Exercise As a Prescription for Patients with Depressive Disorders: A Quality Improvement Project

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Exercise As a Prescription for Patients with Depressive Disorders: A Quality Improvement Project

Rachelle Pace
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Acknowledgments

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Disclosure: The project was transferred to its current leaders for the purpose of data collection beginning on or after November 1, 2022. After support to proceed from the UC San Diego Psychiatric Nurse Practitioner Training Program Director was obtained, the initial data collection took place in January 2023.
Exercise As a Prescription for Patients with Depressive Disorders: A Quality Improvement Project

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Author Note

This evidence-based practice project would not have been possible without the hard work and support from fellow peer and co-author, Sydney Roscoe. As well as the guidance and encouragement from Alex Sietsma, DNP; Hilary Gould, PhD; Beth Pettis, DNP; and Joseph Burkhard, DNSc.
Abstract

**Purpose:** The aim of this Doctor of Nursing Practice project was to increase exercise counseling rates in the treatment of depression by (1) implementing a focused educational training program and (2) understanding factors that impacted utilization of the practice change.

**Background:** Approximately 280 million individuals suffer globally from depressive disorders. Depression remains the fourth leading cause of disabilities, significantly contributing toward the global burden of disease by increasing morbidity and mortality risk. Psychopharmacology and psychotherapy are current gold-standards of treatment; however, providers often overlook the significant role exercise serves in reducing depressive symptoms and severity, as it remains underutilized.

**Methods:** A mixed quantitative and qualitative approach was used to identify the reasons Nurse Practitioner (NP) trainees in the UC San Diego Psychiatric NP Training Program adopted the interventional training [Physical Activity Counseling to Patients with Depressive Disorders] into clinical practice for delivery with adults diagnosed with depressive disorders served at an outpatient mental health clinic. The Evidence Based Practice Attitude Scale was highlighted.

**Results:** The primary outcome of performing exercise counseling per patient with a depressive disorder indicated an overall 7-fold increase of 15% from July 2022 to September 2022. Secondary outcomes indicate there to be a vast discrepancy between the cohort’s perceived and actual rates of counseling, including positive attitudes toward practice adoption.

**Evaluation:** Focused educational training is a favorable approach to encourage providers to recommend exercise to patients. Considerations should be made to mitigate barriers of practice implementation. Further research is needed to understand the long-term impact.

**Keywords:** prescribing exercise, physical activity, depression, attitudes, mental health
Exercise as a Prescription for Patients with Depressive Disorders: A Quality Improvement Project

Depression remains a common, yet serious illness that negatively affects how an individual feels, thinks, or behaves (WHO, 2021). This disease process can lead to sadness, a loss of pleasure in once previously enjoyable activities, as well as a variety of emotional or physical problems that can impact an individual’s quality of life (Cecchini et al., 2021). Although in the modern healthcare system depression can be treatable, there remains a risk for failure of symptom reduction with treatment and patient economic burden (Kleeman et al., 2020). Based off current research, physical activity has been a technique utilized in the reduction of depressive symptoms and in improving overall patient quality of life (Cecchini et al., 2021). Additionally, provider knowledge base and personal relationship with physical activity is key for appropriate health promotion to occur (Kleeman et al., 2020). Consequently, mental healthcare providers frequently fail to implement physical activity counseling or prescription due to limited knowledge base, confidence level, or time constraints (Kleeman et al., 2020). This addresses that an intervention of focused educational training with mental health care providers or trainees on physical activity and counseling to patients diagnosed with a depressive disorder, can be implemented as a necessary means for treatment. This evidence-based practice project will review current literature and evaluate clinical themes that emerged on how mental health care providers and psychiatric nurse practitioner students who received focused educational training on counseling physical activity, influence the adoption of physical activity interventions into clinical practice.
Background

Throughout human history, beginning with ancient Greek or Roman philosophy, depression was presented as melancholia, and over time, has been reconceived or remolded by societal norms (Schimelpfening, 2022). In the 21st century, depression is looked upon holistically from a combination of biological, psychological, and social factors leading toward a more in-depth look at the disease process (Schimelpfening, 2022). Currently throughout the world, approximately 280 million people, roughly 5% of adults, suffer from depressive disorders (WHO, 2021). Additionally, depression is the fourth leading cause for disabilities, significantly contributing toward a global burden on disease with significant risk of increased medical morbidity, mortality, and a decreased quality of life (WHO, 2021). Moreover, one of the greatest threats of depression is it can lead to suicide, which remains the fourth leading cause of death in fifteen- to twenty-nine-year-olds (WHO, 2021).

The current gold-standard of treatment for depression includes a multifaceted approach with psychopharmacology and psychotherapy (WHO, 2021). Despite the effective treatment modalities in current mental health care practice, individuals often undergo economic burden, experience adverse side effects with antidepressants, risk of failed treatment trials, experience stigmatization, or emulate conflicting beliefs based off differing societal or cultural norms (Ho et al., 2017). Alternatively, physical activity is a cost-effective, evidence-based intervention that can benefit both mental and physical health and reduce depressive symptoms overall. Physical activity initiates a biological cascade that can result in many health benefits, such as protecting against cardiovascular disease or diabetes, sleep improvement, and lowering blood pressure (Harvard Health Publishing, 2021). Importantly, high-intensity exercise allows for the body to release endorphins or feel-good chemicals that improve mood (Harvard Health Publishing, 2021). Subsequently, low-intensity exercise sustained over time allows for the body to release
neurotrophic or growth factors which cause nerve cells to grow and create new cell connections (Harvard Health Publishing, 2021). These new connections improve overall neuroprocessing and nerve cell growth and connections within the hippocampus, leading toward overall improvement in mood with depressive patients (Zhao et al., 2020).

Although there is a clear health benefit of physical activity within depressed patient populations, mental health care providers underutilize this treatment modality routinely, due to providers’ personal attitude toward exercise, lack of provider knowledge base, confidence level in counseling, limited time in session for discussion, or uninterest in exercise among patients (Pellerine et al., 2022).

**Literature Review**

A review of literature was completed utilizing the following search engines: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Science Direct, and the Cochrane Library. Key terms used within each search engine include physical activity, exercise, provider, depression, depressive symptoms, and focused training. Through utilization of Boolean terminology and setting a publication parameter from 2018-2023, the search yielded five abstracts from each search group. Articles were then ranked based on level of evidence and considered for overall strength by evaluating factors of quality, quantity, and consistency as recommended by the Agency for Healthcare Research and Quality (Melnyk & Fineout, 2019). Amongst the extensive literature that addresses our clinical question, several themes were revealed: exercise as an effective intervention in treating depression, provider education, reasons for inconsistent utilization of evidence-based practice (EBP) and strategies to improve utilization of EBP.

**Exercise as a Prescription**
Long standing empirical data indicates that engagement in a regular exercise routine may not only reduce or lessen the severity of depressive symptoms (Cecchini et al., 2021; Hearon et al., 2018), but also prevent the occurrence or remittance of a depressive episode (Choi et al., 2019; Hearon et al., 2018). However, what is gaining momentum in current research is the investigation of specific types of exercise in relation to their impact on depressive symptoms, in which strength appears to be a significant component. A large meta-analysis by Gordon et al. (2018) that included 33 randomized control trials highlights the importance of resistance training and its association with a significant reduction in moderate to severe depressive symptoms amongst 1877 individuals, with a number needed to treat to be 4. Interestingly, this study did not prove there to be a statistically significant relationship between the antidepressant effect from resistance exercise and an individual’s baseline health status, level of strength improvement, or total amount of exercise, suggesting a dose dependent response to occur (Gordon et al, 2018).

Furthermore, a longitudinal cohort study of 6,329 Chinese participants found a reduced incidence of depressive symptoms existed amongst those with a stronger measured hand grip, reporting resistance exercise as an antidepressant modality to be a consistent finding amongst other countries as well (Ying, 2019). Additional evidence indicates that a combination of strength training and aerobic exercise may be the most effective in treating depressive symptoms (Bennie et al., 2019; Marinus 2019; Oftedal, 2019). In the novel population study by Bennie et al. (2019) that investigated the associations between mutually exclusive physical activity adherence and mental health outcomes amongst 17,839 U.S. adults, it was found that those who performed both intense aerobic exercise and strength exercise activities per World Health Organization (WHO) guidelines also reported less severe depressive symptoms on the PHQ-8.
Although the exact pathophysiology of depression is unclear, Brain-Derived Neurotrophic Factor (BDNF) concentrations are a well-studied protein that is associated with many psychiatric disorders and identified as a marker for overall brain health. A meta-analysis (Marinus et al, 2019) identifies strength training exercises to effectively increase peripheral blood BDNF concentrations, which may play a significant role in the reduction of depressive symptoms, as this is also a finding that occurs with several efficacious antidepressants. Physical activity that includes strength exercise proves to be an effective intervention in the treatment of depressive disorders, whether utilized as an adjunct to pharmacotherapy or primary complementary and alternative medicine (CAM) therapy.

**Inconsistent Utilization**

According to Ball et al., (2022), social-emotional support from mental health care clinicians, perceived individual patient factors, and the general community context play a key role in people with mental illness adhering to exercise interventions. This lack of support remains a crucial barrier for implementation (Ball et al., 2022). In addition, mental health care providers’ personal relationship toward utilizing exercise or their confidence level on implementing appropriate psychoeducation or counseling for physical activity significantly impact effective health promotion into clinical practice (Ball et al., 2022).

Within the community context, clinicians are exposed to a lack of resources pertaining to prescribing and encouraging physical activity. In a study completed by Kleeman et al., (2020) the data results implied that roughly 40% of mental health providers never prescribe physical activity or exercise, and only 12% of providers always prescribe it. This correlates with mental health care providers reporting of experiencing limited time with direct patient interaction, competing demands within the health care system, and decreased psychoeducation or training for
clinicians on appropriate guidelines for physical activity health promotion with patients who suffer from mental illness (Kleeman et al., 2020).

Despite key features leading toward inconsistencies with mental health care providers in supporting physical activity, there remain individual patient factors that limit the incorporation of exercise into their lifestyle. This includes basic symptomology related to depressive disorders such as reduced motivation, psychomotor retardation, or generalized fatigue (Ball et al., 2022). Additionally, if psychopharmacology treatment is congruently utilized, patients have a risk for adverse side effects with psychotropic medication, including cephalalgia or gastrointestinal upset (Ball et al., 2022). Consequently, the side effects from psychotropic medications can worsen independent function, leading toward an inconsistent physical activity regiment (Ball et al., 2022). Apart from this, participants are perceived as less motivated to begin physical activity in relation to their belief on distorted provider attitudes on their personal activity level (Ball et al., 2022). In other words, patients experience decreased inspiration with activity when providers fail to implement themselves on what they are promoting (Ball et al., 2022).

**Strategies to Improve Utilization**

In 2018, a study was conducted in Canada following an exercise in medicine (EIMC) training seminar relating initiatives that promote physical activity counseling and exercise written prescriptions with providers (Fowles et al., 2018). The results concluded that after a one-time, full-day workshop of physical activity and exercise (PAE) training, within an eight-hour workday, physicians’ physical activity counseling and rates of exercise prescription increased and the impact of physicians perceived barriers, such as lack of patient interest, lack of time, and lack of available resources decreased (Fowles et al., 2018). Additionally, providers providing physical activity counseling and written prescriptions increased from 20% to 74% after the
formal educational seminar (Fowles et al., 2018). Furthermore, including a thorough training seminar and review of PAE overall improves the likelihood of adherence to provider health promotion with patients who experience depressive disorders. Overall, findings show that enhancing provider knowledge of this practice, through intentional training and supporting ongoing opportunities for review, is an effective method to reduce perceived barriers, increase provider confidence, and is associated with sustainment of the clinical practice change (Clark et al, 2017; Fowles et al, 2018; Kleeman et al 2020). Interestingly, several of these studies also recommend institutions adopt the focused training of PAE into their current educational programs as an organizational strategic aim given its impact on healthcare delivery (Fowles et al., 2018; Kleeman et al 2020). When assessing this strategy as it aligns with national initiatives to improve care, it is highlighted by the National Quality Strategy (NQS), under the NQS Lever “Learning and Technical Assistance.” This lever identified focused training as a core business function for healthcare organizations to support high quality and affordable care, and healthy people in healthy communities (Finkelman, 2018). Moreover, current research indicates that psychiatrists or mental health care providers, such as nurse practitioners or physicians’ assistants who are active or in the process of modifying their own physical activity behaviors, are up to three times more likely to regularly promote their personal experience with physical activity and encourage patients to engage in such behaviors (Kleeman et al., 2020). Despite providers as being a cornerstone for health promotion for patients, as of 2020, only 34% of providers execute routine physical exercise into their weekly routine, while 10% percent indicate never personally incorporating physical activity at all (Michas, 2023).

Apart from other modalities that increase EBP utilization, autonomous motivation is essential for the process to remain steadfast (Schuch & Stubbs, 2019). Autonomous motivation is
motivation that leads someone to do something for their own sake, including finding exercise enjoyable or challenging (Schuch & Stubbs, 2019). Mental health care providers remain in a unique position of assisting patients in adapting exercise prescriptions by placing emphasis on a patient’s personal preference or their experience in terms of creating enjoyable experiences (Schuch & Stubbs, 2019). Providers who maintain supportive, patient-centered care modalities while implementing PAE counseling or PAE prescription can greatly improve patient adherence overtime (Schuch & Stubbs, 2019).

**Evidence-Based Intervention**

Supported by the literature, the evidence-based intervention will therefore be the utilization of provider focused educational training to increase exercise counseling rates for patients diagnosed with a depressive disorder, within the outpatient clinical setting.

**Evidence-Based Practice Question**

Given that the project focuses on increasing provider knowledge as a primary strategy to increase rates of exercise counseling in clinical practice, the following intervention-based Population, Intervention, Comparison, Outcome, and Timing (PICOT) question was originally developed: “How does a focused educational program on physical activity counseling affect the frequency in which healthcare providers recommend physical activity to adult patients with depression?” However, after project assumption and the initial synthesis of evidence was performed per the original implementation plan, further inquiry led to tailoring the project’s focus and refining the practice question. This process led to an additional aim to gain an in-depth understanding of the cohort’s experience with the following PICO question formulation: In Psychiatric mental Health Nurse Practitioner (PMHNP) student trainees at UC San Diego Health
who received focused educational training on counseling of physical activity for patients with depressive disorders (P), what existing factors influenced the adoption of this recommendation into clinical practice (O) over the 2 months of May 2022 – September 2022 (T).

**Evidence-Based Practice Model**

For successful translation of both the original and refined PICOT questions into clinical practice, we found the Johns Hopkins Nursing Evidence-Based Practice Model (JHNEBP) to be the appropriate framework. At the core of the JHNEBP model is the spirit of inquiry and evolution, two significant factors found present in this project from the beginning. Utilizing the JHNEBP’s systematic approach to understand the multitude of factors that impact adoption of PAE counseling into clinical practice for an extreme case population sample, ensures there is both flexibility and direction in the process. Furthermore, the strengths of this model provide confidence that the project can withstand the notable challenges that may arise in leadership continuity, while also considering the complexities of the academic setting upon which it was implemented.

**Model Strengths**

The JHNEBP utilizes a three-phase process of (a) asking a practice question, (b) providing evidence, and (c) translating into the individualized setting (Melnyk & Fineout-Overholt, 2019). In this integral process, continuous reflection of outcomes supports further inquiry, providing additional opportunities for improvement by revisiting the core three phases as many times as necessary. Considering the numerous variables within this project, such as process timeline, staff/trainee turnover, and a multi-methods research approach, applying a framework that supports both these intrinsic and extrinsic factors is imperative. The workability offered to our own project is likely just one example as to why JHNEBP was found to be one of
the top three most utilized evidence-based practice models for U.S. hospitals overall (Speroni et al., 2020).

**Project Implementation Plan**

The evidence-based practice (EBP) project primarily investigated the utilization of a focused education training on physical activity with nurse practitioner students within UC San Diego’s Outpatient Psychiatry Clinic to increase physical activity and exercise counseling to patients who suffer from depressive disorders. The preintervention data time frame includes May to July 2022, and the postintervention data time frame includes July to September 2022, with original data collection occurring in January 2023. Upon initial review of the data under the JHNEBP framework, it was clear that further exploration was needed to explain low utilization rates found in clinical practice. Thus, a secondary data collection phase was prompted to thoroughly understand the experience of the NP trainee cohort. The data was subjected to statistical analysis, and the results are presented as quantitative bar graphs and qualitative tables.

**Project Approval**

Initial approval from the UC San Diego Aligning and Coordinating Quality Improvement, Research, and Evaluation (Acquire) Committee authority was obtained on April 4, 2022, as delegated by the UC San Diego Office of IRB Administration (OIB), who determined the project is not regulated as research involving human subjects. Additional notification of the project’s change in leadership was sent to the Committee, and approval was reconfirmed on September 28, 2022. Subsequently, IRB exemption from the University of San Diego was received on October 20, 2022, classifying the project as a not-human subjects research project.
Stakeholder Identification

The stakeholders for the EBP project include the UC San Diego Outpatient Psychiatry Clinic Hillcrest, Psychiatric Mental Health Nurse Practitioners (PMHNPs), PMHNP trainees, and PMHNP Training Program Director. The employed stakeholders at this site include the licensed PMHNPs and Program Director. During the project process, EBP leaders kept all stakeholders informed and engaged. In addition, EBP project advisors were kept informed of the project’s progress throughout its duration.

Dissemination

Dissemination of the EBP project began in March 2023 with a poster presentation within the University of San Diego at the Doctor of Nursing Practice (DNP) project presentation day. The project was also presented as a PowerPoint presentation to stakeholders in April 2023 at the UC San Diego Outpatient Psychiatry Clinic- Hillcrest where the project took place. Moreover, the project poster was accepted into the California Association of Nurse Practitioners (CANP) 45th annual educational conference with poster presentation, which occurred in March 2023. In addition, the EBP project has a further project presentation through UCSD GME Patient Safety, Quality, and Innovation Symposium with poster presentation, estimated to occur in May 2023. The American Journal of Psychiatry and the Journal of Health Education and Behavior are the targets for potential project publication.

Implementation of the Evidence-Based Intervention

Implementation of a focused educational program, titled “Providing Physical Activity Counseling to Patients with Depressive Disorders,” was performed on July 6, 2022, through the UC San Diego Health PMHNP Training Program. This intervention was found to be the most appropriate given its feasibility and relevance for the sample population of PMHNP students that
participated. The training consisted of approximately 60 minutes of direct education in the form of a PowerPoint, highlighting the benefits of incorporating PAE into clinical practice. Instructions to utilize a smart key created within the electronic health record (EHR) system to assist with documentation were also provided; see Figure 1. Following this training event, a two-month implementation phase from July 7 - September 7, 2022, took place to assess utilization of the information as it translated into clinical practice.

**Figure 1**

*Smart-key Phrase for the Electronic Health Record System, EPIC*

```
"Physical activity is an evidence-based intervention for depressive disorders. Research shows that participation in regular physical activity can result in a significant reduction of depressive symptoms and can be preventative in the occurrence or worsening of depressive symptoms. The Centers for Disease Control and Prevention (CDC) Physical Activity Practice Guidelines for Adults: 150 minutes of moderate to vigorous physical activity per week (that’s about 30 minutes per day, 5 days per week).

The patient was provided counseling on physical activity per the Centers for Disease Control and Prevention (CDC) Physical Activity Practice Guidelines for Adults. The patient is currently engaging in *** minutes of physical activity per week. Motivational interviewing was provided for *** minutes and goal of starting/increasing physical activity to *** minutes per week was established. The patient was educated on the importance of adequate warm up and cool down pre and post physical activity."
```

**Phase One Data Collection**

Initial data collection was performed on January 6, 2023, through UC San Diego, utilizing a quantitative exploratory design method that consisted of retrospective chart reviews in the EHR system. Documentation of exercise counseling occurrences served as the primary measurement to assess utilization of the knowledge received from the focused educational
training. Appropriate documentation of counseling by smart key or narrative were considered valid if it was clearly indicated as part of the patient’s treatment plan. Charts with positive occurrences were subsequently reviewed for a follow-up encounter within 30 days to investigate whether or not the patient had implemented exercise into their personal routine. Data was maintained on an Excel document and did not include identifiable patient data. Phase one data collection included a sequential inclusion and exclusion process based on the following criteria:

1. The EMR has documentation that the patient is between 18 and 90 years of age.
2. The patient has a diagnosis of a depressive disorder.
3. Patients were seen at the clinic between May and July 2022 through July and September 2022.
4. Whether a follow-up visit was completed one to two months post intervention.
5. Whether the patient received physical activity counseling from the healthcare provider was coded as 1=yes or 2=no.
6. Whether the patient has implemented physical activity into their lifestyle at the follow-up visit and coded as 1=yes, 2=no, or 3=not documented.

After review of initial data synthesis and application of the JHNEBP model, further exploration of the data was warranted due to limited utilization throughout the implementation period. Concluding this new inference, phase two of the EBP project was initiated with the aim to gain more meaningful data specific to the PMHNP trainees’ experience and aid in the project evaluation.

**Phase Two Data Collection**

Phase two consisted of brief semi-structured interviews performed with everyone amongst the NP trainee cohort to gather insight into their experience. Prior to conducting these
interviews, a structured list of open-ended questions, targeting five main queries to investigate was created; see Table 1. The interviews were led by both project leaders on Zoom and responses were manually recorded. The data was then organized into one Word document and cross referenced for internal consistency before analyzing for common themes and patterns.

After the interview queries were explored, a quantitative survey consisting of demographic data and the Evidenced-Based Practice Attitude Scale (EBPAS) tool was administered. The EBPAS tool is a validated instrument, with evidence of high internal consistency and reliability, and explores more in depth the complex dimensions that surround adoption of an evidence-based practice into clinical practice (Santesson et al., 2020). It was chosen to assist in understanding the cohort’s attitudes of exercise as a treatment modality and how willing they might be to accept it as a practice change (Santesson et al., 2020). The EBPAS is a standardized questionnaire, comprising 15 questions that are answered on a Likert scale of agreement; see Figure 2. Embedded in the tool is a 4-structure subscale that investigates factors of (1) requirement, (2) appeal, (3) openness, all of which reflect positive attitudes when rated high. The final factor of (4) divergence assesses perceived conflict between the research and current practice in which a lower reverse score indicates a more positive result. The mean of each subscale was calculated. Factor analysis was not recommended given the small sample population.

Table 1

*Phase Two Post-Intervention Interview Inquiries*
What were your thoughts about the physical exercise focused training?
Follow-up question: Did this change how you viewed exercise as an intervention?
How would you describe the role that exercise has played/plays in your own lifestyle?
How often do you recommend physical activity/exercise (PAE) to patients?
F/U: if >0, how often do you include it in the treatment plan?
F/U: After receiving the focused training, what sort of barriers have you encountered with implementing PAE into the treatment plan for this patient population? (Assess provider/student based off data results: NP4 post-data 6/29, NP3 post-data 2/25, NP2 post-data 3/15, NP1 post-data 5/25
What did you think about the smart key?
From the training, what would you find most impactful if you were to sustain a practice of incorporating PAE into the treatment plan with patients?
Evidence-Based Practice Attitude Scale

EBPAS<sup>®</sup> Gregory A. Aarons, Ph.D.

Reference:

The following questions ask about your feelings about using new types of therapy, interventions, or treatments. Manualized therapy refers to any intervention that has specific guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way.

Fill in the circle indicating the extent to which you agree with each item using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All</td>
<td>To a Slight Extent</td>
<td>To a Moderate Extent</td>
<td>To a Great Extent</td>
<td>To a Very Great Extent</td>
<td></td>
</tr>
</tbody>
</table>

1. I like to use new types of therapy/interventions to help my clients. [ ] [ ] [ ] [ ] [ ]
2. I am willing to try new types of therapy/interventions even if I have to follow a treatment manual. [ ] [ ] [ ] [ ] [ ]
3. I know better than academic researchers how to care for my clients. [ ] [ ] [ ] [ ] [ ]
4. I am willing to use new and different types of therapy/interventions developed by researchers. [ ] [ ] [ ] [ ] [ ]
5. Research based treatments/interventions are not clinically useful. [ ] [ ] [ ] [ ] [ ]
6. Clinical experience is more important than using manualized therapy/treatment. [ ] [ ] [ ] [ ] [ ]
7. I would not use manualized therapy/interventions. [ ] [ ] [ ] [ ] [ ]
8. I would try a new therapy/intervention even if it were very different from what I am used to doing. [ ] [ ] [ ] [ ] [ ]

For questions 9-15: If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:

9. it was intuitively appealing? [ ] [ ] [ ] [ ] [ ]
10. it “made sense” to you? [ ] [ ] [ ] [ ] [ ]
11. it was required by your supervisor? [ ] [ ] [ ] [ ] [ ]
12. it was required by your agency? [ ] [ ] [ ] [ ] [ ]
13. it was required by your state? [ ] [ ] [ ] [ ] [ ]
14. it was being used by colleagues who were happy with it? [ ] [ ] [ ] [ ] [ ]
15. you felt you had enough training to use it correctly? [ ] [ ] [ ] [ ] [ ]
Evaluation Results

The data collected from both the UC San Diego EHR system and trainee interviews provided an opportunity for a comprehensive analysis of its results. These results will be demonstrated through qualitative tables and quantitative figures and discussed in terms of the project’s significant focal points. These areas include the initial focused training program, implementation period, and considerations specific to documentation.

Training

There was a 100% follow-up response rate in the sample population that participated in both the initial training and phase two interviews. The cohort consisted of four NP trainees with the following demographics: one male, three females, ages 34–48 years old, and diversity amongst the group was present. The results from both interviews and the survey did expand understanding of the results in a meaningful way. Based on the interviews, the training was perceived as overall valuable and informative. Although “common sense” for one trainee, another reported that learning the practice to be a billable item added “legitimacy” to the intervention itself (See Table 2). One trainee self-reported to increase their own exercise habits after receiving the training, to combat life stressors they were experiencing. Themes described in the interviews were also consistent with EBPAS results; see Figure 3 and Table 2. Overall, EBPAS scores revealed a positive attitude in the perception of the cohort regarding the practice adoption, specifically noting highest scores in the subcategories of requirement and appeal, with a low divergence aka ‘conflict’ rating; see Figure 3. There was some indication amongst the group that an unclear message regarding implementation of the training existed, which may have impacted utilization during the implementation phase. Considering how critical excitement and
momentum are in the initial stages of any change process, this is listed as an area for improvement for long term sustainability.

When evaluating the training program by content, length, and design, literature indicates that a more comprehensive program would likely increase utilization. In terms of content, excluded from the focused training and recommended counseling was the evidence that supports strength/resistance training specifically, and its significant impact on reducing and preventing depressive symptoms in comparison to aerobic activity alone. This component is identified as a major limitation within the project.

**Figure 3**

*Evidence-Based Practice Attitudes Scale Results*
### Table 2

*Descriptive Interview Responses from PMHNP Trainees*

<table>
<thead>
<tr>
<th>Survey query</th>
<th>Feedback from NP Trainees</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of Training</td>
<td>“Understanding the efficacy behind exercise helped me see it as a treatment modality.”</td>
<td>• Informative</td>
</tr>
<tr>
<td></td>
<td>“Seeing that it’s billable added legitimacy.”</td>
<td>• Valuable</td>
</tr>
<tr>
<td></td>
<td>“I was grateful for the training; it was a time of stress and I started exercising more</td>
<td>• Some benefit lost</td>
</tr>
<tr>
<td></td>
<td>afterwards”</td>
<td>d/t obscure message from Leadership</td>
</tr>
<tr>
<td></td>
<td>“I didn’t realize it was training”</td>
<td></td>
</tr>
<tr>
<td>Role of exercise in personal life</td>
<td>“When it has played a role, I know there was a positive impact on my mental health.”</td>
<td>• Utilized for</td>
</tr>
<tr>
<td></td>
<td>“Enjoyable, good, relieves stress in a way I wasn’t aware of”</td>
<td>physical and mental health, stress</td>
</tr>
<tr>
<td></td>
<td>“I love to work out, I lift at the gym several times a week”</td>
<td>reduction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Overall positive impact when routine is</td>
</tr>
<tr>
<td></td>
<td></td>
<td>maintained</td>
</tr>
<tr>
<td>Self-report of counseling vs.</td>
<td>“I followed the standard and recommendation.”</td>
<td>• Counseling</td>
</tr>
<tr>
<td>documentation</td>
<td>“I never mention it in the note, but talk about it at least half the time”</td>
<td>occurred significantly more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>often in practice than what was</td>
</tr>
<tr>
<td></td>
<td></td>
<td>documented</td>
</tr>
<tr>
<td>Barriers to adopting counseling</td>
<td>“No real incentive to use the smart key.”</td>
<td>• Time</td>
</tr>
<tr>
<td></td>
<td>“I never knew where to document it”?</td>
<td>• Documentation challenges</td>
</tr>
<tr>
<td></td>
<td>“There are other priorities I’d have to make sure to cover” “never enough time”</td>
<td>• Disorganization</td>
</tr>
<tr>
<td></td>
<td>“Maybe because of my own personal life, it wasn’t always on my mind.”</td>
<td></td>
</tr>
<tr>
<td>How to sustain practice change</td>
<td>“Seeing better patient outcomes would help get provider buy-in.”</td>
<td>• Incorporate</td>
</tr>
<tr>
<td></td>
<td>“If the dot phrase was easy I would’ve used 100% of the time”</td>
<td>counseling into</td>
</tr>
<tr>
<td></td>
<td>“Receiving the knowledge is what clicked for me, it closed the loop”</td>
<td>EHR template.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Seeing positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>effect on patient outcomes</td>
</tr>
</tbody>
</table>
Implementation

Patient data was collected from the organization’s EHR system during a specific period to determine the preintervention and postintervention number of adults with depressive disorders who received PAE counseling. The preintervention data identified one out of sixty-three patients (1.59%) having received physical activity and exercise counseling as documented in the EHR system; see Figure 4. After the focused educational training was conducted in conjunction with creation of the smart key, postintervention data identified that 16 out of 92 patients (17.4%) received documented PAE counseling, roughly a 15% increase; see Figure 4. In addition, 3 of the 16 patients who had received counseling were found to attend a one-month follow-up appointment, in which 100% of these patients reported incorporating physical activity into their weekly routine per CDC guidelines. When comparing pre and postintervention data, from baseline to two months post educational training, there was a seven-fold increase overall in patients who received exercise counseling; see Figure 4. Now, looking at individual utilization rates amongst the cohort, data revealed there to be one outlier with significantly lower utilization than the others. Specifically, NP3 whose documentation indicated exercise counseling were performed 8% of the time, compared to the other members whose utilization rates were relatively consistent at 20% each (see Figure 4). We sought to explain this key difference through information provided in the interviews, which surprisingly indicated the role of personal exercise to be a contributory factor. NP3 admitted to a “non-existent” personal exercise routine, which was contrary to all other trainees’ reports. Aside from NP3, the rest of the cohort endorsed current and regular engagement in an exercise routine. The survey data also identified NP3 to be the only participant to exercise on average zero to 75 minutes per week at low intensity, while all others identified an average of greater than seventy-five minutes per week at moderate intensity.
NP3 later self-attributed this lifestyle factor to be a likely reason for their lower utilization rate of the practice once that information was disclosed, as well. Importantly, this finding suggests there is a protective factor in an individual’s own value or use of personal exercise as it relates to adopting the practice in the clinical setting. This speculation has been discussed in larger population studies, though identification of this finding amongst such a small sample size presented uniquely. Another factor found to be associated with higher utilization was the use of the smart key, though most participants did not use this feature in the EHR system, as it was not deemed “user friendly” and difficult to recall. The utilization related to demographic data remains limited due to the small sample size. Conversely, the biggest takeaway during the two-month implementation period included minimal clinical support to address concerns, troubleshoot documentation errors, or to briefly retrain on information elicited from the focused educational training. Thus, providing more consistent end-user support or intermittent touch points with the trainees is an important recommendation for the future.

**Figure 4**
Documentation

There was a significant discrepancy in utilization rates when comparing the data collected in the chart reviews versus each trainee’s self-report of counseling frequency with patients and their perception of practice implementation; See Table 3. This information suggests that counseling occurred more often than what was being captured. The interviews significantly assisted in understanding the barriers that impacted appropriate documentation, which are best explained by the obscure smart-key, limited time, and a demanding learning environment; see Table 3. The unique environment is an interesting discussion point, as many trainees reported still acquiring certain provider responsibilities at the time of implementation, such as interviewing skills, appropriate documentation, or prioritization (see Table 2). This points to the reality of a novice versus expert provider and the likelihood that incorporating another intervention into the patient encounter may not be so intuitive or simple. All trainees agreed that incorporating the counseling statement into the electronic template would serve as both a
reminder to trigger the conversation with patients while streamlining the workflow process and saving time.

**Cost Benefit Analysis**

There was no additional cost required to implement this evidence-based practice project. The cost required to implement the project was in place through the UC San Diego Outpatient Psychiatry Clinic, including the creation of the smart-key and focused educational training that was conducted with PMHNP trainees. Conversely, patients who suffer from depressive disorders experience an average cost annually of $2717 dollars (Greenberg et al., 2021). In addition, as of 2020, the United States mental health care system suffers from the economic burden of spending an estimated 236 billion dollars annually in relation to depressive disorders, which has increased by 35% in the last decade (Greenberg et al., 2021).

Physical activity counseling as an adjunctive treatment modality can reduce the financial hardships patients may experience by reducing comorbid disorders or symptoms which may end in crisis intervention. Research indicates that patients who incorporate routine physical activity are estimated to save roughly $825–$1,874 annually in mental health care costs (Reynolds, 2021). Additionally, there is a cost benefit to the UC San Diego Health organization, with a medical reimbursement rate of $19.31 per fifteen minutes of psychoeducation from the provider. This in total includes a $52,465 cost avoidance to UC San Diego Outpatient Psychiatry Clinic ($19.31 x $2717 = $52,465) with counseling on PAE.

**Implications for Research and Practice**

This project indicates that enhancing provider knowledge through educational training is a favorable strategy that increases recommendation rates of exercise for patients with depressive
disorders. A powerful transformation occurs with intentional and consistent exercise, beyond improvements in physical strength, appearance, or physical health symptoms. Simultaneously, exercise serves as a form of stress adaptation on the cognitive level, thereby increasing an individual’s tolerance to perceived distress over time. Prioritizing exercise in the treatment plan for patients with depressive disorders affords individuals an accessible and equitable opportunity to enhance their wellbeing and reduce suffering to a greater extent than just medication or therapy alone. After expansion of the data, evidence also suggests that the complex barriers of adopting this practice could potentially be mitigated by one’s personal exercise habit and other time saving strategies, which are identified as areas of focus for organizations aiming to implement this change. Thus, experiencing the process and benefits of an aerobic and strength-based exercise routine first hand may be the best way to consider utilizing this project’s information, especially for mental health providers. Finally, future implications of research include assessing the long-term benefits of this practice on patient outcomes, which would likely require a longer implementation period, greater population sample, and use of PHQ-9 scores to accurately measure changes in depressive symptoms.
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https://doi.org/10.1249/jsr.0000000000000620


https://doi.org/10.1111/cns.13385
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Appendix C

Letter of Support from Clinical Faculty

To: Institutional Review Board, University of San Diego

From: Dr. Katherine Lais
Faculty, Hahn School of Nursing and Health Science

I am serving as Faculty Mentor for the DNP Project titled “Exercise as a prescription for patients with depressive disorders: A quality improvement project,” being conducted by Sydney Roscoe and Rachelle Pace in the Hahn School of Nursing and Health Science. I approve of this timely and important project and will be advising this student throughout this process.

If you have any questions, please do not hesitate to contact me at (512) 571-0440 or klais@sandiego.edu.

Sincerely,

K [Signature]

Katherine Lais, DNP, PMHNP-BC (she/her/hers)
Coordinator & Clinical Associate Professor for PMHNP Program
University of San Diego
The Hahn School of Nursing and Health Science and Beyster Institute for Nursing Research
5998 Alcala Park, San Diego, CA 92110-2492
Appendix D

Letters of Acceptance

UC San Diego Symposium

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**From:** Roscoe, Sydney  
**Sent:** Sunday, April 9, 2023 10:08 AM  
**To:** Settina, Alessandra; Pace, Rachelle  
**Subject:** FW: GMIE PSQI Symposium Abstract Submission

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Dear Dr. Sydney Roscoe, BSN, RN, DNP-PMHNP Intens,

We are pleased to inform you that your abstract “Exercise As a Prescription for Patients With Depressive Disorders: A Quality Improvement Project” was selected for poster presentation at the 2023 GMIE Patient Safety, Quality and Innovation Symposium in the ‘QI/Research’ category. Congratulations on your excellent work!

The symposium is scheduled for Wednesday 5/31/23 at 5-7 pm on the School of Medicine Campus, in the MTE 1st floor large conference rooms (141-145). Refreshments will be available throughout the evening.

A posterboard will be available to mount your poster when you arrive. If you have not already printed your poster, we recommend you print a cloth poster with the vendor Spoonflower and we will offer reimbursement (see details on the conference website).

Due to production and shipping time, if you wish to use this vendor and get reimbursed for printing, DO NOT DELAY. We recommend you submit your poster to them for printing before 5/20/2023. Use the 48” x 36” poster size. See attached handout for tips on poster design. A UCSD Health poster template is also attached for your use if desired; use of this template is encouraged but not required.

At the event, you will stand by your poster for judging. Create and practice a 3-minute summary to pitch to judges and others who inquire. See links below for tips on preparing an effective presentation.

Prizes will be awarded in each category. If you are unable to stand by your poster, please send a designate. If no one from your research team is available, we will display your poster if you arrange for delivery, but you will not be eligible for a prize.

We will forward your poster and information about setup closer to the time of the event. For authors with multiple submissions, we will make our best effort to cluster your work.

On behalf of the planning committee, we commend you for your outstanding contributions to patient care at UCSD Health and thank you for your participation in the Symposium.

---

**ATTACHMENTS:**  
Zen Poster Design, Zen Oral Presentation, UCSD Health Poster Template

---

Sincerely,

Greg Seymann, M.D. on behalf of the GMIE PSQI Symposium Steering Committee
CANP Conference

Dear Presenter,

You likely just received the attached email informing you that your poster wasn’t accepted to be part of CANP’s 45th Annual Educational Conference, taking place March 16-19, 2023, in Monterey. **Please know this was an error and your poster was accepted for presentation at the conference.**

Below is important information related to your role as a poster presenter:

**Agenda**

Posters will be on display beginning at 8:00 a.m. on Thursday, March 16 through 3:00 p.m. on Saturday, March 18. We are still working out the logistics of the exact poster presentation times and will notify you next month. Please watch your email for updates.

Posters will be placed in the Mezzanine (3rd floor) of the Monterey Marriott. This is where the concurrent sessions also take place so there will be consistent traffic for poster viewing.

Please drop your poster off at the CANP registration desk located on the third floor of the Monterey Marriott upon your arrival at the conference.

**Registration**

Poster presenters are required to register and pay for the conference. Be sure to register by December 1 to save $50. Registration is available via [this link](#) through March 1, 2023. Also, you may choose to register for a day.

**AANP Accreditation**

Once again, CANP will be applying for Continuing Education and Pharmacology Credit through the American Association for Nurse Practitioners (AANP). AANP requires each presenter to complete the following forms:

1. Faculty Disclosure Statement
2. Biographical Data Form

You will receive an email from [CEAnps@aann.org](mailto:CEAnps@aann.org) with instructions for completing these forms. The email will be sent no later than January but likely sooner and you’ll receive an email from Erin letting you know the email was sent from AANP. There have been instances where this email gets caught in spam filters so it is imperative to check your spam. The return deadline will be included in the email from AANP. CANP reserves the right to cancel any sessions where the presenters(s) don’t complete the required forms by the deliverable date.

**Lodging**

CANP has reserved a block of rooms at the Monterey Marriott at a reduced rate of $199 per night (Wednesday – Friday), through February 14, 2023. Rooms will be available at a higher rate on Saturday, March 18. The hotel link will be updated with rooms for Saturday night in the next couple days. Speakers are responsible for making their own hotel reservations and can do so via [this link](#).

Congratulations and I am looking forward to seeing you in March. Please let me know if you have any questions.

Regards,

Erin

**Erin Meyer**
Events & Education Director
1415 L Street, Suite 1000
Sacramento, CA 95814
916 441-1361 ext. 1
canweb.org

Power in Practice
Appendix E
Poster and Stakeholder Presentation

Exercise as a Prescription for Patients with Depressive Disorders: A Quality Improvement Project
Sydney Roscoe, BSN, RN, DNP-Student & Rochelle Pace, BSN, RN, DNP-Student
Katherine Lisa, DNP, PMHNP-BC, Whitney Markowitz, DNP, PMHNP-BC

BACKGROUND
- Approximately 280 million people (5%) suffer from a depressive disorder. Depression is the 4th leading cause of disabilities; significantly contributing to the global burden of disease by increasing risk for medical morbidity and mortality, and a decreased quality of life.
- Research that includes a large population study of 57,629 adults found that 1) a combination of aerobic and muscle-strengthening exercise was associated with the lowest likelihood of reported depressive symptoms, followed by 2) aerobic only and 3) strength only. (Prevalence rates: 0.36-0.54, 0.36-0.62, and 0.45-0.54)
- Despite benefits, manual health providers underutilize physical activity and exercise (PAE) counseling and/or prescriptions

METHODS
- Increase rates of provider counseling for PAE in the treatment of patients with depressive disorders by enhancing providers' knowledge of exercise as an effective modality

RESULTS

<table>
<thead>
<tr>
<th>IMPACT</th>
<th>BENEFIT</th>
<th>TESTED/PRIORITIZED</th>
<th>CHALLENGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of Training</td>
<td>Understanding the relation between exercise and symptoms of depression</td>
<td>Informing</td>
<td>Information deficiency</td>
</tr>
<tr>
<td>Role of exercise in personal life</td>
<td>When it help</td>
<td>Providing a positive impact on personal mental health</td>
<td>Interventions</td>
</tr>
<tr>
<td>Self-report of exercise documentation</td>
<td>Increased</td>
<td>Encouraging</td>
<td>Barriers to adopting PAE counseling</td>
</tr>
<tr>
<td>How to sustain practice change</td>
<td>Increased</td>
<td>Encouraging</td>
<td>Barriers to adopting PAE counseling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPLEMENTATION</th>
<th>DOCUMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization in the EHR increased by 17% from baseline to 1 months post training, leading to a 75% overall increase in PAE counseling for patients</td>
<td>Significant discrepancy in each trainee's self-report of performing counseling versus actual documentation</td>
</tr>
<tr>
<td>Higher implementation rate was associated with a self-report of personal exercise habits and smart key access</td>
<td>Best practice: (1) obtain staff buy-in (2) limited time (3) unique learning environment</td>
</tr>
<tr>
<td>Recommend consistent and user support to encourage clinical practice change</td>
<td>Recommend incorporating PAE counseling into the electronic template to prompt providers and enhance workflow process</td>
</tr>
</tbody>
</table>

CONCLUSION
- Results expand understanding of existing mitigating barriers, and also indicate that increasing provider knowledge of exercise as an evidenced based intervention is a favorable strategy to increase recommendation frequency to patients
- Future training and care delivery should include evidence for strength training and aerobic exercise for optimal benefit, though further research is needed to determine the long-term impact of this practice on patient outcomes
Appendix F

Program Exemplars and Clinical Hours

Clinical/Practicum – must total 1080 clinical hours upon completion of program

- **Fall 2021:** 55 hours
- **Spring 2022:** 314 hours
- **Summer 2022:** 225 hours
- **Fall 2022:** 282 hours
- **Spring 2023:** 282 hours

Total Clinical Hours: 1158

AACN DNP Essentials/NONPF Competencies/USD DNP Program Outcomes Exemplars

<table>
<thead>
<tr>
<th>Exemplars</th>
<th>USD DNP Program Objectives</th>
<th>AACN DNP Essentials &amp; NONPF Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall 2020</strong></td>
<td>Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.</td>
<td>DNP Essential I: Scientific Underpinnings for Practice</td>
</tr>
<tr>
<td><strong>Summer 2021</strong></td>
<td>Utilized Rosswurm &amp; Larrabee model to guide PICO question in Evidence-Based Synthesis &amp; (DNP611)</td>
<td>NONPF: Scientific Foundation Competencies</td>
</tr>
<tr>
<td></td>
<td>Incorporated mindfulness and breath awareness practices into an aesthetic way of knowing, supporting Carper’s Four Fundamental Patterns of Knowing (DNPC610)</td>
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</table>

The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences including human biology, genomics, science of therapeutics,
psychosocial sciences, as well as the science of complex organizational structures. In addition, philosophical, ethical, and historical issues inherent in the development of science create a context for the application of the natural and social sciences.

Spring 2022
- Logic model used to outline mock DNP project implementing ACEs screening amongst college students (DNPC686)
- Johns Hopkins Nursing Evidence-Based Practice Model selected to guide EBP project to improve campus-based prevention strategies (DNPC686)
- Biopsychosocial model appropriately utilized in case conceptualizations and demonstrated in oral presentation of “Neurocognitive Disorders” (DNPC651)

Spring 2023
- Utilized the underpinnings of systems theory in family therapy to complete a genogram and identify generational patterns to assist in the biopsychosocial formulation (DNPC657)
- **EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project**
  Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counseling in the treatment of patients with a depressive disorder, was adopted and implemented.
Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated expertise in assessing organizations, identifying system issues, and facilitating organization-wide changes in practice delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of practice quality and costs.

5. Design, implement, and evaluate ethical health care delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.

Spring 2021
- Evaluated Adventist Health Castle organization and presented its strategic planning process from an external facilitator perspective. (DNPC626)
- Created an executive summary on preventing 30-day hospital readmissions, that included a SWOT analysis and driver diagram, to support strategic goals of Adventist Health Castle (DNPC626)

Summer 2021
- Created a business plan to implement a Virtual Reality MBSR strategy into an employee wellness program to reduce burnout (DNPC653)

Spring 2023
- EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project
  Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counseling in the treatment of patients with a depressive disorder, was adopted and implemented.
Scholarship and research are the hallmarks of doctoral education. Although basic research is viewed as the first and most essential form of scholarly activity, an enlarged perspective of scholarship has emerged through alternative paradigms that involve more than discovery of new knowledge. These paradigms recognize: (1) the scholarship of discovery and integration “reflects the investigative and synthesizing traditions of academic life”; (2) scholars give meaning to isolated facts and make connections across disciplines through the scholarship of integration; and (3) the scholar applies knowledge to solve a problem via the scholarship of application that involves the translation of research into practice and dissemination and integration of new knowledge.

4. Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines.

**Fall 2020**
- Synthesized and critiqued evidence in research paper titled “Implementing A Weight Loss Strategy and Managing Expectations for Patients Undergoing Total Joint Arthroplasty” (DNPC611)

**Spring 2021**
- Synthesized and presented existing evidence of sage as a method of complementary and alternative medicine therapy and implications on clinical practice (APNC523)

**Fall 2022**
- Critically appraised existing evidence for DNP project to support the implementation of exercise in the treatment of depression and use of focused training as an implementation strategy (DNPC630)

**Spring 2023**
- Completion of Scholarly Project Manuscript that details the results, recommendations, and implications for practice from implementation of EBP Project (DNPC630)
DNP Essential IV: Information Systems/Technology & Patient Care Technology for Improvement & Transformation of Health Care

NONPF: Technology & Information Literacy Competencies

DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and health care systems and provide leadership within healthcare systems and/or academic settings. Knowledge and skills related to information systems/technology and patient care technology prepare the DNP graduates apply new knowledge, manage individual and aggregate level information, and assess the efficacy of patient care technology appropriate to a specialized area of practice along with the design, selection, and use of information systems/technology to evaluate programs of care, outcomes of care, and care systems. Information systems/technology provide a mechanism to apply budget and productivity tools, practice information systems and decision supports, and web-based technologies.

7. Incorporate ethical, regulatory, and legal guidelines in the delivery of healthcare and the selection, use, and evaluation of information systems and patient care technology.

Spring 2021
- Obtained Biomedical Research Human Certification – Basic/Refresher Course through CITI (DNPC625)
- Selection of a data set from the Center for Disease Control and Prevention evaluating the prevalence of youth diagnosed with attention deficit hyperactivity disorder and subsequent analysis of demographics related to disparities using Microsoft Excel graphs and figures (HCIN540)

Summer 2021
- Created an organizational business plan to implement a virtual reality-based mindfulness program that targets healthcare worker burnout as an innovative and strategic aim (DNPC653)

Fall 2022
- Assumed co-leadership role of DNP scholarly project at UC San Diego after transfer from its original leader, for the purpose of data collection and continuity.
- Obtained UCSD Acquire committee approval and USD IRB committee waiver for the continuation and implementation of DNP scholarly project.

Spring 2023
- Completed 8hr Online Buprenorphine MAT Training via American Psychiatric Nurses Association (DNPC653)
- Use of EHR systems EPIC and Cerner at clinical sites in the use of clinical documentation, billing, and prescribing (627, 651, 653, 624, 655, 657, 630)
based learning or intervention tools to support and improve patient care.

DNP Essential V: Health Care Policy for Advocacy in Health Care

NONPF: Policy Competencies

Health care policy, whether created through governmental actions, institutional decision-making, or organizational standards, creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs. Engagement in the process of policy development is central to creating a health care system that meets the needs of its constituents. Political activism and a commitment to policy development are central elements of DNP practice.

- EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project
  Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counseling in the treatment of patients with a depressive disorder, was adopted and implemented.

3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).

Spring 2021
- Presentation and health policy analysis of American College of Obstetrics and Gynecologists (ACOG) position statement on Access to Reproductive Health Care during the Covid-19 Pandemic (DNPC648)
- Development of a manuscript utilizing the RE-AIM policy framework to evaluate policy in comparison to global initiatives to address maternal healthcare and provide policy options for care optimization.

Spring 2022
- Became a student member of American Psychiatric Nurses Association (APNA)

Spring 2023
- Presented quality improvement measures based on the results of DNP scholarly project to organizational stakeholders at UC San Diego to improve institutional health care delivery and potentially influence clinic policy (DNPC630)
DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes

NONPF: Leadership Competencies

Today’s complex, multi-tiered health care environment depends on the contributions of highly skilled and knowledgeable individuals from multiple professions. To accomplish the IOM mandate for safe, timely, effective, efficient, equitable, and patient-centered care in this environment, health care professionals must function as highly collaborative teams. DNPs have advanced preparation in the interprofessional dimension of health care that enable them to facilitate collaborative team functioning and overcome impediments to interprofessional practice. DNP graduates have preparation in methods of effective team leadership and are prepared to play a central role in establishing interprofessional teams, participating in the work of the team, and assuming leadership of the team when appropriate.

1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.

3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve health care delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).

Spring 2022
- Awarded the singular Federal HRSA grant via Project TeamUP for HSON PMHNP doctoral student, which supports the federal initiative to train and expand the behavioral health workforce in underserved populations.

Fall 2022
- Abstract submission and acceptance of DNP Scholarly project poster into California Association of Nurse Practitioners Conference

Spring 2023
- Abstract submission and acceptance for poster presentation of DNP Scholarly project into UCSD GME PSQI Symposium
- Scholarly Poster Presentation of EBP Project at California Association of Nurse Practitioner’s Annual Conference, UCSD GME PSQI Symposium, and USD DNP Presentation Day

EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project

Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counseling in the treatment of patients with a depressive disorder, was adopted and implemented.
DNP Essential VII: Clinical Prevention & Population Health for Improving Nation's Health

NONPF: Leadership Competencies

Consistent with national calls for action and with the longstanding focus on health promotion and disease prevention in nursing, the DNP graduate has a foundation in clinical prevention and population health. This foundation enables DNP graduates to analyze epidemiological, biostatistical, occupational, and environmental data in the development, implementation, and evaluation of clinical prevention and population.

6. Employ a population health focus in the design, implementation, and evaluation of health care delivery systems that address primary, secondary, and tertiary levels of prevention.

Fall 2020
- Developed a secondary screening program for Adolescent Substance Abuse (DNPC625)

Summer 2021
- Created an organizational business plan to implement a virtual reality-based mindfulness program that targets healthcare worker burnout as an innovative and strategic aim (DNPC653)

Fall 2021
- Educated on the current practices, genetic counseling recommendations and research aim of cancers associated with BRCA mutations (DNPC622)

Summer 2022
- Attendee of workshop titled: “Superhero Therapy: Combining Evidence-Based Therapy with Pop Culture Narratives to Help Clients Manage Anxiety and PTSD,” facilitated by Dr. Janina Scarlet (Project TeamUP)

Fall 2022
- Independently conducted a one-hour cognitive behavioral therapy (CBT) session via Zoom and formulated an effective treatment plan to target symptoms (DNPC653)
- Attendee of seminar titled “Kickstart San Diego: Addressing Psychosis and Serving the Spanish Speaking Population.” (Project TeamUP)
Spring 2023

- Developed a group therapy proposal titled “ACEs in Parenting” that incorporates the ACEs Aware program to teach resiliency skills as a primary and secondary prevention strategy (DNPC657)
- Partnered with BLCl Mentorship Program to enhance socioemotional learning for youth in the community; Served as Mentor to 2 Mentees of Caldean decent, for a total of 6 one-hour sessions (Project TeamUP)
- EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project
  Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counselings in the treatment of patients with a depressive disorder, was adopted and implemented
DNP Essential VIII: Advanced Nursing Practice

NONPF: Independent Practice/Ethics Competencies

The increased knowledge and sophistication of healthcare has resulted in the growth of specialization in nursing to ensure competence in these highly complex areas of practice. The reality of the growth of specialization in nursing practice is that no individual can master all advanced roles and the requisite knowledge for enacting these roles. DNP programs provide preparation within distinct specialties that require expertise, advanced knowledge, and mastery in one area of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.

1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.

- Consult with evidence-based resources to guide clinical practice and program deliverables (UpToDate, Epocrates, Clinical Practice Guidelines)
- Completed over 1100 clinical hours in outpatient psychiatric settings and specialties, ranging in age from adolescents to geriatric, as a NP Intern in the UCSD Psych NP Training Program.
  Sites include: UCSD OPSH Outpatient Clinic, Emergency Department and Clinical Liaison, UCSD Eating Disorder Clinic, UCSD Addictions Clinic La Jolla, Survivors of Torture International, and Community Research Foundation-Areta Crowell Center
- **EBP Project: Exercise as a Prescription for Patient’s with Depressive Disorders: A Quality Improvement Project** Utilizing the JHEBP Model, the evidence-based project to implement educational training for providers as a strategy to increase rates of exercise counselings in the treatment of patients with a depressive disorder, was adopted and implemented.
The End