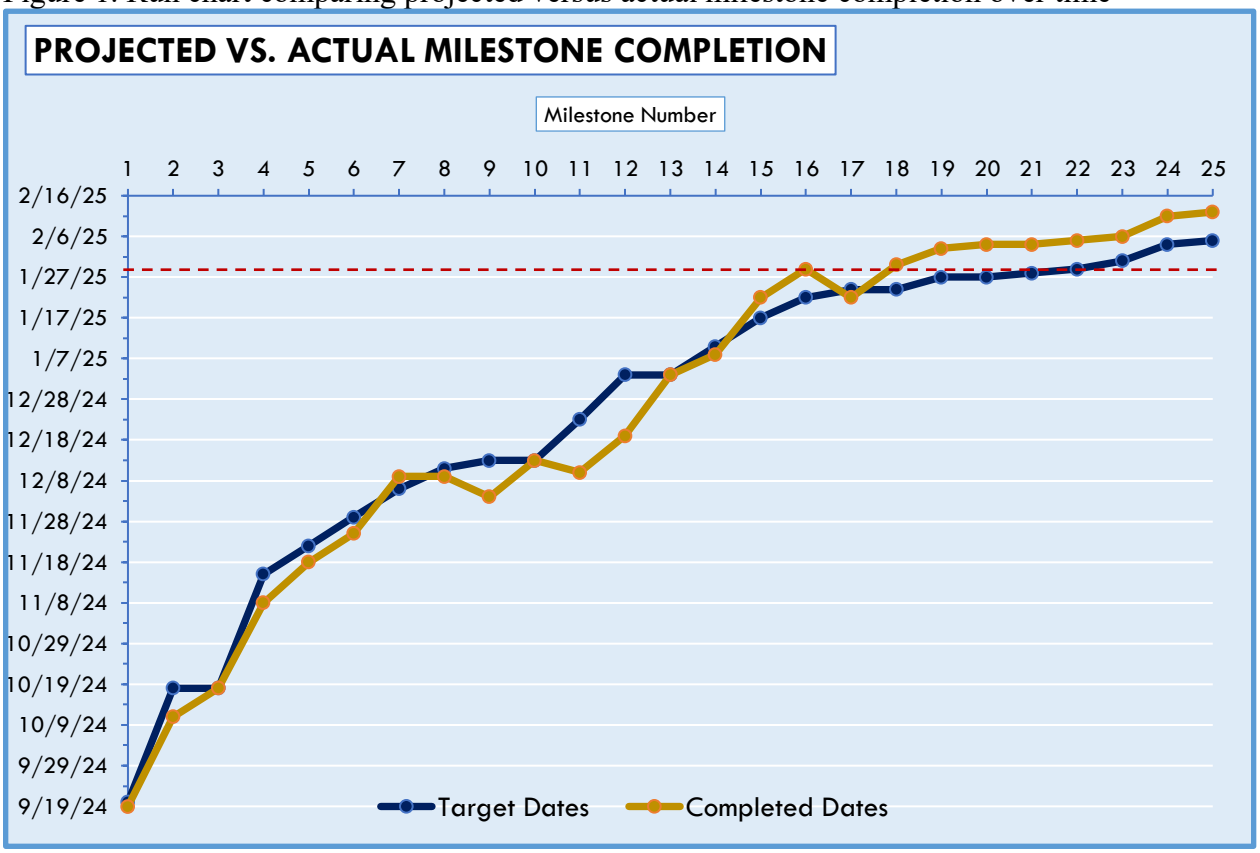
Implementation occurred over a five-week period and involved seven medical providers, including four physicians (MDs), two nurse practitioners (NPs), and one physician assistant (PA). Results are presented according to the three SMART goals used to evaluate the effectiveness of the intervention.

SMART Goal 1: Implementation Process

A total of 25 implementation milestones were tracked to evaluate the development and integration of the ADHD care pathway. Fourteen milestones (56%) were completed on time. While much of the early planning and revision process progressed according to schedule, delays occurred in updating EHR appointment naming conventions and launching the provider education session. The provider session, milestone number 22, was originally scheduled for January 29, 2025, but was delayed by one week due to scheduling conflicts. Figure 1 presents a

summary of projected versus actual milestone completion dates. A red marker is shown on the timeline to indicate the original projected implementation date.

Figure 1. Run chart comparing projected versus actual milestone completion over time

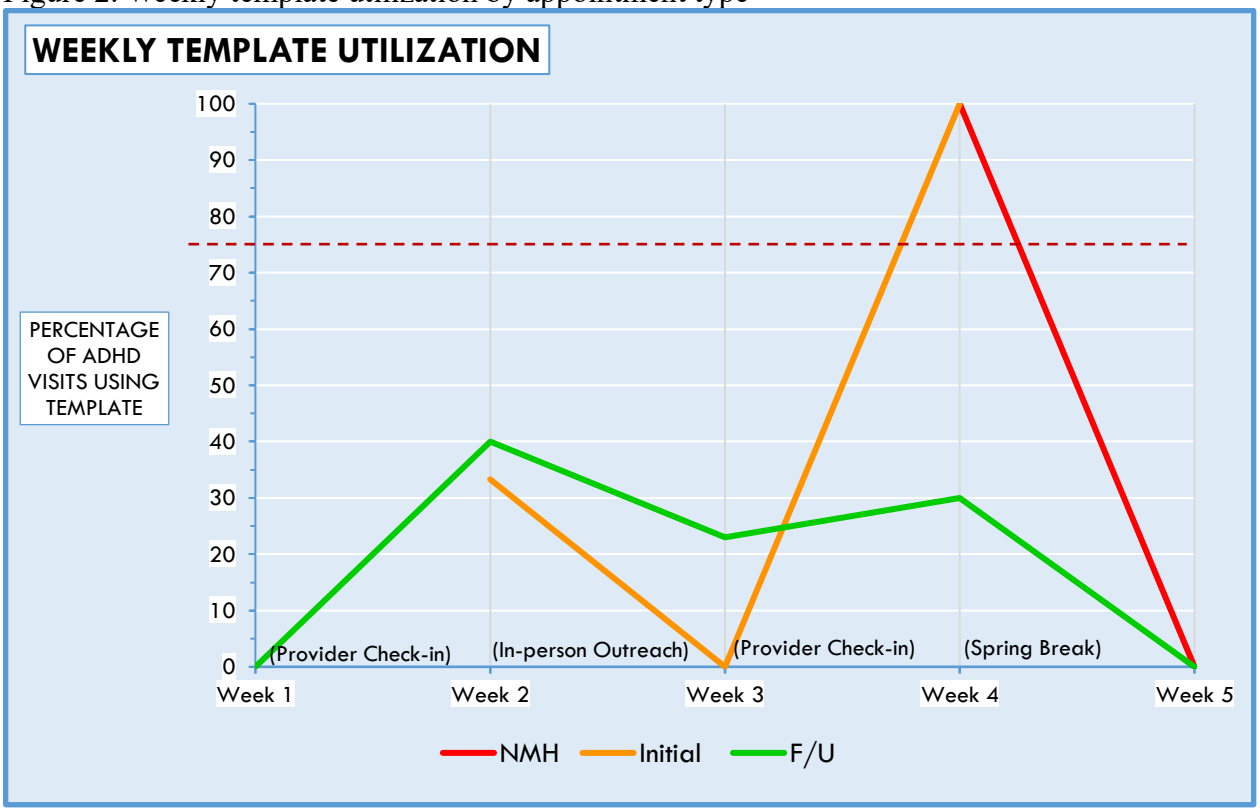


SMART Goal 2: Pathway Adherence

Template utilization was assessed through weekly chart audits of ADHD-related visits. A total of 45 visits were reviewed, including 3 NMH, 6 Initial, and 36 F/U appointments. Across all visit types, the ADHD documentation template was used in 13 of 45 visits, resulting in an overall template utilization rate of 28.9%. Use varied by appointment type and week. No NMH appointments were scheduled during weeks 1 through 3, and no Initial appointments occurred during week 1 or week 5. Among NMH visits, template use occurred in 2 of 3 encounters

(66.7%). In Initial appointments, the template was used in 3 of 6 visits (50.0%). For F/U visits, which comprised the majority of ADHD-related encounters, the template was used in 8 of 36 visits (22.2%). Weekly trends in template use are presented in Figure 2. Key implementation events, such as provider check-ins, in-person outreach, and spring break, are annotated in parentheses. A red horizontal line across the table indicates the target of 75% template utilization, which was not achieved during the five-week implementation period.

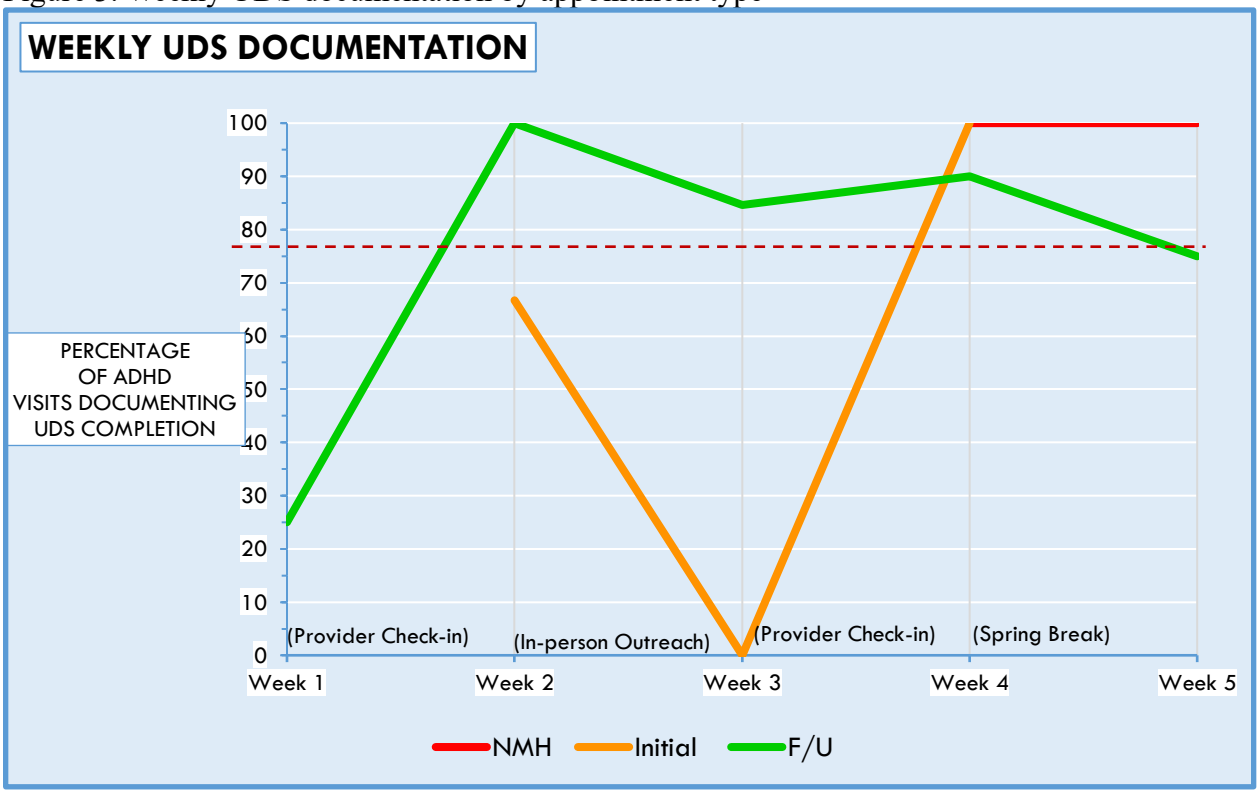
Figure 2. Weekly template utilization by appointment type



UDS documentation was also reviewed for each visit. Completion was defined as ordering a UDS for NMH and Initial visits, or reordering for F/U appointments if no prior result was documented or if the most recent screen was over one year old. Across all 45 appointments, UDS documentation was present in 35 visits, yielding an overall completion rate of 77.8%. By

appointment type, UDS documentation occurred in 100% of NMH visits (3 of 3), 66.7% of Initial visits (4 of 6), and 83.3% of F/U visits (30 of 36). Among F/U visits, four encounters lacked a prior UDS and did not include updated screening; none of these visits used the F/U template. In contrast, one F/U visit using the template identified and addressed a missing UDS. Weekly documentation patterns are presented in Figure 3.

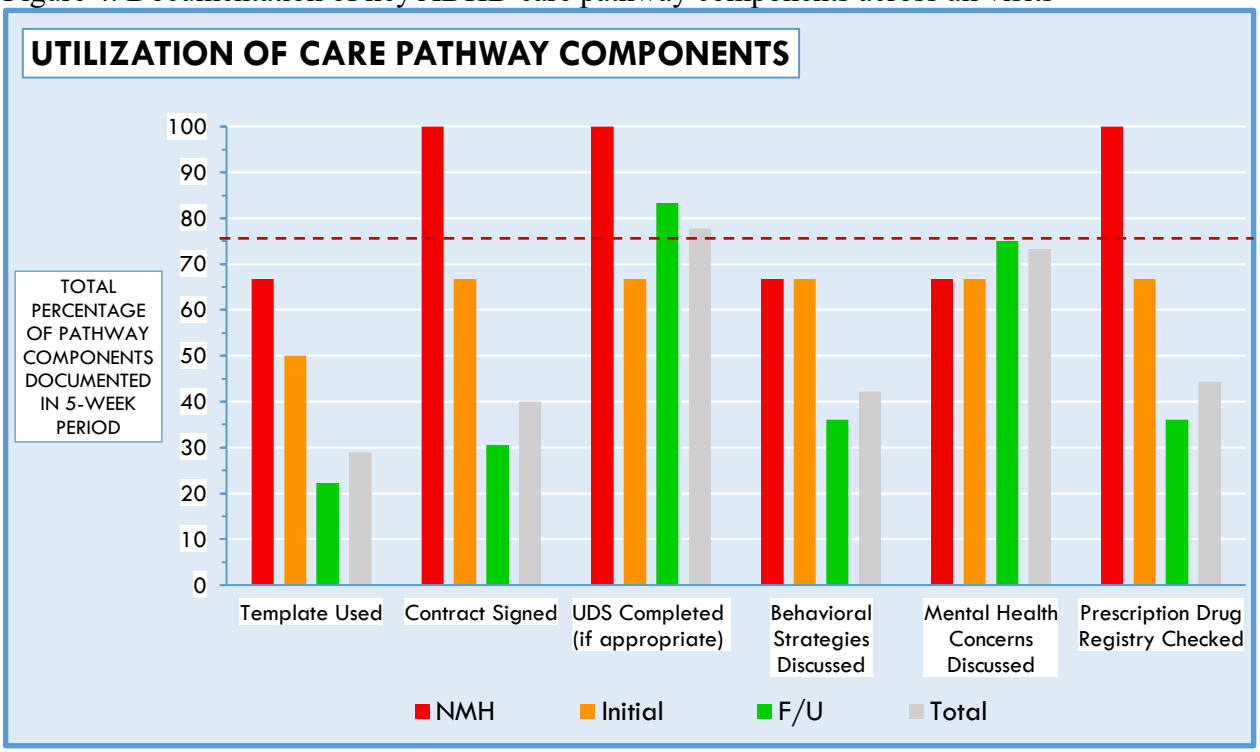
Figure 3. Weekly UDS documentation by appointment type



To assess alignment with the revised ADHD care pathway, documentation of key components was reviewed across all visits. Stimulant contracts were documented in 40% of encounters, with full use in NMH (100%) and moderate use in Initial visits (66.7%). During implementation, four students without prior contracts had them reviewed and signed during visits using the ADHD template. Behavioral strategies were noted in 42.2% of visits, mental health

concerns in 73.3%, and PDMP checks in 44.4%. All 45 audited appointments resulted in a stimulant prescription. Seven UDS results were positive for THC and managed at provider discretion. Provider type distribution among ADHD-related visits included 75.6% MDs, 17.8% NPs, and 6.7% PAs. Figure 4 summarizes documentation frequencies.

Figure 4. Documentation of key ADHD care pathway components across all visits



SMART Goal 3: Provider Confidence

Surveys were distributed to all seven providers, with five completing the pre-implementation assessment (71.4%). The survey assessed self-reported confidence across seven domains of ADHD care using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Mean scores (M), were used to summarize responses. The highest pre-survey confidence was reported in monitoring stimulant use (M = 4.4), while the lowest was in implementing a

standardized ADHD care pathway (M = 3.0). A full summary of pre-survey confidence scores is provided in Appendix G.

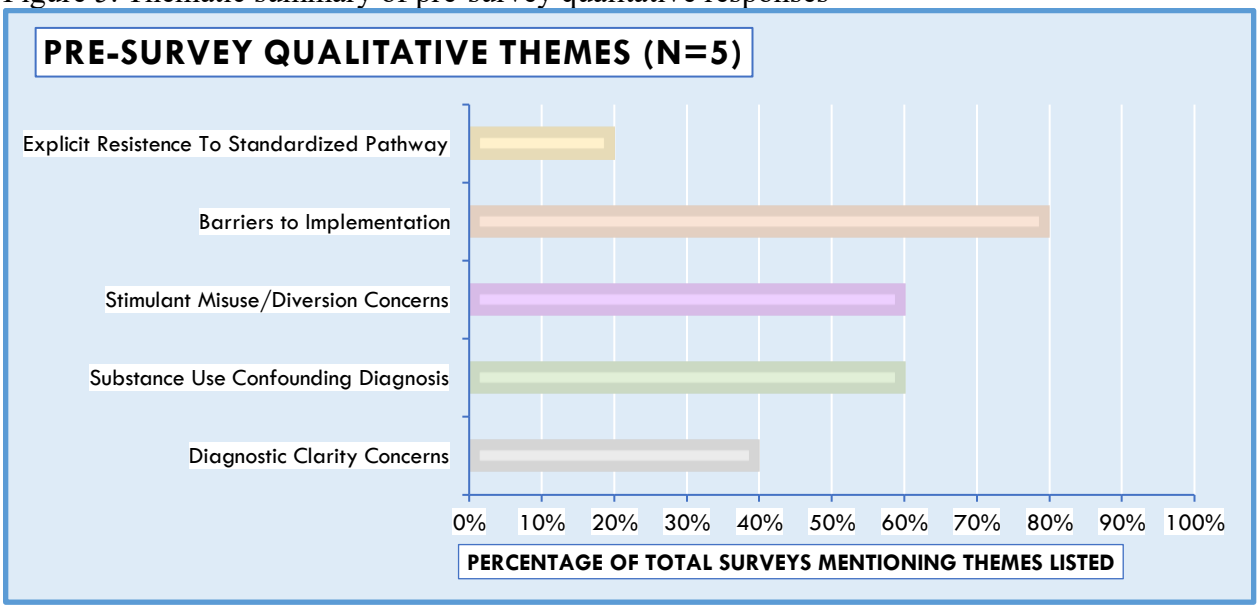
Among the seven providers, two completed both the pre- and post-surveys (28.6%) and were included in the paired analysis. The range of average confidence increase was 14.3 to 33.3%, falling short of the 50% target goal. The most substantial gains were observed in responding to positive urine drug screens (33.3%) and using workflows to support consistent ADHD care (33.3%). A full comparison of pre- and post-survey scores is displayed in Table 1.

Table 4. Comparison of provider confidence scores: pre- versus post-survey

ID number	37 (pre)	37 (post)	% increase	35 (pre)	35 (post)	% increase	**Average % increase**
1. I feel confident in managing ADHD care for college students	4	5	25%	4	5	25%	**25%**
2. I feel confident in monitoring stimulant medication use among students with ADHD.	4	5	25%	4	4	0%	**12.5%**
3. I feel confident in identifying and addressing risks of stimulant misuse and diversion with students seen for ADHD.	4	5	25%	3	4	33.3%	**28.6%**
4. I feel confident in addressing situations involving positive urine drug screening results for substances like cannabis or other stimulants.	3	4	33.3%	3	4	33.3%	**33.3%**
5. I feel confident in educating students with ADHD about stimulant contracts and their role in reducing risks of misuse.	4	5	25%	4	5	25%	**25%**
6. I feel ready to implement a revised ADHD care pathway in my clinical practice to standardize care.	3	4	33.3%	4	4	0%	**14.3%**
7. I feel that current workflows and tools support consistent ADHD care in this clinic across all providers.	3	4	33.3%	3	4	33.3%	**33.3%**

Open-ended responses from five providers (n = 5) who completed the pre-survey were reviewed to identify shared concerns prior to implementation. Comments reflected concerns about inconsistent diagnostic approaches contributing to uncertainty and potential misdiagnosis. Several noted that frequent cannabis use among students often complicated the diagnostic process by mimicking or masking ADHD symptoms. Concerns related to stimulant safety included inadequate diagnostic foundations, limited effectiveness of monitoring tools, and sharing of prescribed medications. In response to a specific question about anticipated challenges with pathway implementation, 80% of responses reflected concerns related to workflow feasibility, with providers anticipating documentation burden, time constraints, and a need for flexibility to realistically implement the pathway in standard-length appointments. These themes and their frequencies are summarized in Figure 5.

Figure 5. Thematic summary of pre-survey qualitative responses



Post-survey qualitative responses (n = 2) reflected a shift toward greater consistency in ADHD care and increased attention to stimulant risk. Both providers (100%) reported that the ADHD care pathway contributed to mitigating concerns about stimulant misuse and diversion, noting that the standardized process promoted more unified practices and increased provider awareness of clinical risks. One provider (50%) specifically highlighted that incorporating urine drug screening at the initial visit helped initiate important conversations about cannabis use, which students often minimized. At the same time, both respondents (100%) described persistent documentation challenges, particularly regarding EHR formatting limitations and time inefficiency. These concerns influenced provider use of the template, leading to partial adoption and reliance on more flexible free-text documentation styles. In response, both providers offered suggestions for EHR optimization, recommending a streamlined format, such as a prewritten, editable free-text template, to replace the current click-heavy structure.

Discussion

The results reflected both progress toward project aims and areas for further improvement. While overall ADHD template use remained below the 75% target, documentation trends revealed partial adoption, particularly in the form of narrative documentation changes that mirrored components of the standardized templates. This suggests a practice shift among some providers toward greater alignment with the care pathway, even in cases where templates were not directly applied.

For students establishing ADHD care, stimulant contracts were completed in all NMH visits and 66.7% of Initial appointments. However, two of six initial visits lacked contract documentation, highlighting missed opportunities early in care to establish shared expectations

for stimulant use. In contrast, several F/U visits using the template prompted providers to identify and complete missing contracts during the encounter, demonstrating the template's role in supporting risk mitigation. The fact that all 45 audited ADHD encounters during the implementation period resulted in stimulant prescriptions underscores the importance of applying consistent risk-reduction strategies for a population particularly vulnerable to misuse and diversion.

UDS documentation was present in 77.8% of visits, with missed screenings more likely to occur when templates were not used. These findings point to the utility of standardized documentation tools in promoting adherence to safety protocols and supporting risk-informed decision-making. Notably, template use peaked in week 4 following a targeted provider email summarizing preliminary audit data and emphasizing underuse of ADHD care templates. This brief uptick illustrates the potential impact of timely communication and supportive reinforcement in promoting adoption. However, the overall variability in use suggests that sustainability will require continued provider-centered adjustments and better alignment between templates and existing workflows.

Survey data provided additional insight into provider confidence and experience. Providers reported highest confidence pre-implementation in domains tied to direct clinical tasks, such as monitoring stimulant use and educating students about stimulant contracts. Lower confidence was observed in areas involving system-level practices, including readiness to implement a standardized care pathway and belief that current workflows support consistent care. These findings suggest a gap between individual clinical comfort and confidence in broader infrastructure and team-based processes. Although only two providers completed both pre- and

post-surveys, both demonstrated increased confidence across almost all domains, with the most significant improvements (33.3%) seen in responding to positive UDS results and using workflows to support consistent care. Although the overall average improvement across all domains was 21.6%, falling short of the 50% target, the intervention appeared to be most impactful in strengthening provider comfort in previously lower-confidence areas.

Qualitative responses further supported these findings. Pre-survey themes highlighted concerns about diagnostic clarity, stimulant misuse, documentation burden, and workflow feasibility. In particular, providers noted that cannabis use often complicated diagnostic accuracy and raised safety concerns related to stimulant prescribing. Several respondents pointed to limitations in existing UDS panels and the absence of clear structures to support consistent care. Although most providers expressed support for the concept of a standardized care pathway, some noted hesitation due to perceived constraints on clinical autonomy and workflow integration.

Post-survey responses indicated that the revised ADHD care pathway helped to reinforce more consistent, risk-informed care and promote alignment across provider practices. However, comments also emphasized the need for improved documentation flexibility and clarity. These results are consistent with the literature, which emphasizes that effective care pathways must be adaptable to provider workflow and preferences (McGrath, 2024; Richmond & Butler, 2020). Importantly, pre-implementation confidence surveys were completed prior to the provider education session. Because the session included a detailed review of the needs assessment and audit findings, providers were not yet informed of many key site-specific gaps in practice when they initially rated their confidence. This may have led to overestimation of baseline comfort and underrepresentation of concerns that later emerged during education and implementation.

Limitations

Several limitations affected the implementation and evaluation of this QI initiative. The small number of providers who completed both the pre- and post-surveys limited the ability to draw generalizable conclusions about confidence changes. Inconsistent appointment labeling in the EHR introduced measurement challenges, particularly in tracking template use by visit type. Some ADHD-related appointments may have been mislabeled or omitted from chart reviews, which could have influenced observed trends. Additionally, the timing of spring break during the final two weeks of implementation resulted in reduced clinic volume, which may have artificially suppressed weekly documentation and template use rates. Low formal template adoption further complicated interpretation. Although narrative alignment with care pathway elements was observed, it was not always clear whether these reflected intentional use of the standardized protocol or independent provider decisions.

Recommendations

To strengthen sustainability and broaden adoption, future initiatives should incorporate more structured opportunities for provider feedback and iterative refinement of documentation tools post implementation. Simplifying the EHR templates and offering flexible formats, such as editable narrative options, may support broader provider use and reduce documentation burden. Developing a clear, narrative version of the ADHD care pathway could also help guide decision-making across provider styles (see Appendix H). Continued emphasis on early engagement, shared decision-making, and ongoing education will be key in promoting buy-in and consistent pathway use. In the context of a college health center with high stimulant prescribing volume and

limited appointment time, adaptability and provider-centered design will be essential to long-term success.

Conclusion

This QI initiative addressed critical gaps in ADHD management at a college student health center by revising and implementing a structured, standardized care pathway. Through the integration of evidence-based monitoring practices, EHR documentation templates, and provider education, the intervention aimed to promote safer prescribing, reduce practice variability, and strengthen risk mitigation strategies for a high-risk population. The project demonstrated the feasibility and value of structured care pathways tailored to diagnostic clarity and follow-up needs, with partial uptake indicating early momentum for cultural and workflow change.

Although the 75% target for template use was not reached, the consistent application of pathway components and positive trends in provider confidence support the intervention's potential to foster long-term improvements in care consistency and safety. The implementation also illuminated barriers to adoption, including workflow challenges and documentation burden, reinforcing the importance of user-centered tools and flexible implementation strategies.

The implications of this work extend beyond a single clinic site. In the absence of national guidelines for adult ADHD management, particularly among college students, this project offers a scalable, replicable model that can be adapted by similar primary care and student health settings. By embedding standardized expectations for risk screening and documentation into routine care, clinical teams can enhance safety, improve collaboration, and more confidently navigate the complexities of ADHD treatment in college students. Ultimately,

this work reinforces the importance of proactive, systems-level approaches in bridging current care gaps and advancing best practices for at-risk populations.

CHAPTER FOUR

ADVANCED NURSING ESSENTIALS REFLECTION

My pursuit of a Doctor of Nursing Practice (DNP) degree in Psychiatric Mental Health at Montana State University has been a transformative process enriched by rigorous academic challenges, diverse clinical experiences, and profound personal growth. Over the past four years, my clinical experiences, ranging from small rural private practices to larger inpatient hospital systems, as well as telehealth services and college student medical services, have provided invaluable opportunities to blend advanced theoretical insights with hands-on practical application. Central to my journey is the DNP Essentials framework, which identifies ten foundational competencies that have been pivotal in my development through both didactic learning and clinical practice (American Association of Colleges of Nursing, 2021). In this reflection, I focus on five key domains that have been particularly influential in shaping my future practice. Through concrete examples drawn from my quality improvement (QI) project and other program experiences, I illustrate how I have integrated these core competencies into my clinical practice, solidifying my growth as an evidence-based clinician and emerging leader.

Domain 1: Knowledge for Nursing Practice

The domain of knowledge for nursing practice emphasizes blending well-established nursing principles with fresh insights from fields such as the liberal arts, natural sciences, and social sciences. It challenges practitioners to critically evaluate research, combine diverse sources of information, and bring holistic understanding to their clinical decision-making. Throughout my DNP coursework, I immersed myself in advanced research methods and

evidence-based practice, which required me to not only absorb complex theoretical content but also convert it into practical strategies. For instance, my advanced pharmacology course provided an in-depth look at the neurobiological mechanisms and emerging therapeutic approaches for managing psychiatric conditions, laying a solid academic foundation that enhanced my core advanced practice registered nurse (APRN) competencies.

Building on this foundation, I harnessed these insights in my QI project by revising a structured ADHD care pathway to standardize management protocols informed by evidence-based practices. In doing so, I drew upon course readings, clinical case studies, and the valuable expertise of my preceptors. Tailoring the protocol to accommodate the unique histories and treatment responses of individual patients not only bridged the gap between theory and practice but also underscored my ability to apply complex knowledge in real-world settings. Assuming a leadership role in this project allowed me to coordinate interdisciplinary feedback and guide the implementation process, thereby demonstrating my capacity to drive evidence-based change. This experience also deepened my clinical reasoning and continues to shape my commitment to safe, quality care as I move forward in my career.

Domain 2: Person-Centered Care

Person-centered care is at the heart of effective nursing practice, requiring a commitment to understand and honor each patient's unique story, values, and needs. This domain compels practitioners to engage with patients as active partners in care and to customize interventions that reflect their personal circumstances. In my clinical rotations, I have consistently prioritized understanding patients' narratives. For example, when working with patients who reported daily

cannabis use, I have employed motivational interviewing to explore underlying motivations and craft a care plan that truly met them where they are.

In my QI project, I translated this commitment into practice by developing a standardized template for care that provided consistency while allowing flexibility to address the unique needs of students managing ADHD, particularly those influenced by social determinants of health. Provider feedback obtained informed refinement of the template ensuring that it remained adaptable to cultural and personal differences while maintaining a unified framework. This focus on person-centered care has not only enhanced my ability to deliver tailored interventions but also reinforced my role as a leader who values empathy, respect, and collaborative decision-making, qualities that will continue to inform my future practice.

Domain 5: Quality and Safety

Quality and safety are fundamental to ensuring optimal patient outcomes, requiring a systematic approach to identifying, analyzing, and rectifying gaps in care. This domain underscores the value of continuous improvement through structured methodologies and vigilant risk management. My coursework in quality improvement provided tools, such as the PDSA cycle, enhancing my ability to implement initiatives aimed at standardizing practices and mitigating risks. For instance, in my QI project, I piloted a revised care pathway that provided consistent guidance, aiming to reduce risks associated with undisclosed illicit substance use prior to prescribing stimulant medications and preventing potential medication diversion within the community. This project aimed at reinforcing safety and consistency in care delivery through analysis of organizational processes, monitoring outcomes, and implementing data-driven adjustments. These experiences have strengthened my capacity to lead practice changes ensuring

that patient care remains both evidence-based and resilient. Furthermore, I plan to further disseminate my findings, underscoring my commitment to leadership and ongoing research initiatives that advance best practices in psychiatric mental health care.

Domain 6: Interprofessional Partnerships

Effective patient care relies on robust interprofessional collaboration, where the integration of diverse expertise leads to more comprehensive and coordinated care. This domain involves engaging with a variety of healthcare professionals to share knowledge, align goals, and collaboratively solve complex clinical problems. Throughout my clinical experiences, I have actively connected interdisciplinary teams, including mental health specialists, primary care providers, and community support services, to develop holistic treatment plans that address both physical and mental health needs.

In my QI project, these collaborative efforts were further amplified as I partnered with primary care providers and psychiatric services within student health services to ensure a more thorough assessment and management of stimulant medications. I also initiated connections with counseling services, student success offices, disability services, and health advancement teams across campus. The goal of creating a roundtable discussion among these groups was to share insights on treatment approaches and available resources so that referrals could be made with a more informed, patient-centered perspective. Although these collaborative efforts are still evolving, they represent a critical step toward broader change, an initiative I will continue to advocate for by highlighting the success of my QI initiative as an impetus for demonstrating that coordinated, interdisciplinary collaboration is both achievable and essential to advancing student outcomes. My experiences with interprofessional engagement my doctoral program have

strengthened my ability to work effectively within a team and prepared me to champion coordinated care initiatives in the future.

Domain 10: Personal, Professional, and Leadership Development

The tenth DNP essential domain is dedicated to the continuous evolution of one's professional identity, leadership skills, and personal growth. It involves self-reflection, building resilience, and the proactive pursuit of opportunities that foster both clinical excellence, innovative thinking, and ongoing professional advancement, qualities essential for delivering compassionate, attentive patient care. My journey through the DNP program has been as much about personal transformation as it has been about acquiring clinical expertise. Courses focused on leadership, healthcare policy, and vulnerable populations challenged me to reflect deeply on my values and inspired me to prioritize self-care, tenacity, and adaptability, ensuring that I remain flexible in the face of change while consistently bringing a renewed energy and compassion to every patient interaction.

Leading my QI project provided a significant opportunity to develop and refine my leadership abilities by coordinating a multidisciplinary team, managing project timelines, and presenting findings to key stakeholders. Moreover, my commitment to professional development is demonstrated through active participation in professional organizations, which keeps me abreast of the latest advancements in nursing practice, encourages cross-specialty learning, and empowers me to influence healthcare policy. A core competency within this domain is championing social justice and striving to eliminate systemic racism and inequity in both nursing and society, a driving force behind my pursuit of this career. In addition, my educational opportunities as a Behavioral Health Workforce Education and Training (BHWET) scholar have

been transformative. The BHWET program advanced my learning in the DNP program by enhancing my skills in delivering integrated behavioral health services, collaborating within interprofessional teams, applying trauma-informed practices, and incorporating technology into care delivery. These experiences have not only prepared me to address the complex challenges of increasing access to quality, culturally appropriate behavioral health services in Montana but also reinforced my commitment to fostering collaborative change. Together, these experiences continue to shape my growth as a leader, equipping me with the critical thinking and innovative skills necessary to inspire change and advance psychiatric mental health care.

Conclusion

In summary, the five domains I have explored, knowledge for nursing practice, person-centered care, quality and safety, interprofessional partnerships, and personal, professional, and leadership development, have collectively propelled my growth as both a clinician and a leader. The combination of comprehensive scholarly inquiry, extensive practical engagement, and the strategic implementation of my QI initiative have enhanced my ability to critically analyze research, tailor patient-centered interventions, and foster collaborative change. These competencies refined my clinical judgment and adaptive skills which have prepared me to excel in advanced practice. As I transition into my role as an APRN, I am inspired to leverage these experiences to drive healthcare innovation, advocate for equitable, high-quality care for all, and ensure the rights and dignity of those experiencing mental health challenges are protected.

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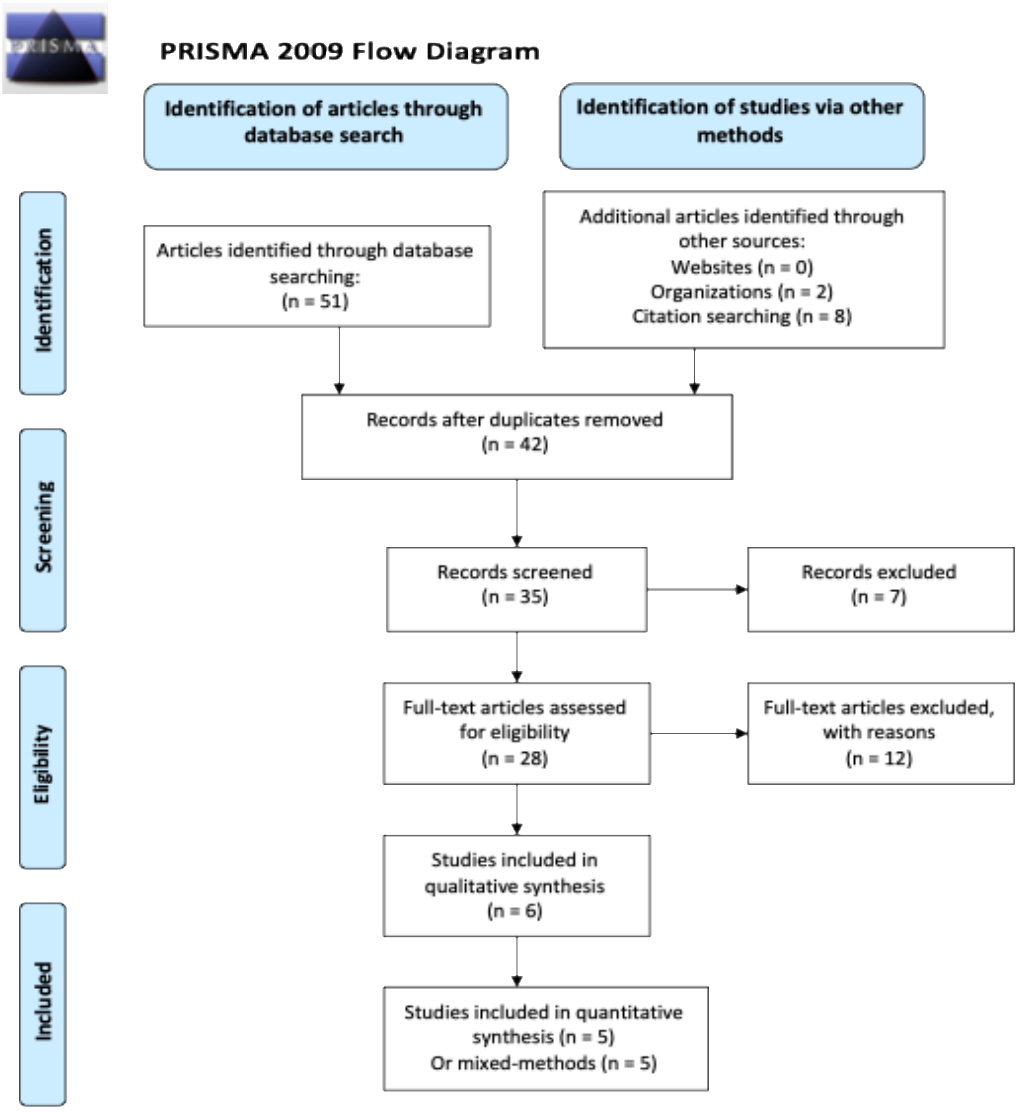
APPENDICES

APPENDIX A

PRISMA FLOW DIAGRAM

Figure 6. PRISMA Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.* PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

APPENDIX B

NEEDS ASSESSMENT INTERVIEW QUESTIONS

Current Practice

- Can you describe your current approach to managing ADHD among students?
- What tools or resources do you rely on most when assessing students for ADHD?

Workflow Preferences

- What aspects of your current workflow do you find most effective in supporting students with ADHD?
- Are there any specific documentation or reporting practices that you feel help or hinder your workflow?

Barriers & Facilitators

- What challenges or barriers have you faced when trying to support students with ADHD?
- How do you think institutional policies impact your ability to provide effective ADHD care?
- How do peer support and collaboration among providers influence your approach to ADHD care?

Impact and Improvement

- What changes do you think would have the greatest impact on improving ADHD practices on campus?
- How do you envision the ideal system for ADHD management on campus?

Would you like to share anything else about your experiences or perspectives on ADHD care that we haven't discussed?

APPENDIX C

ADHD CARE PATHWAYS

Greater Diagnostic Certainty Pathway

"ADHD Initial" appointment scheduled:

Prior to appointment: Student completion of standard screenings.

During appointment:

- Consideration of:
  - the exceptions to stimulants as first-line treatments
    - Examples: SUD, psychosis, bipolar, eating disorders, cardiac history
    - Document the reason behind providing a stimulant prescription despite a relative contraindication.

- Prior to prescribing stimulant treatment:
  - Ordering of initial UDS and review of results with the student.
    - If relevant, utilize guidelines regarding the circumstances of a positive UDS result.
  - Review the PDMP.
  - Informed consent regarding risk/benefits/mechanism of action for stimulant medication, facilitated by review of stimulant contract.
  - Discuss, review, and sign the contract for stimulant use with the student.
  - It is encouraged to prescribe stimulants as a 28-day supply if taken daily or a 20-day supply if only utilized during weekdays.

- Scheduling of standard follow-up appointments for renewal of future prescriptions.

After appointment:

- Utilize SOAP note subjective template named "ADHD Initial".

Lesser Diagnostic Certainty Pathway

"ADHD/New Mental Health" appointment scheduled:

Prior to appointment: Student completion of a full PHQ with MDQ screening.

During appointment:

- Consideration of:
  - other diagnoses/reasons that could explain symptoms.
  - psychiatry referral or further neuropsychological testing.
  - encouragement to access non-pharmacological behavior management and campus resources.
  - the exceptions to stimulants as first-line treatments.
    - Examples: SUD, psychosis, bipolar, eating disorders, cardiac history
    - Document the reason behind providing a stimulant prescription despite a relative contraindication.

- Prior to prescribing stimulant treatment:
  - Ordering of initial UDS and review of results with the student (likely subsequent to first appointment via telephone call).
    - If relevant, utilize guidelines regarding the circumstances of a positive UDS result.
  - Review the PDMP.
  - Informed consent regarding risk/benefits/mechanism of action for stimulant medication, facilitated by review of stimulant contract.
  - Discuss, review, and sign the contract for stimulant use with the student.
  - It is encouraged to prescribe stimulants as a 28-day supply if taken daily or a 20-day supply if only utilized during weekdays.

- Schedule a follow-up ADHD appointment within 1 month.
  - If additional concerns are discovered during intake assessment, such as anxiety or depression, consider clarifying the primary concern of the F/U appointment.

After appointment:

- Utilize SOAP note subjective template named "ADHD/New Mental Health".
- Input referrals as appropriate.

ADHD Follow-up Pathway

"ADHD Follow-up" appointment scheduled:

During appointment:

- Consider if there is sufficient concern to justify additional risk management strategies for misuse and diversion, such as implementation of pill counts or additional UDS follow-up.
    - Is there sufficient concern to justify pill counts for this student?
    - Is there sufficient concern to justify a follow-up random UDS, looking for positive results for prescribed medication (amphetamine) and negative results for all other substances?
- All student follow-ups:
    - Review of PDMP before the renewal of the stimulant prescription.
    - A random UDS will be completed in conjunction with one of the follow-up appointments, which will be done once annually.
    - Renewal of the stimulant contract is to be done once annually.

After appointment:

- Utilize SOAP note subjective template named "ADHD Follow-up".

APPENDIX D

EHR TEMPLATES

Figure 7. ADHD Initial Template

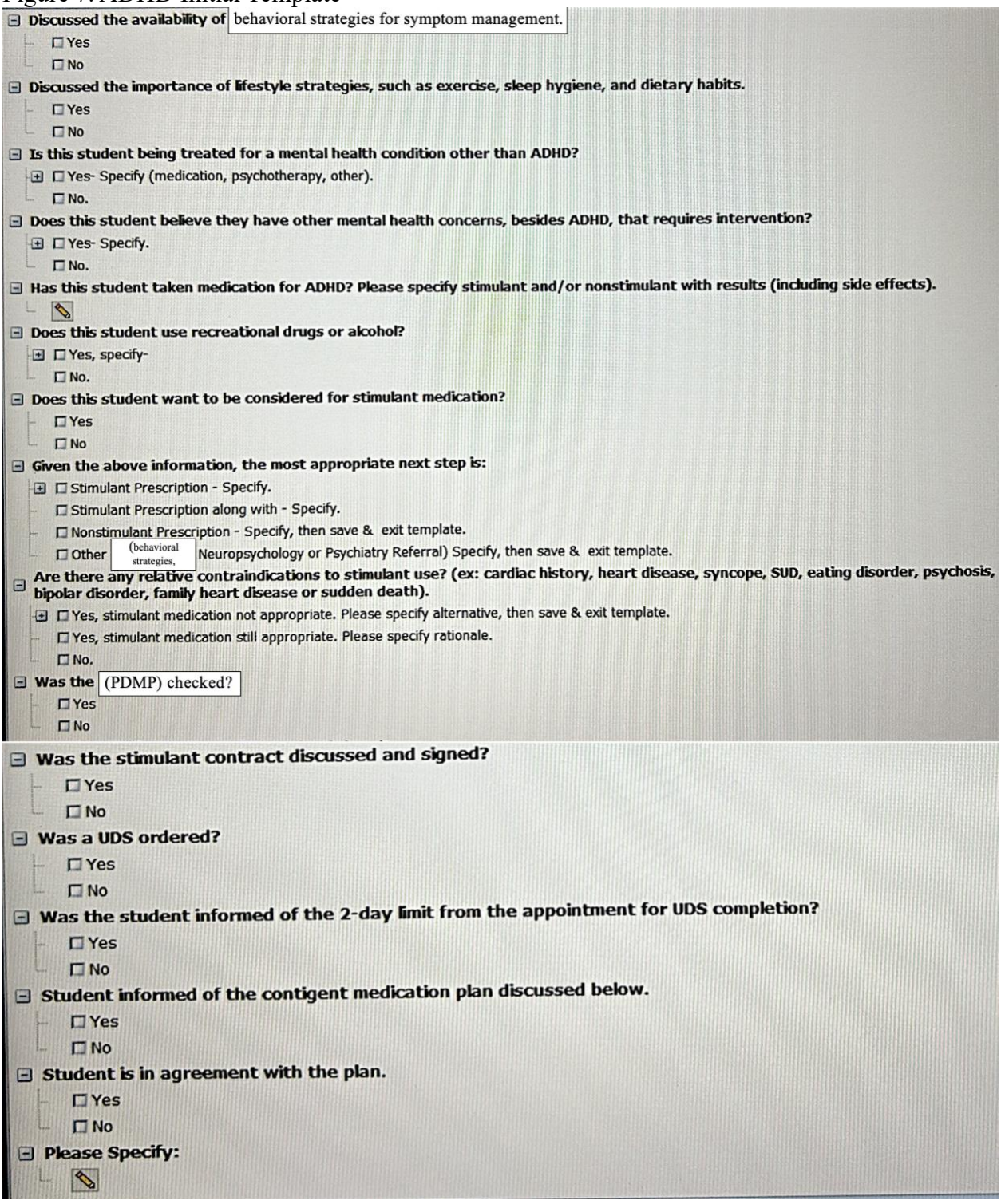


Figure 8. ADHD/ New Mental Health (NMH) Template

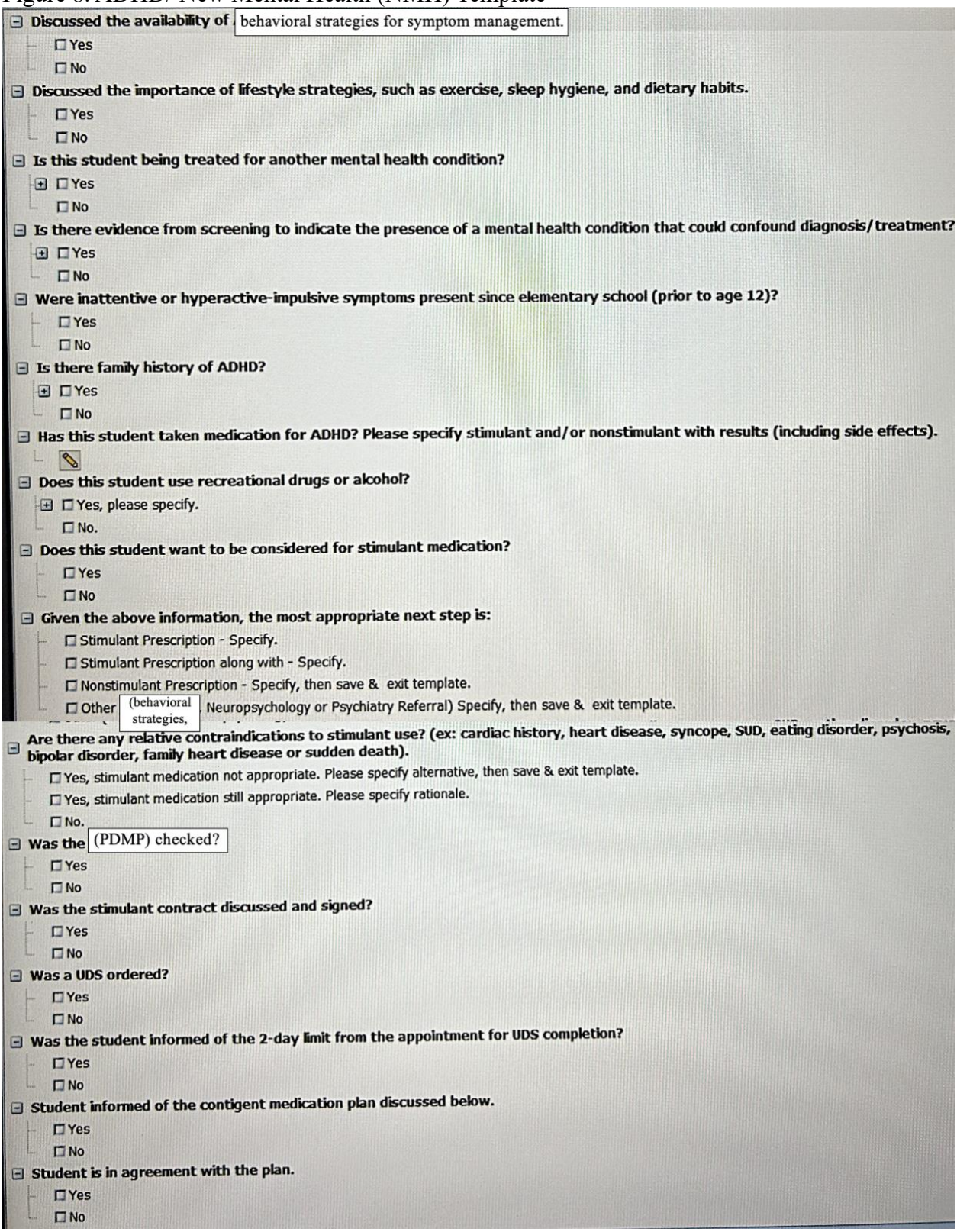
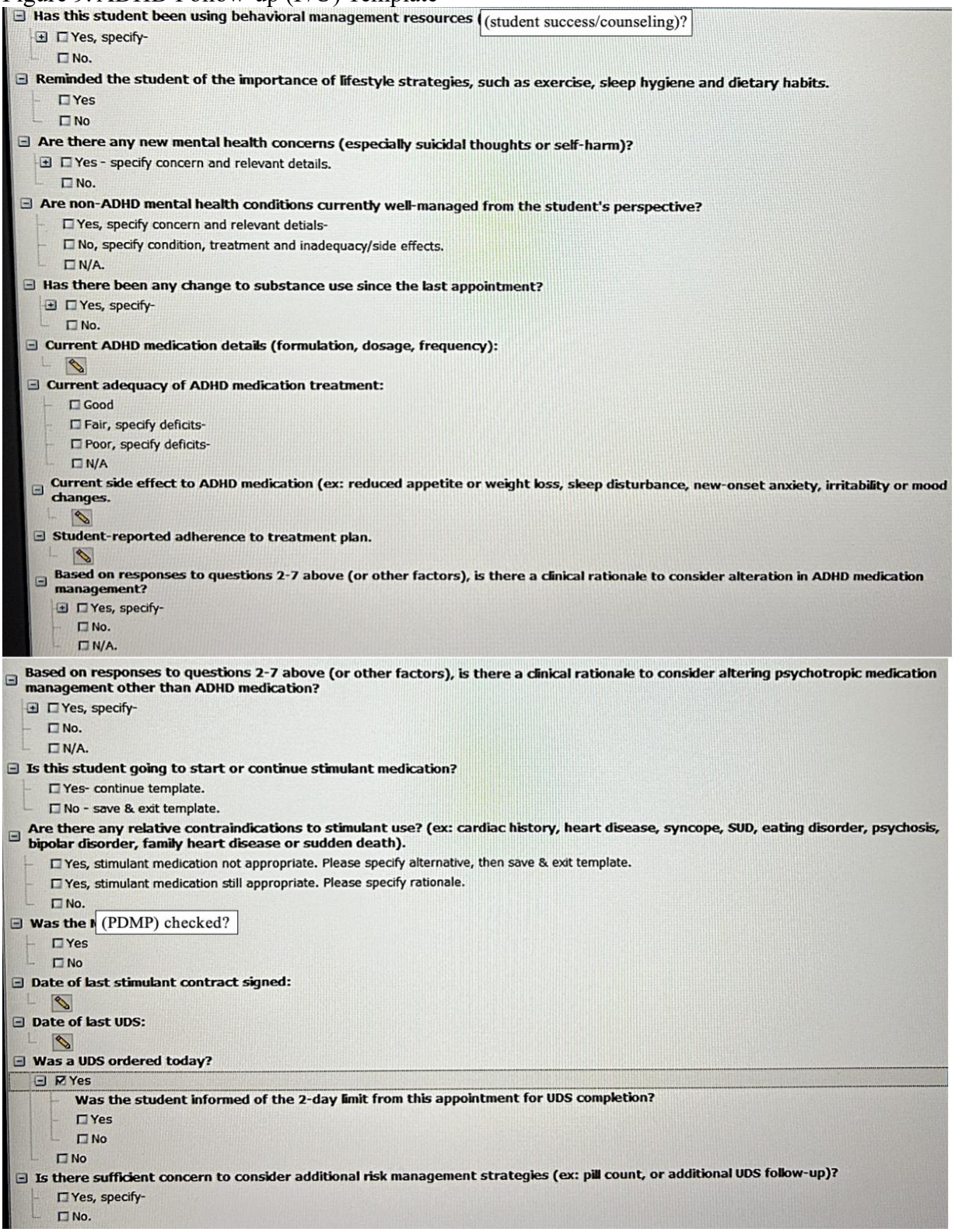


Figure 9. ADHD Follow-up (F/U) Template



APPENDIX E

PROPOSED SUPPORTING GUIDELINE FOR POSITIVE UDS

Care pathway for circumstances of positive UDS results for substances other than prescribed:

- Positive UDS for PCP or other stimulants: amphetamine (if not prescribed), methamphetamine, or cocaine:

    1. Not prescribing stimulant medication or continuing previously prescribed stimulants.
    2. Consideration of referral to psychiatry or specific substance use treatment.
    3. Consider alternative psychopharmacological options such as atomoxetine (Strattera), bupropion (Wellbutrin), or alpha-2 agonists (guanfacine or clonidine).
    4. Consideration of future stimulant treatment after one year of sobriety from other stimulants.

- Positive UDS for opioids, barbiturates, or benzodiazepines (if not prescribed)

    - Same as considerations 1-3 above.
    - Consideration of future stimulant treatment based on clinical judgement and collaboration with any referral clinicians.

- Positive UDS for cannabis:

    - Consider provider agreement on policy to allow the student another chance to pass another (nonrandom) UDS in the future. Utilize a 3-strike policy.
    - Consider alternative psychopharmacological options such as atomoxetine (Strattera), bupropion (Wellbutrin), or alpha-2 agonists (guanfacine or clonidine) for those unable to meet 3 strike policy.

- Negative UDS for amphetamine when prescribed Adderall or derivatives:

    - Pill counts or further random UDS d/t risk of diversion.

APPENDIX F

PRE- AND POST-INTERVENTION SURVEYS

Pre-Implementation Survey

Part 1: Quantitative (Likert Scale 1-5)
(1= Strongly Disagree, 2= Disagree, 3= Neither Agree or Disagree, 4= Agree, 5= Strongly Agree)

1. I feel confident in managing ADHD care for college students.
2. I feel confident in monitoring stimulant medication use among ADHD patients.
3. I feel confident in identifying and addressing risks of stimulant misuse and diversion.
4. I feel confident in handling situations involving positive urine drug screening (UDS) results for substances like cannabis or other stimulants.
5. I feel confident in educating ADHD patients about stimulant contracts and their role in reducing risks of misuse.
6. I feel ready to implement a revised ADHD care pathway in my clinical practice to standardize care.
7. I feel that current workflows and tools support consistent ADHD care in this clinic across all providers.

Part 2: Qualitative (Open Response)

8. What are your primary concerns about managing ADHD care for college students?
9. What challenges, if any, do you anticipate with the implementation of a standardized ADHD care pathway?
10. What specific risks related to stimulant misuse and diversion concern you the most in your current practice?

Post-Implementation Survey

Part 1: Quantitative (Likert Scale 1-5)
(1= Strongly Disagree, 2= Disagree, 3= Neither Agree or Disagree, 4= Agree, 5= Strongly Agree)

1. I feel confident in managing ADHD care for college students.
2. I feel confident in monitoring stimulant medication use among ADHD patients.
3. I feel confident in identifying and addressing risks of stimulant misuse and diversion.
4. I feel confident in handling situations involving positive urine drug screening (UDS) results for substances like cannabis or other stimulants.
5. I feel confident in educating ADHD patients about stimulant contracts and their role in reducing risks of misuse.
6. I feel ready to implement a revised ADHD care pathway in my clinical practice to standardize care.
7. I feel that current workflows and tools support consistent ADHD care in this clinic across all providers.

Part 2: Qualitative (Open Response)

8. Did the implementation of the ADHD care pathway mitigate your concerns regarding ADHD-related risks of misuse and diversion? (Yes/No)
    a. Please explain your answer.
9. What challenges, if any, did you experience during the implementation of the care pathway?
10. What suggestions do you have for improving the ADHD care pathway and templates moving forward?

APPENDIX G

PRE-IMPLEMENTATION SURVEY CONFIDENCE SCORES

Table 5. Provider confidence scores: pre-survey

ID number	37	84	35	17	52	Average score
1. I feel confident in managing ADHD care for college students	4	4	4	4	4	4.0
2. I feel confident in monitoring stimulant medication use among students with ADHD.	4	5	4	5	4	4.4
3. I feel confident in identifying and addressing risks of stimulant misuse and diversion with students seen for ADHD.	4	4	3	4	4	3.8
4. I feel confident in addressing situations involving positive urine drug screening results for substances like cannabis or other stimulants.	3	4	3	4	4	3.8
5. I feel confident in educating students with ADHD about stimulant contracts and their role in reducing risks of misuse.	4	4	4	5	4	4.2
6. I feel ready to implement a revised ADHD care pathway in my clinical practice to standardize care.	3	4	4	3	1	3.0
7. I feel that current workflows and tools support consistent ADHD care in this clinic across all providers.	3	4	3	3	4	3.4

APPENDIX H

SAMPLE NARRATIVE FOLLOW-UP TEMPLATE DRAFTS

Sample Narrative F/U Template #1

[Student Name] presents today for ADHD follow-up. They are currently taking **[medication name, formulation, dosage, frequency]**. Adequacy of treatment is rated as **[good/fair/poor]**, with the following deficits noted: **[specify or N/A]**. Side effects (ex: reduced appetite or weight loss, sleep disturbance, new-onset anxiety, irritability, mood changes) were reviewed. The student reports **[no significant side effects/presence of side effects: __]**. Adherence is reported as: **[consistent/inconsistent/partial]**.

The student **[has/has not]** been using behavioral management resources (AYCSS/CPS) and was reminded of the importance of lifestyle strategies, such as exercise, sleep hygiene, and dietary habits. New mental health concerns (ex: suicidal thoughts or self-harm) include: **[specify or N/A]**. Non-ADHD mental health conditions are **[well-managed/not well-managed: specify/ or N/A]**. Substance use since last visit has **[not changed/changed]** and includes: **[ETOH consumption: __; marijuana/other illicit substances: __; or N/A].**

Based on the clinical review above, there **[is/is not]** a rationale to consider changes to ADHD medication or other psychotropic medications. The recommended adjustment includes: **[specify or N/A]**. At today's visit, the decision was made to **[continue/initiate/discontinue/adjust]** stimulant medication.

No contraindications to stimulant use were reported today (ex: cardiac history, heart disease, SUD, eating disorder, psychosis, bipolar d/o, family heart disease or sudden death). **[If present, specify and describe rationale if stimulant use is still appropriate]**. The MPDR was checked and showed no concerning findings. The last stimulant contract was signed on **[date]**. The most recent UDS was completed on **[date]**. A UDS was **[not needed today/ordered with student informed of 2-day time limit to complete testing]**. At this time, additional risk management strategies (ex: pill count, additional UDS follow-up) **[are/are not]** indicated.

Sample Narrative F/U Template #2

[Student Name] presents today for ADHD follow-up.

Medication response
Current ADHD medication details (formulation, dosage, frequency): **[ ]**
Current adequacy of ADHD medication treatment (good/fair/poor) and reported deficits: **[ ]**
Current side effects to ADHD medication (ex: reduced appetite or weight loss, sleep disturbance, new-onset anxiety, irritability, or mood changes): **[ ]**
Student-reported adherence to treatment plan (consistent/inconsistent/partial): **[ ]**

Mental health review
Behavioral management resources (AYCSS/CPS) being used: **[ ]**
Lifestyle strategies (ex: exercise, sleep hygiene, dietary habits) discussed: **[ ]**
New mental health concerns (ex: suicidal thoughts or self-harm) include: **[ ]**
Non-ADHD mental health conditions are currently (well-managed, not well-managed: specify, or N/A): **[ ]**
Substance use since last visit includes (ETOH, marijuana, other illicit substances, or N/A): **[ ]**

Treatment plan
Based on the clinical review above (or other factors), recommended adjustments to ADHD medication and/or other psychotropics include (specify or N/A): **[ ]**
Plan for stimulant medication (continue/initiate/discontinue/adjust or N/A): **[ ]**

Risk management (for students prescribed stimulants)
Relative contraindications to stimulant use (ex: cardiac history, heart disease, SUD, eating disorder, psychosis, bipolar d/o, family heart disease or sudden death) include: **[ ]**
MPDR was checked and showed no concerning findings: **[ ]**
Date of last stimulant contract signed: **[ ]**
Date of last UDS: **[ ]**
UDS ordered today with student informed of 2-day time limit to complete testing: **[ ]**
Additional risk management strategies needed (ex: pill count, additional UDS follow-up): **[ ]**