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Fostering Interprofessional Collaboration in Community College Mental Health Centers: A Quality Improvement Project

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Fostering Interprofessional Collaboration in Community College Mental Health Centers:

A Quality Improvement Project

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N789 DNP Project

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Abstract

Background The worsening mental health rates among college students in the United States highlight the critical need for campuses to have high-quality comprehensive mental health centers (MHC). This necessity is particularly urgent in community college MHCs, which often lack these attributes. **Local Problem** An MHC within a large California community college recently introduced telepsychiatry services and is considering integrating a Psychiatric Mental Health Nurse Practitioner (PMHNP) into their team. However, knowledge gaps and limited interprofessional education (IPE) may hinder effective collaboration within the team. **Methods** A comprehensive literature review was conducted to assess current research on IPE, community college mental health services, and PMHNPs. Subsequently, a quality improvement (QI) initiative utilizing the Interprofessional Education Collaborative (IPEC) Core Competencies framework was initiated. **Interventions** A QI project focused on IPE was planned, implemented, and evaluated. A one-hour IPE presentation led by the DNP scholar andco-facilitated by the clinical directorwas delivered to four counseling interns. Pre- and post-session surveys were utilized to collect quantitative and qualitative data. **Results** Survey outcomes indicated that the IPE session enhanced interns' confidence and motivation for interprofessional collaboration (IPC) and provided practical insights relevant to their roles. **Conclusions** This IPE initiative was a low-cost approach that helped address counselors' knowledge gaps and prepared them for IPC with psychiatric providers. Insights for future IPE initiatives, project limitations, and health policy recommendations were also examined.

Keywords: psychiatric mental health nurse practitioner, community college, mental health services, interprofessional collaboration, interprofessional education

Problem

Recent reports indicate a concerning rise in mental health problems among adolescents and young adults. According to the 2022 National Survey on Drug Use and Health, 36.2% of young adults (aged 18-25) had a mental illness and 11.6% experienced a serious mental illness (SMI), which are considered more severe and debilitating conditions (Substance Abuse and Mental Health Service Administration [SAMHSA], 2023). This is a marked increase from just a decade ago when 19.6% of young adults had a mental illness, and 4.1% had SMI (SAMHSA, 2013). Additionally, there has been a 74% rise in the usage of psychiatric medication among college students over the past ten years, with 23.5% of students currently taking these medications (Morris et al., 2021). The surge in mental health problems on college campuses highlights the need for institutions to expand their mental health services and offer higher levels of care, including psychiatric care.

College mental health centers (CMHC) provide affordable, confidential, and convenient services for students seeking mental health support and play a vital role in addressing the mental health crisis among college students (American College Health Association [ACHA], 2016). Students on campuses with interprofessional mental health teams with psychiatric providers have the advantage of accessing both psychotherapy and pharmacotherapy, which is considered the gold standard treatment for many mental disorders (Kamenov et al., 2017). However, compared to most four-year universities, only 7% of community colleges employ psychiatric providers (AAUCD, 2017; Gallagher, 2014), exacerbating disparities in mental health care for these students.

In California, the University of California (UC) campuses have robust CMHCs staffed by interprofessional teams including psychotherapists, psychiatric providers, and social workers (Rosenberg, 2016). These centers also meet recommended staffing ratios of 1,000 to 1,500 students per mental health professional (Legislative Analyst's Office, 2021). California community colleges (CCC) do not keep track of their staffing ratios. However, according to the CCC Chancellor, these campuses typically staff one to three mental health counselors, indicating a significantly lower ratio and a lack of psychiatric providers (Legislative Analyst's Office, 2021).

Setting and Context

   The CMHC at De Anza College realized a need for medication management services for their students and has recently acquired telepsychiatry services. They are also considering collaborating with a psychiatric mental health nurse practitioner (PMHNP). The expansion of services by integrating telepsychiatry and potentially a PMHNP highlights the importance of interprofessional collaboration (IPC). IPC refers to multiple health professionals working together to address biological, psychological, and social determinants of health in order to promote the health of patients and communities (Fields et al., 2023). Regarding CMHCs, the American College Health Association (2016) and International Accreditation of Counseling Services (2023) recognize that a team-based collaborative approach is essential to delivering student-centered holistic care. Research shows IPC improves patient outcomes and service delivery, as well as job satisfaction among clinicians (Institute of Medicine, 2015).

   Strengthening IPC can be facilitated through interprofessional education (IPE), a field of study that aims to improve collaborative practice by enhancing knowledge, skills, and behaviors necessary for collaborative care (Centre for the Advancement of Interprofessional Education Collaborative, 2002). Therefore, implementing IPE can prepare this CMHC with the tools necessary for successful collaboration with psychiatric providers.

   De Anza College is located in Santa Clara County and serves 16,706 students (Data USA, 2023). Compared to other CCCs, this campus has a higher percentage of Asian students (41%) and full-time students (49%) (Data USA, 2023). However, it shares similar rates of basic needs insecurity (62%) and mental health issues with other CCCs (Healthy Minds Study, 2021; Hope Center for College Community and Justice, 2018; Pacific Institute, 2015). Despite these challenges, this campus has relatively more mental health clinicians, a designated mental health center, and a nurse practitioner-led student health center. Additionally, as of this year, the CMHC acquired telepsychiatry services through a third-party virtual mental health company.

Project Aim

Given the need for IPE at De Anza College's CMHC, by April 2024, 100% of current counselors will participate in a one-hour online training about IPC, including topics on psychopharmacology, scopes of different psychiatric providers, communication skills, and indications for referrals. The participating counselors will demonstrate an increase in confidence for interprofessional practice with psychiatric providers by at least 10% using pre and post-session surveys, as well as showing improvement in confidence and motivation to refer to psychiatric providers.

Available knowledge

PICOT Question

To evaluate the effectiveness of IPE in increasing IPC, the literature was reviewed using the PICOT question: *Does education about the PMHNP role among providers at community college mental health centers improve interprofessional collaboration and ultimately increase provider knowledge, confidence, and motivation to refer?*

Search Methodology

Boolean phrases, including *interprofessional, collaboration, psychiatric mental health nurse practitioner, community college*, and *education,* were searched across PubMed, CINAHL, APA PsycINFO, and Scopus databases. Due to the limited studies on community colleges, this term was ultimately excluded. Inclusion criteria included full-text, peer-reviewed articles in English published within the last ten years. An initial search with these parameters yielded 50 articles. After a review of these articles, seven remained, supplemented by four more from reference list analysis. A total of 11 articles underwent critical appraisal using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) tool (Appendix A).

Review of the Literature

Characteristics of IPE

IPE fosters an understanding of various healthcare roles, teamwork, and holistic care principles. PMHNPs engage in IPE through classroom and clinical settings. In classrooms, they learn alongside students from diverse healthcare disciplines, utilizing online modules, discussions, and simulated

scenarios to grasp the value of different perspectives in patient care (Beebe et al., 2016; Haefner & Filter, 2022; Peterson et al., 2019). While these programs receive positive feedback, they demand substantial resources for curriculum development and faculty collaboration. In clinical settings, shorter IPE projects are implemented via in-person or online meetings/materials and focus on bridging learning gaps. For example, a quality improvement (QI) initiative improved IPC knowledge and confidence among PMHNPs and probation officers through brief videos offering collaboration strategies and role information (Langley, 2023). Studies suggest in-person training facilitates better dialogue and perspective sharing (Beebe et al., 2016; Langley, 2023).

Frameworks of IPE

Two frameworks were utilized in IPE programs involving PMHNPs: the AIMS Center Model and the Interprofessional Education Collaborative (IPEC) competencies framework. Under the AIMS Center Model, PMHNPs serve as psychiatric consultants supporting primary care providers (PCPs) by educating them on medications, social determinants of health, and behavioral health interventions (Birch et al., 2021; Emerson et al., 2023; Reising et al., 2023). Studies employing this model reported increased PCPs' confidence in treating depression, improved patient outcomes, and enhanced cost-effectiveness. Furthermore, utilizing the AIMS checklist as an educational tool improved PMHNP students' understanding of collaborative care (Brown et al., 2021).

Several studies utilized the IPEC competencies framework to develop their training curriculum. IPEC (2023) provides an IPE framework to improve patient experience, population health, provider job satisfaction, and reduce costs. The studies that utilized their framework demonstrated positive participant feedback (Brown et al., 2021; Peterson et al.; Haefner & Filter, 2022) and reported enhanced respect and appreciation across diverse disciplines, including psychiatric mental health nursing, pharmacy, nutrition, and exercise physiology (Beebe et al.; Haefner & Filer, 2022). Although these studies lacked measurement of patient and organizational outcomes, IPEC reports improvements in key quality measures such as length of stay, medical errors, patient satisfaction, and mortality in their study (IPEC, 2023; Cadet et al., 2023).

Barriers to IPE

The implementation of IPE can face various challenges. Primary obstacles of IPE include time constraints, lack of organizational/administrative support, and participant willingness/engagement (Langley, 2023; Reeves et al., 2016; Reising et al., 2023; Brown et al., 2021). To tackle time constraints, IPE can be made more accessible by offering online or asynchronous formats (Langley, 2023; Reeves et al., 2016). Another obstacle was professional stereotypes and hierarchies (Reeves et al., 2016; Emerson et al., 2023). One APRN-led IPC program initially faced resistance from physician colleagues; however, promoting efforts to boost APRN's confidence and providing evidence of improved outcomes ultimately promoted successful implementation (Emerson et al., 2023).

Summary

This literature synthesis highlighted strengths and weaknesses in the existing literature. First, there is a need for higher-level studies of IPE involving PMHNPs and studies of PMHNPs working in college health settings. While most IPE studies with PMHNPs were lower-level QI projects, the high-quality studies by Reeves et al. (2016) and Unützer et al. (2020) found that IPE had overwhelmingly positive outcomes such as increase in referrals, collaborative attitudes, and improved depression rates. IPEC and AIMS Center frameworks are evidence-based (IPEC, 2023; Unützer et al., 2020) and have helped improve collaboration among interprofessional teams with PMHNPs (Birch et al., 2021; Emerson et al., 2023; Reising et al., 2023; Beebe et al.; Haefner & Filer, 2022) Moreover, most articles in this literature synthesis were published within the last three years, highlighting the topic's relevance.

Rationale

IPEC Core Competencies

The project's educational curriculum will utilize the IPEC core competencies as a framework. This framework has been used by numerous healthcare fields, including psychiatric nursing and psychology, to develop, implement, and evaluate IPE activities (IPEC, 2023). The framework was developed by IPEC, an organization founded in 2009 by national health education associations with the goal of improving patient and population health through interprofessional learning and team-based care.

It consists of four overarching principles (i.e., values and ethics, roles, and responsibilities, communication, and team and teamwork), 33 sub-competencies, and is one of the most widely used IPE resources in health professions (IPEC, 2023). See Appendix B for the IPEC framework.

Because this project is limited to one 60-minute session and one instructor, not all 33 sub-competencies will be met. Instead, this project focuses on at least 12 sub-competencies from the four overarching principles.

Ethical and Policy Considerations

On December 24, 2023, the USF Doctor of Nursing Practice (DNP) department reviewed this project and found that it met the guidelines for an evidence-based change in practice project as outlined in the DNP project checklist (Appendix C). The project was approved by the partnering organization, De Anza College, and a letter of support is provided in Appendix D. No identifiable ethical issues or conflicts of interest have been identified.

This project is aligned with the ethical guidelines provided by the American Nurses Association's (ANA) Code of Ethics for Nurses (2017), specifically provisions seven and eight. The project promotes equitable access to comprehensive mental health services for CCC students and contributes to the nursing profession by examining the extended role of PMHNPs in community colleges. Moreover, by educating interprofessional staff to provide mental health care collaboratively, this project is grounded in USF's Jesuit principle of caring for the whole person and aims to promote the holistic health of community college students.

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Implementation and Intervention

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On April 11th, 2024, the DNP scholar led a 60-minute online presentation to four mental health counselors during their regular didactic meeting held on Zoom. The presentation covered key IPE topics and knowledge gaps, including the role and scope of PMHNPs, fundamental concepts of psychotropic medication, communication skills, and referral strategies. The selection of topics was informed by the IPEC competencies and in consultation with the CMHC clinical director. The clinical director, a psychologist, was the main contact person to coordinate scheduling, address questions and issues, and

co-facilitate the presentation. The clinical training coordinator, also a psychologist, assisted with scheduling and facilitating the presentation. The attendees include graduate psychology interns who conduct individualized psychotherapy and facilitate group therapy sessions. Each attendee was present for the entire presentation and completed pre-and post-session surveys within the session's first and final 10 minutes.

- A gap analysis compared MHC's current practices to best practices, informing how this project will bridge the disparity (Appendix E).

- A GANTT chart was crafted to outline the project's timeline, from planning to evaluation (Appendix F).

- A SWOT analysis was conducted to assess the project's strengths, weaknesses, opportunities, and threats (Appendix G).

- A work breakdown structure was used to organize project objectives and tasks (Appendix H).

- Project costs were detailed, showing a projected cost of $12,085 and an actual cost of $8,775 (Appendix I).

- The communication plan outlines key constituent meetings crucial for project planning, implementation, and evaluation (Appendix J).

Outcome Measures

Data for this study was gathered via Google Forms, an online survey platform. By clicking a link provided before and after the training, participants conveniently accessed the survey. The survey itself is a DNP scholar-designed assessment tool developed for this study. It includes seven Likert scale questions that measure outcomes listed below. Additionally, the post-session survey includes two open-ended questions that invite participants to share insights on the most beneficial content and areas where they felt the information was lacking. This qualitative feedback may be valuable for assessing the intervention's applicability and enhancing future iterations of the intervention. The survey tool is shown in Appendix K.

- Outcome 1: Knowledge of PMHNPs

- ○ Learning objective: Differentiate the scope, roles, and education/training of PMHNPs to other providers.
- ● Outcome 2: Indications for a psychiatric referral
  - ○ Learning objective: Determine when a student may need a psychiatric consult,
- ● Outcome 3: Pharmacology basics and psychoeducation
  - ○ Learning objective: Discuss key concepts of the most frequently utilized psychiatric medications in college, including antidepressants, anti-anxiety, and psychostimulant medications.
- ● Outcome 4: Psychiatric red flags
  - ○ Learning objective: Examine how a counselor's medication assessment can mitigate risks and improve outcomes.
- ● Outcome 5: Initiating a referral
  - ○ Learning objective: Identify how to initiate a referral to a psychiatric provider at De Anza College
- ● Outcome 6: Communicating with psychiatric providers
  - ○ Learning objective: Articulate a referral using the SBAR communication technique
- ● Outcome 7: Benefits of collaborating with psychiatric providers
  - ○ Learning objective: Understand the potential advantages for college students who utilize services offered by an interprofessional collaborative team.

Results

The project utilized a seven-item Likert scale survey to assess the counselors' confidence and motivation in collaborating with psychiatric providers before and after the presentation. Of the six attendees, only the psychology interns completed the survey (n=4). The results showed an increase in confidence and motivation across all measures (see Appendix L).The median increase in improvement was 44%, with an average improvement of 67%, exceeding the project's 10% goal. The most significant

improvements were observed in understanding PMHNPs (Outcome 1) and communicating with psychiatric providers (Outcome 6), while the smallest change occurred in identifying psychiatric red flags (Outcome 4).

The post-presentation survey included two qualitative questions evaluating the curriculum's relevance and applicability, as well as requesting constructive feedback. All participants identified aspects of the presentation pertinent to their practice, including client psychoeducation and recognizing appropriate times for client referrals to psychiatric services.

Conclusions

Benefits of the project

Following the IPE session, counselors felt more prepared and confident in addressing their clients' psychiatric needs, such as knowing when and how to refer students to a psychiatric provider. This enhanced readiness could increase the number of students being referred and accessing essential treatment. They also gained a greater understanding of the role and scope of PMHNPs, preparing them for future collaboration with a PMHNP. The IPE session provided practical guidance, immediately applicable to counselors, as shared by one counselor: "Before the presentation, I felt unprepared to educate clients about potential medication side effects and experiences. The presentation greatly assisted me in making informed referrals and discussing medication-related matters with my clients."

Limitations

This project has a few limitations. These include a small sample size and using an untested, self-made survey. Initially, the project aimed to involve all counselors at the MHC; however, due to scheduling challenges only the interns attending the weekly didactics participated. Additionally, the generalizability of the project may be limited due to its implementation at a relatively robust CCMHC. Furthermore, using an online video conference format, which the DNP scholar did not initially intend, may have affected the quality of participant engagement. Prior studies suggest that in-person IPE formats typically promote more effective discussions and emphasize the value of diverse healthcare backgrounds among participants to facilitate collaborative learning. This project's IPE session focused on teaching

psychologists to collaborate with psychiatric providers, however, it is equally as important that the incoming psychiatric providers understand counselors. Future IPE sessions should implement a co-learning structure with psychiatric providers and psychology counselors in attendance.

Implications for practice

This 60-minute online IPE session, led by a PMHNP student, offers a cost-effective strategy for enhancing IPC and mental health services at CCCs. Other CCMHCs seeking to strengthen collaboration with psychiatric providers, especially PMHNPs, could consider similar IPE initiatives. Nonetheless, urgent attention is needed from health policymakers to address the crucial gap in equitable mental health support between community colleges and four-year universities. PMHNPs are viable candidates for psychiatric roles at CCMHCs due to their ease of recruitment, cost-effectiveness, and compatibility with interdisciplinary teams (Hanson, 2016).

Sustainability

Current and incoming counselors can access and reference the project's presentation slides and a video recording through the clinical director at De Anza's MHC. To ensure the project's sustainability, it is crucial to identify prospective PMHNP-DNP students who can facilitate future sessions and maintain ongoing support from the clinical director.

Future projects should integrate feedback from counselors collected via the post-session survey, focusing on topics such as "cultural considerations with medications" and a more detailed exploration of medication types. Additionally, measuring various IPE outcomes such as referral rates, collaborative attitudes among team members, and student/client satisfaction ratings can provide further insights into the effectiveness of IPE sessions.

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Appendix A
Evidence Table for Literature Review
Does education about the PMHNP role among providers at community college mental health centers improve interdisciplinary collaboration?
Key words: PMHNP role, collaboration, interdisciplinary OR interprofessional, education, Community college mental health

Journal #	Citation	Evidence Type	Sample, Sample Size, Setting	How Does Article Address Problem?	Quality of Evidence	Other Highlights from Article (consider including limitations & outcomes)
1	Beebe, L. H., Roman, M., Raynor, H., Thompson, D., & Ray, S. (2018). Transforming Health Care Through Interprofessional Graduate Education. Perspectives in psychiatric care, 54(1), 19–24. https://doi.org/10.1111/ppc.12188	Quasi-experimental program evaluation with qualitative data.	N=19 graduate students from the University of Tenessee (11 PMHNP,, 4 pharmacy, 2 nutrition, and 2 exercise physiology students) 8-week IPE experience that culminated in a 3-day clinical intensive.	Graduate students from different specialties gave high marks on the IPE training. The IPE training included team building exercises (i.e. ice breaker games), learning about each specialty's roles and responsibilities, learning holistic health, fluid leadership, and communication methods. The IPE competencies incorporated in the project's curriculum were primarily based on the IPEC "core competencies." Participants stated that IPE helped them respect other disciplines and appreciate the use of different professional perspectives in patient-centered care for individuals with mental health issues. They also acknowledged that IPE concepts and skills can be applied in future practices when working in teams. Participants enjoyed in-person IPE activities, specifically the three-day clinical intensive. They worked in interprofessional teams with simulated clients, identified strategies for supporting holistic health, and the importance of team components in meeting client goals.	Level II B Good quality insightful interpretation, could have had more transparency of thematic evaluation methods.	Limitations: Limited to one setting. Outcomes: This online blended program was a feasible and helpful initiative appreciated by faculty and students from participating health professions. Incorporating other professions (i.e. medicine and social work) into the program was obstructed by budget, time, and logistical difficulties.

| 2 | Birch, K., Ling, A., & Phoenix, B. (2021). Psychiatric nurse practitioners as leaders in behavioral health integration. The Journal for Nurse Practitioners, 17(1), 112-115. https://10.1016/j.nurpra.2020.09.001 | Quality improvement project | N=66 patients at an urban primary care clinic in an indigent area.

PMHNP faculty implemented a BH integration initiative with primary care NPs, a social worker, and a collaborating psychiatrist at a primary care clinic. | A needs assessment was first conducted by PMHNP faculty. Educational gaps were addressed through team training on BH conditions, CC integration, and the PMHNP role.

Utilized the University of Washington's CC model (AIMS center) as a framework and considered SAMHSA's levels of integrated care. Originally, the clinic was level 3 out of 6 in SAMHSA, but by the end of the project, it became a 5 out of 6.

PMHNP served as the psychiatric consultant and provider if clients did not see improvements with primary care NP. The social worker served as the BH CM. BH

PMHNPs were successful as educators, project leaders, and psychiatric consultants for primary care providers.

CC is cost-effective but relies on staff having competence in integrated care billing and coding.
Barriers included regulatory physician collaboration requirements, changes in billing systems, EHR. | Level V- good quality | Limitations: small sample size, one setting, and lack of control group. Would like to know more about their education in the PMHNP role.

Outcomes included lessons learned and changes in PHQ-9 scores after 0-16 weeks of treatment. Out of 66 patients referred to integrated services, 58 were successfully enrolled. 78% had a reduction of symptoms, and 37% achieved remissions. |

| 3 | Brown, A. S., Traynor, J. L., & Carkey, B. A. (2021). Psychiatric mental health nurse practitioner student perceptions of integrated collaborative care. International Journal of Nursing Education Scholarship, 18(1), 1-10. https://10.1515/ijnes-2021-0049 | Quality improvement project with qualitative data | N=24 PMHNP students at a college in New York.

PMHNP students utilized the AIMS Checklist at their clinical sites. The project then analyzed student's experiences with using the checklist. | Utilizing the AIMS checklist increased students' basic understanding of collaborative care and promoted collaborative discussions between students and their preceptors (supervisors).

Supportive relationships among interprofessional teams fostered communication and collaboration, leading to patient-centered care. Lack of willingness to learn about different providers and lack of time and resources (e.g. no integrated medical records) create barriers to patient-centered care.

Didactic IPE seminars that were based on the IPEC competencies were engaging and valuable. lack of engagement among participants in IPE reduced the quality of collaborative discussions, which resulted in a negative IPE experience | Level V A High quality with transparency of thematic analysis utilizing a 3rd party researcher, self-scrutiny, and participant-driven inquiry. | Outcomes:
The AIMS scores decreased throughout the semester, indicating that students gained a deeper understanding of interprofessional collaboration.

Limitations: After graduation, researchers were unable to follow up on the student's use of the AIMS checklist, thus preventing them from evaluating the intervention's usefulness in real-world scenarios. |
| 4 | Emerson, M. R., Huber, M., Mathews, T. L., Kupzyk, K., Walsh, M., & Walker, J. (2023). Improving integrated mental health care through an advanced practice registered Nurse–Led program: Challenges and successes. Public Health | quasi experimental

quantitative data collected | N=161 patients at a patient-centered medical home in the Midwest received an integrated BH intervention. | The integrated team comprised the psychiatric consultant, two FNPs, and the BHP. The psychiatric consultant was a doctorate-prepared PMHNP who was trained in integrated care and was in charge of medication & nonpharmacological strategy recommendations. Everyone received training in AIMS Center's Step-By-Step Implementation Guide for Collaborative Care.

A lack of utilization of the PMHNP's psychiatric consultant was observed during the study period. To mitigate this, the PMHNP initiated in-person weekly clinic visits, met with providers, and encouraged the use of consultation | II- High consistent results sufficient sample | limitations- limited to one setting. Did not mention the professional background of BHP– whether they were a psychologist, nurse, psychiatrist etc. Would also like to know whether hesitance among other professionals working with APRNs exists. |

	Reports, 138, 22S-28S. https://10.1177/00333549221143094			visits. This effort led to an increase in the number of consults is from 1-2x per month to 5 per week. Physicians and the medical director were hesitant about a program that was not physician-led and concerned about the reaction of physicians receiving recommendations from APRNs and working with an APRN-led program. lack of time and resources were also mentioned as barriers. The integration initiative resulted in notable improvements in patient outcomes, as evidenced by improvements in PHQ-9 and GAD-7 scores after five visits. The collaborative efforts also led to a boost in PCP satisfaction. Furthermore, PCP satisfaction with BHP increased from the program's inception in January to nine months later.		
5	Haefner, J., & Filter, M. (2022). Educating mental health nurse practitioners on interprofessional collaboration and preparing them for collaborative practice. Journal of Doctoral Nursing	quality improvement with qualitative and quantitative data.	N=24 PMHNP students at a university took a course that utilized a Powerpoint presentation on IPC, participated in interactive communication skills, and completed assignments on IPC.	Utilized IPEC core competencies to guide their training. Student's attitudes toward IPE were measured using the inter-disciplinary education perception scale, which found statistically significant scores on several criteria that indicated that after IPE, students were more aware that collaborating with other professions is mutually beneficial, that nurses are well respected and that other professionals would appreciate the input from nurses. Most comments from students revealed that the IPE was a positive experience.	Level V is of good quality, with consistent recommendations and thorough references to scientific research.	limitations: only one setting, lack of collaboration with other health care disciplines.

	Practice, 15(1), 3-10. https://10.1891/JDNP-2021-0006					
6	Interprofessional Education Collaborative. (2023). IPEC core competencies for interprofessional collaborative practice: Version 3. Washington, DC: Interprofessional Education Collaborative. https://ipec.memberclicks.net/assets/core-competencies/IPEC_Core_Competencies_Version_3_2023.pdf	Consensus panel	IPEC is a national organization affiliated with multiple health profession associations, including nursing, medicine, and psychology.	Outlines core competencies, including 1. Values and Ethics- Collaboration that maintains a culture of shared values, ethical behavior, and respect. 2. Roles and Responsibilities: Use of knowledge of one's role and team members' expertise to improve individual and population health outcomes, including distinguishing between team members' roles, scope of practice, and responsibilities. 3. Communication: Responsive, responsible, respectful, and compassionate communication style. 4. Teams and Teamwork: Apply the values and principles of teamwork to adapt to different team settings. The learning continuum outlines how IPE should be continuous and develop gradually from foundational education, graduate education, and professional development. Enabling or interfering factors of IPE include professional culture, institutional culture, workforce policy, and financing policy. Outcomes include learner outcomes, health and system outcomes (i.e., individual health and population/public health), system efficiencies, and cost-effectiveness.	Level IV A high quality with recommendations and models based on scientific evidence. Highly cited guidelines. Third revision. Evident expertise supported by numerous national associations.	limitations: Specific roles are not mentioned therefore, barriers and opportunities unique to PMHNPs is still unknown.

| 7 | Langley, C. A. (2023). An asynchronous interprofessional educational intervention: Mental health clinicians and probation officers. (2024-00962-134). https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=psyh&AN=2024-00962-134&login.asp%3fcustid%3ds3818721&site=ehost-live&scope=site&custid=s3818721 | QI project using a quasi-experimental design | N=11 participants. Four mental health clinicians (PMHNPs or psychiatrists) and seven probation officers. FQHC | Utilized an educational intervention that consisted of online videos tailored to either probation officers or mental health providers working in the same organization. These videos were watched asynchronously.

The content of the videos was based on a previous study that evaluated knowledge gaps among probation officers. These included a lack of provider availability and uncertainty about collaborating with mental health providers.
Pre and post-test surveys assessed the confidence in carrying out interprofessional collaboration (EPIC scale). Mean scores of both probation officers and mental health clinicians improved, demonstrating an improvement in the confidence of interprofessional collaboration knowledge, skills, and motivation. | level V B Good quality with clear aims and objectives, recommendations are consistent with the evidence. | limitations- convenience sampling and small sample size limit the generalizability of results.

All participants demonstrated improvements in their confidence of knowledge, motivation, and skills in intercollaborative care with probation officers or psychiatric providers. |
| 8 | Peterson, B. L., Pittenger, A. L., Kaas, M. J., & Lounsbery, J. L. (2019). Partnering for a sustainable interprofessional psychiatric mental health nurse practitioner education curriculum. | Program evaluation at University of Minnesota pharmacy graduate students and DNP PMHNP students. | No N. The article collected information from faculty to make recommendations for other universities. | To prepare healthcare graduate students (PMHNP and PharmD) for interprofessional career collaboration. These were based on the IPEC Core Competencies for Interprofessional Collaborative Practice.

Students developed mental health competencies through case-based learning, simulations, and discussions over two semesters.

Contents of education included learning about holistic health, roles and | Level V B good quality | limitation: recommendations were limited to university faculty who desired IPE for their students. |

|						
	The Journal of Nursing Education, 58(12), 723-727. https://10.3928/01484834-20191120-08			responsibilities, building trust as a team, and self-reflection exercises.		
9	Reeves, S., Fletcher, S., Barr, H., Birch, I., Boet, S., Davies, N., McFadyen, A., Rivera, J., & Kitto, S. (2016). A BEME systematic review of the effects of interprofessional education: BEME guide no. 39. Medical Teacher, 38(7), 656-668. https://10.3109/0142159X.2016.1173663	A systematic review	46 high-quality IPE studies CINAHL, Mediline, BEI, ASSIA 2005-2014.	Regarding professional participation, medicine, and nursing were the two professions that most frequently share their IPE experiences. In contrast, social work, occupation therapy, and physiotherapy appeared less often. IPE training aimed to improve patient care and service delivery through better teamwork. These were led by a top-down (e.g. government policies) or bottom-up (e.g. IPE champions). The sustainability of IPE relies on institutional support. Teachers and facilitators should be conducive and non-threatening for students, help motivate learners, encourage participation, and encourage self-reflection. Learner characteristics that influenced the effectiveness of IPE included whether people were open and curious about collaborative care and had stereotypes of professions. IPE improved service delivery, including illness prevention, patient screening, referrals, and safety practices.	Level III High quality with generalizable results, scrutiny of studies to be included in the study.	Limitations: Would have liked to know how organizations addressed professional stereotype barriers. Outcomes: IPE education enhances collaborative attitudes, knowledge, and skills, but further research is needed to understand its long-term impact fully.

| 10 | Reising, V., Diegel-Vacek, L., Dadabo, L., & Corbridge, S. (2023). Collaborative care: Integrating behavioral health into the primary care setting. Journal of the American Psychiatric Nurses Association, 29(4), 344-351. https://10.1177/10783903211041653 | Quality improvement project | N=166 patients at nurse-managed health center in Chicago. healthcare team included FNPs, PMHNPs, and a social worker | Utilized the AIMS Center collaborative care model for integrated care and the PMHNP as the psychiatric consultant to solve the problem of limited coordination of FNPs and PMHNPs. The initial training was guided by CC experts at the AIMS Center, and the topics included CC principles, behavioral interventions, and psychotropics. Monthly consults with these experts occurred afterward.

PMHNP supports the team with the weekly team to discuss specific patients that the PCP is seeing and ongoing training in psychiatric medications, social determinants of health, and behavioral health modalities. they can also manage the care of the clients who have more severe or complex mental health disorders.

The team was a level 2 on the SAMHSA's framework for integrated health. | Level V- good quality with consistent results in a single setting, and formal evaluation methods used | Limitations: only one setting, Outcomes: Pt outcomes included a decrease in symptom severity increase in provider satisfaction. Provider (n=10) outcomes included an increase in confidence in prescribing medications for depression and a slightly lower score for anxiety. |
|---|---|---|---|---|---|---|
| 11 | Unützer, J., Carlo, A. C., Arao, R., Vredevoogd, M., Fortney, J., Powers, D., & Russo, J. (2020). Variation in the effectiveness of collaborative care for depression: Does it matter | Descriptive research | N=11,303 adult patients who received care for depressive symptoms from a collaborative care team. Sampled from 135 primary care clinics. | AIMS collaborative care model is a team-based approach and has roles including behavioral health care managers and psychiatric consultants who support the primary care providers in treating common mental disorders.

All clinics worked with the AIMS Center to support their collaborative care model. The basic training included a one-time training for staff, written materials about the CC model, and access to online tools from the AIMS Center website. | level III high quality with generalizable results and sufficient sample size. | limitations: lacks data on specific roles such as psychiatrist vs. PMHNPs. |

	where you get your care? Health Affairs, 39(11), 1943-1950. https://10.1377/hlthaff.2019.01714			The effectiveness of the collaborative care model was influenced by the degree of implementation support from the AIMS center, the severity of depression, and the clinic type. The median improvement rate was 30-39% of patients.		

Abbreviations: IPE= interprofessional education, PMH=psychiatric mental health, IPEC= Interprofessional Education Collaborative, AIMS-Advancing Integrated Mental Health Solutions, BEME= Best Evidence Medical Education, EPIC=evidence-based practice confidence, CC= collaborative care, PMHNP=psychiatric mental health nurse practitioner, FNP=family nurse practitioner, FQHC=federally qualified health center, BHP= Behavioral Health Provider, BH=behavioral health.

Reference: Dang, D., & Dearholt, S.L. (2018). *Johns Hopkins nursing evidence-based practice:Model & guidelines* (3rd ed). Sigma Theta Tau International.

Appendix B
IPEC Framework
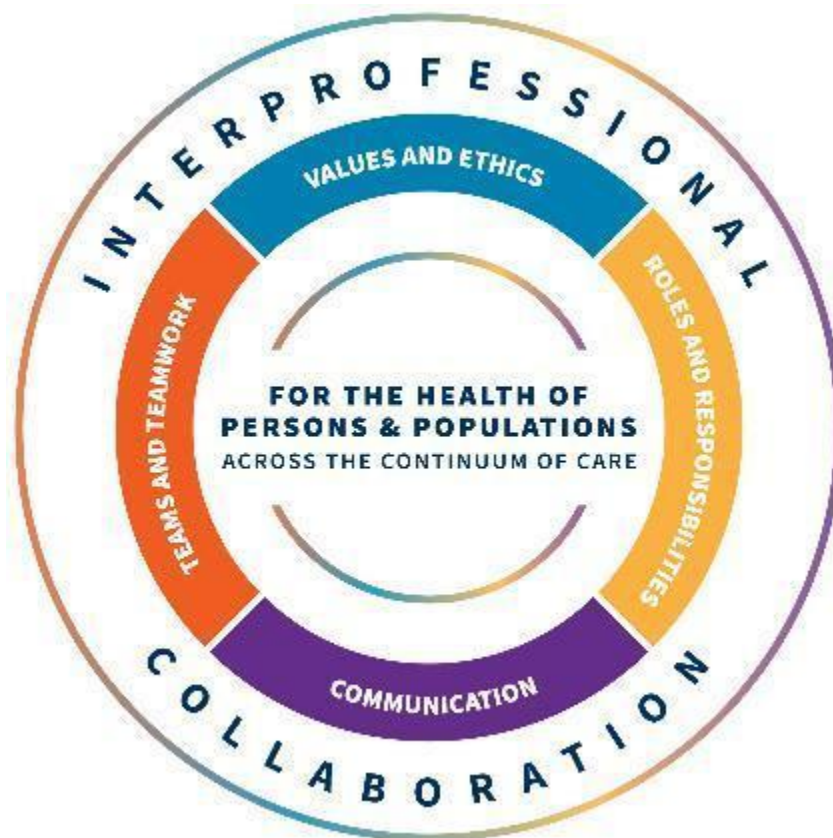
Reference: Interprofessional Education Collaborative. (2023). *IPEC core competencies for interprofessional collaborative practice: Version 3.* Washington, DC: Interprofessional Education Collaborative.

https://ipec.memberclicks.net/assets/core-competencies/IPEC_Core_Competencies_Version_3_2023.pdf

Appendix C

the DNP project checklist

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: http://answers.hhs.gov/ohrp/categories/1569

UNIVERSITY OF SAN FRANCISCO | School of Nursing and Health Professions

DNP Statement of Determination
Evidence-Based Change of Practice Project Checklist
Outcome *The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

X This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). **Student may proceed with implementation.**

☐ This project involves research with human subjects and **must be submitted for IRB approval before project activity can commence.**

Comments:

Student Last Name: Hamilton

Student First Name: Sara

Student Signature: *Sara Hamilton* Date: 3/15/24

Chairperson Name: Dr. Alicia Kletter, DNP, APRN, FNP-BC, PMHNP-BC
Chairperson
Signature: *A Kletter*   Date: 3/30/2024

Second Reader: Alexa Colgrove Curtis PhD, MPH, APRN
Name:
Second Reader
Signature: *AC Curtis*   Date: 5/2/24

Appendix D

Letter of Support

Registration and Student Services Building
Room 258
21250 Stevens Creek Blvd
Cupertino, CA 95014
(408) 864-8868

January 29, 2024

To Whom it May Concern,

This is a letter of support for Sara Hamilton to implement her DNP Comprehensive Project, *Integrating Interdisciplinary Strategies for Comprehensive Mental Health Services in Community Colleges: A Quality Improvement Project,* at the De Anza College Mental Health and Wellness Center.

Please feel free to contact me if you have any questions.

William M. Firmender, Ph.D.
Director - De Anza College Mental Health and Wellness Center
21250 Stevens Creek Blvd.
Registration and Student Services Bldg. – Room 221
Cupertino, CA 95014
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Appendix E

Gap Analysis

Project Name
Fostering Interprofessional Collaboration in Community College Mental Health Centers: A Quality Improvement Project
Project Aim
By April 2024, 100% of current counselors will participate in a one-hour online training about IPC, including topics on psychopharmacology, scopes of different psychiatric providers, communication skills, and indications for referrals. The participating counselors will demonstrate an increase in confidence for interprofessional practice with psychiatric providers by at least 10% using pre and post-session surveys, as well as showing improvement in confidence and motivation to refer to psychiatric providers.

Current State	Best Practice	Action Steps
De Anza's MHC is expanding its services and offering psychiatric care but knowledge deficits for working effectively with psychiatric professionals exists including, - Communicating/referring to psychiatric providers. - The role of PMHNPs - Psychiatric visits and medications	College mental health teams should have a team based, collaborative approach to deliver holistic, student centered care (ACHA, 2016; IACS, 2023). IPE improves collaborative care (IPEC, 2023). Psychologists should be aware of their client's medication regimen, including the specific drugs, purposes, and potential side effects they may encounter (Novotney, 2019).	Conduct a psychoeducational intervention focused on IPE. Suggest communication strategies and teach CMHC clinicians how to make referrals, increasing their confidence and motivation to refer students to psychiatric providers. Provide education on the role and scope of PMHNPs to prepare clinicians for IPC with PMHNPs, increasing their knowledge, confidence, and motivation to work with them.

Appendix F
Gantt chart

TASK TITLE	2024				
	Jan	Feb	Mar	Apr	May
Planning phase of project: meet with key constituents, conduct literature review, develeop deliverables					
Complete Draft #1 DNP Project Paper (problem identification, literature analysis, rationale, ethical considerations).			Mar 3rd		
Prepare presentation and questionnaires					
Complete Draft #2				Apr 1st	
Finish Powerpoint presentation and pre-and post questionnaires, send to key constituents for feedback				April 2st	
Presentation day				Apr 11	
Analyze questionnaires and interpret findings into results and conclusion sections					
Complete project and DNP paper					May 7
Present findings to team and stakeholders					May 14-16

Appendix G
SWOT analysis

Strengths	**Weaknesses**
● The PMHNP student has already established rapport with staff, and USF has an MOU with the center. ● The clinical director was interested in PMHNP services as a cost-effective way to offer students psychiatric services. ● The clinical team has established weekly meetings.	● A PMHNP student has limited experience in a PMHNP role. ● The project has a short time frame.
Opportunities	**Threats**
● An FNP currently leads student health services and may be willing to advocate for PMHNP collaboration. ● Relevancy of IPC and IPE based on literature review. ● There is a lack of standardized IPE in community college mental health centers.	● Possibility of attendees calling out on the day of the presentation. ● Unexpected closure of mental health centers such as for power outages and internet failures.

Appendix H
Work Breakdown Structure

1. **1.0 Plan**
   a. **Conduct a literature review of the problem**
   b. **Select intervention**
      i. **Brainstorm possible strategies**
      ii. **Choose best strategies**
      iii. **Meet with key stakeholders to choose a suitable intervention**
   c. **Establish procedures and timeline**
      i. **Utilize project management tools (GANTT, WBS, communication matrix, etc.)**
      ii. **Meet with key stakeholders to discuss procedures and schedule presentation dates.**
   d. **Develop evaluation plan**
      i. **Create pre- and post-surveys**
      ii. **Create a data analysis plan**
      iii. **Meet with key stakeholders to evaluate and refine surveys**
   e. **Prepare presentation**
      i. **Establish a curriculum**
      ii. **Create Google Slides for presentation**
      iii. **Practice presentation.**
2. **2.0 Do**
   a. **Present an in-person educational intervention to CCMHC clinicians**
      i. **Distribute pre-surveys**
      ii. **Present curriculum and presentation**
      iii. **Distribute post-surveys**
3. **3.0 Study**
   a. **Analyze survey findings**
      i. **Organize data tables**
      ii. **Interpret and discuss findings in writing**
      iii. **Recognize contextual elements that influenced outcomes**
      iv. **Identify benefits, harms, unexpected results, problems, failures, and missing data.**
      v. **Determine limitations to the study**
4. **4.0 Act**
   a. **Create a sustainability plan or future research/study for CCMHC**
   b. **Share the project with health colleagues**
      i. **Finish DNP paper**
      ii. **Create another presentation with Google slides**
      iii. **Present at USF's DNP Public Presentation.**

Appendix I
Proposed Budget

	Per item cost	**Amount/hours needed**	**Projected cost**	**Actual adjusted costs**
Electronic device (i.e. computer or smart phone)	$400	7 (6 for participants, 1 for presenter)	$2,800	$0 (everyone had an existing device)
Wifi	$75/month	1	$75	$0 (everyone had existing access)
PMHNP student	$65/hour	135 hours including preparation, presentation, and evaluation.	$8,775	$8,775
University psychologists/interns	$50/hour	6 hr (1hr per clinician)	$300	$0 (clinicians were already scheduled for weekly meetings when the project took place)
Project total			**$11,950**	**$8,775**

Appendix J
Communication Plan

Communication	Frequency	Who	Purpose	Route
Meeting with the project advisor	Weekly for the first month, then biweekly	Committee chair, PMHNP student	To discuss the project as the PMHNP student receives feedback and guidance from the advisor. The advisor also helps ensure the project remains within scope and satisfies DNP project competencies.	Zoom
Stakeholder meeting	Twice	CCMHC clinical director, PMHNP student	To introduce the project, gain support from the key stakeholders, and collaborate on the curriculum topics that address knowledge gaps at the center. The PMHNP student and stakeholders will arrange a schedule and timeline for the project.	Zoom
Project preparation meeting	As needed	CCMHC clinical director, PMHNP student, committee chair	To address minor questions and issues.	Email/ Zoom
Project presentation	Once	CCMHC clinicians, PMHNP student	PMHNP will deliver educational intervention and distribute pre- and post-surveys. CCMHC clinicians will participate in discussions, listen to teachings, and complete pre-and post-surveys.	Zoom

Appendix K
Survey Form

Post Survey- Working with Psychiatric Providers and Clients

sara.hamilton928@gmail.com Switch account

Not shared

How confident do you feel about your grasp of psychopharmacology?

☐ 0- No confidence

☐ 1- Little confidence

☐ 2-Some confidence

☐ 3-Confidence

☐ 4- High confidence

How confident do you feel in identifying potential concerns with clients who are using psychiatric medications?

☐ 0- No confidence

☐ 1- Little confidence

☐ 2-Some confidence

☐ 3-Confidence

☐ 4- High confidence

How confident are you in understanding the responsibilities, scope, and educational background of PMHNPs?

- [ ] 0- No confidence
- [ ] 1- Little confidence
- [ ] 2-Some confidence
- [ ] 3-Confidence
- [ ] 4- High confidence

How confident are you in recognizing the appropriate time to refer clients to a psychiatric provider?

- [ ] 0- No confidence
- [ ] 1- Little confidence
- [ ] 2-Some confidence
- [ ] 3-Confidence
- [ ] 4- High confidence

How confident are you in your understanding of the process for referring clients to a psychiatric provider?

- [ ] 0- No confidence
- [ ] 1- Little confidence
- [ ] 2-Some confidence
- [ ] 3-Confidence
- [ ] 4- High confidence

How confident do you feel in your ability to effectively communicate with psychiatric providers during the referral process?

- ☐ 0- No confidence
- ☐ 1- Little confidence
- ☐ 2-Some confidence
- ☐ 3-Confidence
- ☐ 4- High confidence

To what extent are you motivated to refer students to a psychiatric provider?

- ☐ 0- No motivation
- ☐ 1- Little motivation
- ☐ 2-Some motivation
- ☐ 3-motivation
- ☐ 4- High motivation

Appendix L
Results Table

Outcome Number and Title	Pre-presentation average score	Post-presentation average score	Percent change
Outcome 1: Knowledge of PMHNPs	1	3	200%
Outcome 2: Indications for a psychiatric referral	2.25	3	33%
Outcome 3: Pharmacology basics and psychoeducation	1.75	2.75	57%
Outcome 4: Psychiatric red flags	2	2.5	25%
Outcome 5: Initiating a referral	2.25	3.25	44%
Outcome 6: Communicating with psychiatric providers	2	3.25	63%
Outcome 7: Benefits of collaborating with psychiatric providers	2.25	3.25	44%