



Complementary And Alternative Medicine (CAM) Treatments For Behavioral And Substance Use Disorders

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Introduction & Instructions for Use

Introduction

Behavioral Clinical Policies are a set of objective and evidence-based behavioral health criteria used by medical necessity plans to standardize coverage determinations, promote evidence-based practices, and support members’ recovery, resiliency, and wellbeing for behavioral health benefit plans that are managed by Optum®. February 23, 2023

Instructions for Use

This guideline is used to make coverage determinations as well as to inform discussions about evidence-based practices and discharge planning for behavioral health benefit plans managed by Optum. When deciding coverage, the member’s specific benefits must be referenced.

All reviewers must first identify member eligibility, the member-specific benefit plan coverage, and any federal or state regulatory requirements that supersede the member’s benefits prior to using this guideline. In the event that the requested service or procedure is limited or excluded from the benefit, is defined differently or there is otherwise a conflict between this guideline and the member’s specific benefit, the member’s specific benefit supersedes this guideline. Other clinical criteria may apply. Optum reserves the right, in its sole discretion, to modify its clinical criteria as necessary using the process described in Clinical Criteria. This guideline is provided for informational purposes. It does not constitute medical advice.

Optum may also use tools developed by third parties that are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.

Optum may develop clinical criteria or adopt externally-developed clinical criteria that supersede this guideline when required to do so by contract or regulation.

Benefit Considerations

Before using this policy, please check the member-specific benefit plan document and any federal or state mandates, if applicable. This Clinical Policy is provided for informational purposes. It does not constitute medical advice.

Pre-Service Notification

Admissions to an inpatient, residential treatment center, intensive outpatient, or a partial hospital/day treatment program require pre-service notification. Notification of a scheduled admission must occur at least five (5) business days before admission. Notification of an unscheduled admission (including emergency admissions) should occur as soon as is reasonably possible. Benefits may be reduced if Optum is not notified of an admission to these levels of care. Check the member's specific benefit plan document for the applicable penalty and provision of a grace period before applying a penalty for failure to notify Optum as required.

Description of Services

Complementary And Alternative Medicine (CAM) Treatments For Behavioral And Substance Use Disorders

According to the National Center for Complementary and Integrative Health (NCCIH, 2021), treatments that are "complementary" or "alternative" represent approaches developed outside of mainstream Western, or conventional, medicine. These terms are often used interchangeably, but refer to different concepts:

- If a non-mainstream practice is used together with conventional medicine, it is considered "complementary;"
- If a non-mainstream practice is used in place of conventional medicine, it is considered "alternative."

Acupuncture

Acupuncture describes varying procedures and techniques that involve the stimulation of points on the body. The most studied technique is insertion into the skin with thin, solid, metallic needles that are manipulated by either hands or electrical stimulation. A routine treatment may require 15 to 30 needles with follow-up treatments at 2-week intervals. Most commonly, acupuncture is used for back and neck pain, osteoarthritis, and headache. Research has also been conducted on the use of acupuncture to treat behavioral health conditions, such as depression and substance use disorder (Fowler, 2020).

Art Therapy

According to the American Art Therapy Association (AATA, 2017), art therapy is used to improve cognitive and sensorimotor functions, foster self-esteem, and self-awareness, cultivate emotional resilience, promote insight, enhance social skills, reduce, and resolve conflicts, and advance societal and ecological change. Art therapy combines the knowledge and understanding of human development and psychological theories/techniques with visual arts and the creative process. Art therapists incorporate the use of art media and verbal processing of produced imagery to help clients improve psychological health, cognitive abilities, and sensory-motor functions.

Dance/Movement Therapy (DMT)

DMT is defined as the psychotherapeutic use of movement to further the emotional, cognitive, physical, and social integration of the individual (American Dance Therapy Association [ADTA], 2020). Dance/movement therapy interventions apply affective, behavioral, motoric, cognitive, and systemic strategies, including the principles of development, wellness, and pathology. The use of specific methods, techniques, modalities, and verbal interventions within the practice of professional dance/movement therapy is restricted to professional dance/movement therapists appropriately trained in the use of such methods, techniques, or modalities. Dance/movement therapy may be identified by other terms in the research literature, including "dance movement psychotherapy," "dance therapy," "body psychotherapy," or "therapeutic movement."

Equine Therapy

Equine therapy uses the purposeful manipulation of equine movement to engage sensory, neuromotor, and cognitive systems in achieving functional outcomes (American Hippotherapy Association, 2022). Equine therapy can be conducted by physical therapists or occupational therapists as part of a larger plan of care involving other neuro/sensorimotor techniques. Individual riding centers may also employ “certified path instructors” or “horsemanship instructors.” Equine therapy is identified by other terms in the research literature, including “hippotherapy,” “therapeutic horseback riding,” “horse therapy,” “therapeutic horsemanship,” and “equine-assisted therapy.” Behavioral health conditions for which riding centers promote their services include autism spectrum disorders, attention deficit hyperactivity disorder, post-traumatic stress disorder, and learning disability.

Music Therapy

Music therapy is the clinical use of music interventions to accomplish individualized goals within a therapeutic relationship, and is typically conducted by an individual completing an approved music therapy program. Therapists may assess emotional well-being and social functioning through musical responses, and develop music sessions based on specific client needs. According to the American Music Therapy Association (AMTA), music therapy allows exploration of personal feelings and promotes positive changes in mood and emotional states (AMTA, 2023).

Coverage Rationale

The following complementary and alternative medicine treatments are unproven and not medically necessary for treating behavioral and substance use disorders due to insufficient evidence of efficacy:

- Acupuncture
- Art therapy
- Dance/movement therapy
- Equine therapy
- Music therapy

Clinical Evidence

Summary of Clinical Evidence

Acupuncture

Liao et al. (2023) performed a double-blinded, randomized controlled crossover study regarding acupuncture efficacy and immune effects for comorbid chronic pain and major depressive disorder. The study comprised 47 adult participants diagnosed with MDD and experiencing persistent pain for more than 3 months. The participants were randomly assigned to two groups: (1) the depression–pain group (23 participants who were treated with depression-specific acupoints and then the pain-specific acupoints after the washout period) and (2) pain–depression group (24 participants with the reverse order). Depressive and pain symptoms were measured with assessment tools Hamilton Depression Rating Scale (HAM-D), Beck Depression Inventory-Second Edition (BDI-II), Brief Pain Inventory (BPI), Neurotoxicity Rating Scale (NRS), Clinical Global Impression (CGI) scale, and World Health Organization Quality of Life Scale Brief Version (WHOQOL-BREF). Participants were assessed at baseline and for weeks 2, 4, 6 (after the first 6-week intervention), 8 (before the start of the second 6-week intervention), 10, 12, and 14 (after the second 6-week intervention). The results show that, after 14-week acupuncture sessions, the pain-specific acupoints did not reduce pain scores per the BPI to a significantly greater degree (-0.97 ± 1.69) than the depression-specific acupoints (-0.28 ± 1.88); likewise, the depression specific acupoints did not significantly improve via the HAM-D (-4.59 ± 6.02) compared to the pain-specific acupoints (-6.69 ± 6.61). The pain specific acupoints improved BDI-II (-6.74 ± 9.76) even better than the depression-specific acupoints (-1.92 ± 10.74). The authors acknowledge that the study results failed to prove their hypothesis that pain-specific acupoints could potentially yield superior analgesic effects than the depression-specific acupoints. Future studies are needed with larger samples sizes to replicate these findings.

Xu et al. (2022) conducted a meta-analysis of randomized controlled trials that compared acupuncture with sham acupuncture, or anti-depressants. Sixty-two studies were reviewed with a total of 2269 adult individuals diagnosed with MDD. Sample sizes

ranged from 16–176, with the number of acupuncture sessions ranging from 8-60 and session duration from 2 weeks to 12 weeks. The primary outcome was scoring with the Hamilton Depression Rating Scale for Depression (HAMD17/24). Prior to acupuncture treatment and after treatment HAMD scores were measured. The efficacy of the acupuncture sessions was based upon the improvement rate as calculated by the percentage change in HAMD scores when compared to the baseline HAMD measurements. Results showed that after 8 acupuncture sessions, the HAMD score decreased from 17.68 (95% CI: - 11.81, - 4.80) to 8.30 (95% CI: 14.23–21.13). After 24 acupuncture sessions, a decrease in HAMD scores was observed in 51% of cases (95% CI:48% to 54%). After 36 acupuncture sessions, the effect of improvement in HAMD scores peaked at 66% of cases (95% CI: 59% to 72%). These results imply that the greater number of acupuncture sessions leads to greater clinical outcomes. These findings also suggest that clinical efficacy is not reached until at least 18 acupuncture sessions are completed with 36 sessions showing the optimal symptom improvement for individuals diagnosed with MDD. The majority of limitations among the studies are associated with treatment methodologies such as needle placement, number of needles, duration and frequency of sessions. The authors note future large, well-designed studies are needed to determine the efficacy of acupuncture, clarify protocols, and establish follow-up data.

Hayes, Inc. (2021) completed a comparative analysis of 47 randomized controlled trials (RCTs) regarding acupuncture for the treatment of substance use disorder. The overall quality of evidence was identified as low. Current research shows a potential but unproven benefit. Certain published evidence suggests that safety and impact on health outcomes are at least comparable to standard treatment/testing. However, it remains unclear about safety and/or impact on health outcomes due to poor-quality studies, sparse data, conflicting study results, and applicability in general practice.

Gol et al. (2021) performed a double-blind, three-arm, randomized clinical trial to examine the additive effects of acupuncture to oral selective serotonin reuptake inhibitors (SSRIs) in decreasing anxiety symptoms. Participants (n=105) were divided into 3 groups; SSRIs alone (drug group, n=35), SSRIs with sham acupuncture (control group, n=35) and SSRI with acupuncture (acupuncture group, n=35), and treated for 4 weeks. Among the notable inclusion criteria was a confirmed anxiety disorder, adults aged 18-60 years, and no history of extensive SSRI use. The oral SSRIs prescribed were sertraline, citalopram, and escitalopram. Acupuncture was administered for 20 minute sessions, 3 times per week for 4 weeks. The participants and the psychiatrist were blinded and without knowledge of groupings. Participants were administered the State-Trait Anxiety Inventory (STAI) questionnaire at study start and at day 28. Serum cortisol levels were also monitored before the study and at day 28. STAI total score findings at day 28 indicated significant differences across all 3 groups ($p < 0.001$). The results revealed that SSRIs with acupuncture (acupuncture group) showed the largest improvement in anxiety symptoms per the STAI scores, when compared to the drug group and the control group. Serum cortisol levels were not significantly modified across the 3 groups at baseline and day 28. Although the results show promise, the authors concluded that future research is needed to establish durability beyond 4 weeks with larger sample sizes to enhance generalizability.

Krause et al. (2020) conducted a randomized controlled three-arm study of National Acupuncture Detoxification Association (NADA) acupuncture efficacy in alcohol addiction treatment. Adult participants (n=72) in the three-arm study were randomized into three groups; a twenty, 30-minute NADA group, sham acupuncture sessions group, and no intervention group. Symptoms such as craving, depression, anxiety and autonomic control of the heart were monitored. Measurement tools for depression, alcohol use, and anxiety were utilized that include Beck's Depression Inventory, Obsessive Compulsive Drinking Scale, and State-Trait Anxiety Inventory. Testing and monitoring was documented at baseline, immediately post intervention (sham intervention or control period) and at 4 weeks follow-up. One year after the study conclusion, abstinence was assessed. Results indicated that craving, anxiety, and depression were unchanged in the NADA acupuncture group or the sham group ($p = n.s.$). The one-year abstinence rates were unchanged across the 3 groups. A significant finding was improvement of cardiac autonomic function in the NADA acupuncture group; this improvement was maintained 4 weeks after intervention completion. The researchers note limitations such as small sample size with limited generalizability, blinding participants only, and replication in a larger sample size remains unclear. Future research is needed to determine efficacy and durability of acupuncture protocols for psychiatric conditions.

Armour et al. (2019) examined the effectiveness of acupuncture in major depressive disorder with a systematic review and meta-analysis of available literature. The goal of this study was to review the effectiveness of acupuncture compared to usual care (treatment as usual), compared to sham or placebo acupuncture, to a psychological intervention, and as an adjunct to selective serotonin reuptake inhibitors (SSRI) or serotonin and norepinephrine reuptake inhibitors (SNRI) medication. There were 29 eligible studies with 2268 participants; 22 trials were completed in China with 7 completed outside of China. Sample sizes ranged from 19 to 755. Participants needed to have depression as the primary diagnosis, be of any gender and of any

ethnicity, aged 16 years or above, with clinically diagnosed depression. Outcome measures needed to include either a validated clinician rated measure of depression severity (such as the Hamilton Rating Scale for Depression (HAM-D)) or a participant-reported measure, such as the Beck Depression Inventory (BDI) or Patient Health Questionnaire (PHQ-9). The results showed that acupuncture produced clinically meaningful reductions in depression severity when compared to usual care (Hedges (g) = 0.41, 95% confidence interval (CI) 0.18 to 0.63), sham acupuncture (g = 0.55, 95% CI 0.31 to 0.79), and as an adjunct to anti-depressant medication (g = 0.84, 95% CI 0.61 to 1.07). A significant relationship was found regarding an increase in the number of acupuncture treatments delivered and reduction in the severity of depression (p = 0.015). The authors report limitations such as the high risk of bias for participant blinding in the majority of studies; the relevance of the findings in Chinese populations compared to other populations is ambiguous, due to greater treatment frequency and total number of treatments in China. Lastly, the majority of trials did not report follow-up or durability data, and safety reporting was deficient. Future studies should strive to include durability follow-up data to determine if any acupuncture benefits and the severity of depression are sustained.

Li et al. (2019) conducted a systematic review of 10 meta-analyses and randomized controlled trials (RCTs) that met inclusion criteria regarding acupuncture as a treatment for anxiety or anxiety disorders. Participant sizes were small, ranging from 3-14. Four of the meta-analyses reported pooled results of acupuncture treatment (AT) versus sham acupuncture. The authors report that these pooled results show that the effect of acupuncture on anxiety is debatable. A meta-analysis of 6 RCTs compared acupuncture to placebo/sham acupuncture using the State-Trait Anxiety Inventory (STAI) score, they found a clinically irrelevant and non-significant reduction (mean differences (MD)=-1.54, 95% CI-4.73 to 1.64). All of the studies acknowledge that there is currently insufficient evidence due to the small size of the included trials or their low quality study design. Future high-quality randomized trials are needed to determine whether acupuncture efficacy is greater than other anxiety treatments.

Smith et al. (2018) conducted a Cochrane Review to examine the effectiveness and adverse effects of acupuncture in the treatment of depression. The review was part of an update to a previous Cochrane Review, and now contains data from 64 studies (7104 participants). Studies were included if they were randomized controlled trials comparing acupuncture versus control acupuncture, no treatment, medication, other structured psychotherapies (cognitive-behavioral therapy, psychotherapy, or counselling), or standard care. Treatment modalities included acupuncture, electro-acupuncture, and laser acupuncture. Most studies were at high risk of performance bias, at high or unclear risk of detection bias, and at low or unclear risk of selection bias, attrition bias, reporting bias, and other bias. The authors concluded that the reduction in severity of depression was less when acupuncture was compared with control acupuncture than when acupuncture was compared with no treatment control, although in both cases, results were rated as providing low-quality evidence. The decrease in severity of depression with acupuncture given alone or in conjunction with medication versus medication alone is uncertain owing to the very low quality of evidence. Few studies included follow-up periods or assessed important outcomes such as quality of life. According to the authors, high-quality randomized controlled trials are needed to examine the clinical efficacy and suitability of acupuncture, as well as its effectiveness, compared with acupuncture controls, medication, or psychological therapies.

van den Noort et al. (2018) conducted a systematic review to evaluate the use of acupuncture as an add-on treatment for patients with schizophrenia with a special focus on the treatment of accompanying sleep disorders. A total of 26 eligible studies with 1181 patients with schizophrenia who received acupuncture treatment were included in the review. The authors found that there is inadequate evidence for the use of acupuncture as add-on therapy in the treatment of patients with schizophrenia; however, positive results were found in the treatment of concomitant sleep disorders. This result needs to be confirmed in large, randomized, controlled trials.

Chen et al. (2018) conducted a systematic review and meta-analysis to assess the efficacy of acupuncture in treating opioid use disorder (OUD). A total of 9 studies with 1063 participants were included in the review. The results showed that acupuncture could be more beneficial than no treatment/sham acupuncture in terms of changes in craving for opioid, insomnia, and depression. There was insufficient evidence to support better outcomes with acupuncture compared to medication. In addition, these findings revealed that, compared to sham electroacupuncture (EA), EA had differences in alleviating symptoms of craving and depression. The authors concluded that acupuncture could be effective in treating OUD. Moreover, EA could effectively alleviate symptoms of craving for opioid and depression. Nevertheless, the conclusions were limited due to the low-quality and small number of included studies.

Amorim et al. (2018) reviewed the literature on the effectiveness of acupuncture and electroacupuncture for the treatment of patients with anxiety disorders in order to assess the scientific evidence for its use. The systematic review of the clinical

research was focused on published clinical trials (controlled, randomized, and non-randomized) involving the treatment of anxiety with acupuncture. Only clinical trials where anxiety was treated as the therapeutic target, and not as a secondary measurement or being associated with other health condition or disease, were considered. Thirteen studies were identified to match exclusion and inclusion criteria and were selected for the analysis. Methodology, design, and quality of the research were highly variable. The authors concluded that there is good scientific evidence encouraging acupuncture therapy to treat anxiety disorders, however, additional research with robust study design and methodology is required confirm efficacy.

Art Therapy

Bosman et al. (2021) completed a systematic review on 7 studies regarding the efficacy of art therapy on anxiety, depression, and quality of life (QoL) for individuals diagnosed with cancer; three non-randomized intervention studies and four randomized controlled trials. The sample sizes ranged from 24 – 183 adult participants, the session duration ranged from 6 weeks to 4 months. Inclusion criteria for the studies is described as interventions were guided by an artist or art therapist with participants actively engaged in the therapeutic process. Outcomes measures were identified as anxiety, depression, and/or quality of life in adults with cancer. There were 4 studies addressing anxiety with 2 studies revealing a significant decrease in anxiety scores in the intervention group, with the score decreasing from 44.3 to 37.1 ($p = 0.002$), while the anxiety scores in the control group did not produce a significant change. Additionally, the study did not find a notable difference in anxiety scores between the two groups. The remaining 2 anxiety studies found no significant results within the invention groups or control groups. Three studies addressed depression measures between intervention and control groups. Two studies showed depression scores in the intervention group to significantly improved compared to the control group ($p < 0.001$ and $p = 0.001$ respectively), while the third depression revealed neither significant improvement in depression scores within the groups nor between the groups. Lastly, 6 studies focused on QoL, with 4 studies showing improvement. Two of the studies found significant outcomes for QoL; one found significance between the intervention groups and the control group ($p = 0.001$), while the second study revealed improvement in quality of life, with the global health status/QoL score increasing from 26.4 to 81.3 ($p < 0.001$). Limitations include lack of randomization in 3 of the 7 studies, 3 of the 7 studies did not include men, varying methods and duration of sessions, and varying cultural settings which contributes to heterogeneity of the studies. More randomized controlled trials with larger sample sizes are needed to establish effectiveness and to standardize protocols.

Dunphy et al. (2019) conducted a systematic review of studies on creative arts interventions for older adults experiencing depression that examined outcomes of four creative arts modalities (art, dance movement, drama, and music); with particular attention paid to processes documented as influencing change in each modality; and mechanisms considered to result from these processes. An analysis of 75 articles (17 art, 13 dance, 4 drama, and 41 music) indicated mostly significant quantitative or positive qualitative findings, particularly for interventions led by creative arts therapists. Art therapy studies were found to be of medium quality. The primary concerns in the quantitative studies include a small sample sizes that were not randomized or blinded, a general lack of generalizability, and a lack of rigorous efforts to ensure validity in the results. Very few of the studies included follow up. Issues in qualitative studies in art therapy also relate to a lack of rigor to ensure creditable data analysis and insufficient reporting in data collection. The authors recommend further research to assess the use of creative art modalities for depression.

Abbing et al. (2018) conducted a systematic review to evaluate the effects of art therapy (AT) on anxiety symptom severity in adults. Three randomized controlled trials with 162 participants in total met the inclusion criteria. Participants were diagnosed with PTSD, students with exam anxiety, or prisoners with anxiety. All studies had a high risk of bias and small sample sizes. The authors concluded that there is limited high quality evidence assessing the effectiveness of AT on anxiety; further high quality studies are required.

Deshmukh et al. (2018) assessed the effects of art therapy as an adjunctive treatment for dementia compared with standard care and other non-pharmacological interventions in a systematic review. Two randomized controlled trials ($n = 60$) met the inclusion criteria and were included in the review. In both studies there were no distinct changes reported between the intervention group and the control group in the important outcome measures. According to GRADE ratings, the authors

reported the quality of evidence for these outcome measures to be 'very low'. The authors concluded that there is insufficient evidence regarding the efficacy of art therapy for people with dementia.

Dance/Movement Therapy

Salihu and colleagues (2021) completed a meta-analysis investigating dance interventions on depression symptoms, anxiety, and stress in adults with and without musculoskeletal disorders. Articles for the final selection were 28 randomized controlled trials with a total of 2249 participants. The majority of participants were females, aged 18-85, some with underlying health conditions such as Parkinson's disease (17.9%). Dance movement therapy was the most studied technique. Most of the control groups among the studies used normal daily activities as the usual care with some using music, physical or other activities. Frequency of the dance interventions were from once per week to twice per week, 60 minute sessions, for a duration of 12 weeks. Communities and care facilities were the most utilized locations for the interventions. Depression, anxiety, and stress levels were recorded using a variety of standardized instruments such as Depression-Anxiety-Stress Scale, the Beck Depression Inventory, and the Zung Self-Rating Scale. The quality of the studies were described as fair (n=12) and good (n=16), while the quality of evidence ranged from very low to low. The yielded results were statistically significant for reducing depressive symptoms (SMD = -0.69, 95% CI -0.91 to -0.35, $p < 0.001$), for anxiety (SMD = -0.99, 95% CI = -1.92 to -0.05, $p < 0.05$), and for stress (SMD = -1.0, 95% CI = -1.83 to -0.17, $p < 0.05$). Statistical significance was found implementing at least 150 minutes per week of dance therapy to decrease depressive symptoms (SMD = -0.72, 95% CI -0.20 to -0.25, $p < 0.01$). Although the meta-analysis found statistical significance, the authors note that results should be considered with caution due to various limitations across the trials. A remarkable limitation is that none of the included trials were described as high quality. Additionally, there were design issues such as small sample sizes, lack of blinding, different types of dance with varied protocols, and heterogeneity within the characteristics of the participants. Further high quality studies are recommended and needed to establish effective dance therapy protocols and outcomes.

Dunphy et al. (2019) conducted a systematic review of studies on creative arts interventions for older adults experiencing depression that examined outcomes of four creative arts modalities (art, dance movement, drama, and music); with particular attention paid to processes documented as contributing to change in each modality; and mechanisms considered to result from these processes. An analysis of 75 articles (17 art, 13 dance, 4 drama, and 41 music) indicated mostly significant quantitative or positive qualitative findings, particularly for interventions led by creative arts therapists. Dance movement studies were largely randomized controlled trials (RCTs). The quality of dance studies varied, with ratings evenly distributed from the lowest to highest using the PEDro tool scores. Very few of the studies included follow up. Quality issues for this treatment approach relate to the lack of actual dance movement therapy (DMT) interventions. The authors recommend further research to examine the use of creative art modalities for depression.

In a randomized controlled trial, Mastrominico et al. (2018) examined the effects of dance movement therapy (DMT) on empathy for adults with autism spectrum disorder (ASD). The study was conducted as a multicenter study within the context of the EU-funded research project TESIS (Toward an Embodied Science of Intersubjectivity), and employed a two-factorial between-subject design. The treatment group (n = 35) participated in a 10-week manualized DMT intervention, whereas the control group (n = 22) received treatment only after a waiting period. Empathy, measured with the Cognitive and Emotional Empathy Questionnaire (CEEQ), was the main variable of interest, analyzed by a repeated measures analysis of variance. In order to also include incomplete data cases, the authors used the expectation-maximization algorithm for missing data estimation. Findings of the study suggest no significant changes in overall empathy between groups. The authors recommend that future studies focus more attention to the role of relationship and should test settings in which either the therapist or a co-therapist is doing the mirroring with the participant.

Equine Therapy

Chen and colleagues (2022) completed a systematic review and meta-analysis on the effects of animal-assisted therapy (AAT) on individuals diagnosed with dementia. Eleven randomized controlled trials (RCTs) with 825 adult participants were included. Participants diagnoses encompassed mild to moderate dementia, Alzheimer's disease, and severe dementia. Frequency of sessions differed from 1 day per week to 3 days weekly with duration ranging from 4 weeks to 9 months. The identified primary outcomes were the behavioral and psychological symptoms of dementia (BPSD) and depression scores. The analysis for the primary outcome of AAT revealed that AAT can ameliorate the neuropsychiatric symptoms for individuals diagnosed with Alzheimer's [SMD=-0.43, 95% CI (- 0.62, -0.23), $p < 0.00$]. No significant improvement was found in the identified secondary outcomes of cognitive function, activities of daily living, agitation, or the quality of life. Limitations include small sample sizes,

many of the studies had less than 60 participants; differing frequency and duration of interventions, and lack of durability data. Future well-designed research with larger sample sizes is needed to determine efficacy.

Diaz and associates (2022) conducted a review of 6 qualitative studies and 3 quantitative studies regarding the effects of equine-assisted services (EAS) for individuals diagnosed with substance use disorders (SUD). Most participants were 26 years-old or younger with 4 studies including only the adolescent age group. Sample sizes ranged from 8 to 108. The intervention is described as horse-assisted therapy (HAT) with the session duration ranging from 6 weeks to 20 weeks. Quantitative results for 2 studies on HAT showed that the HAT participants when compared to treatment as usual (TAU) group, the HAT group was more likely to complete treatment ($p < 0.001$), remain in treatment for a longer period ($p < 0.001$), and remain in treatment for 90 days or more ($p = 0.001$). The second quantitative study results reported no significant association between participants receiving HAT versus TAU and dropout rates comparative to treatment completion ($p = 0.553$) or transferring to another treatment facility relative to treatment completion ($p = 0.335$). Qualitative themes among the studies included perceived improvement in affect, a pleasant variation from TAU, and increased motivation for treatment. The overall results indicate the potential beneficial aspects of EAS for the treatment of SUD. Due to the numerous limitations among the studies, results should be interpreted with caution. Additional, future research with robust design and larger sample sizes are needed to support the efficacy of HAT for the treatment of SUD.

Helmer et al. (2021) performed a systematic review of equine-assisted services (EAS) for children and youth (ages 6-18 years) diagnosed with attention-deficit/hyperactivity disorder. Twelve articles were reviewed, 8 noncontrolled prospective studies and 4 randomized controlled trials (RCTs). Six of the studies had no control group. Sample sizes ranged from 6 to 64. Intervention lengths ranged from 4 weeks to 20 weeks. Evidence was established for the effectiveness of various forms of EAS, including equine-assisted physical therapy (EAPT) and therapeutic riding (TR). Improvements in body functions and structures ($n = 10$) were identified for mental and neuromusculoskeletal functions, as well as functions of the cardiovascular system using EAPT ($n = 6$). Quality of life (QoL) was improved in both TR and EAPT ($n = 4$). Limited evidence was yielded regarding the positive effect on activity and participation ($n = 4$) after TR interventions. This review shows that potentially EAS may be beneficial in supporting the physiological functions of body systems for children diagnosed with ADHD. Future studies are needed to determine quality of life benefits along with understanding the unique mechanisms of change within each different EAS. Larger RCTs to replicate significant findings are required to confirm efficacy, outcomes, and protocols for children diagnosed with ADHD.

White et al. (2020) completed a systematic review regarding the effect of equine-assisted therapies (EAT) for children with attention deficit/hyperactivity disorder (ADHD). Inclusion criteria were studies with primary quantitative study designs, children with a formal diagnosis of ADHD, and EAT interventions. Ten studies met the inclusion criteria, with ages ranging from 6-14 years, and 118 subjects. Overall positive developments were identified in behavioral, psychological, and physical outcome measures following the participation in an EAT. However, due to methodological limitations, caution is advised when interpreting these findings. The authors concluded that while EAT may offer some positive benefits for children with ADHD, further well-designed robust research is required to confirm efficacy.

Trzmiel et al. (2019) conducted a systematic review and meta-analysis to examine the effectiveness of Equine-Assisted Activities and Therapies (EAAT) in autism spectrum disorder (ASD) patients. A total of 15 studies with 390 participants (aged: 3-16 years) were included. The interaction between psychosocial functioning and EAAT was investigated in most studies. Improvement was reported in the following areas: socialization, engagement, maladaptive behaviors, and shorter reaction time in problem-solving circumstances after EAAT. The authors indicated that the majority of the available reports demonstrated high effectiveness of EAAT, especially with regard to improved social functioning. The authors address that it is impossible to draw universal conclusions due to the considerable discrepancies in therapeutic protocols and measurement instruments of the above mentioned studies. According to the authors, the two main limitations of the review are the following: a relatively small sample size, which increases the risk of a calculation error, and differences in research methodology, which greatly hinders the comparison of the results. The authors suggest that further longitudinal research studies with standard protocols and large sample groups are needed to confirm efficacy.

Hawkins et al. (2019) performed a systematic review to assess animal-assisted therapy (AAT) in the treatment of schizophrenia. Eligible studies were randomized controlled trials that had compared animal-assisted therapy, or other animal-assisted intervention, to a control group using any participants with a clinical diagnosis of schizophrenia or related disorder, including schizophreniform or schizoaffective disorders and regardless of age, gender, setting, or severity and duration of illness. There

were 6 full text articles that met inclusion criteria with the total number of participants as 390. The mean ages ranged from 34 to 79 years. Primary outcomes were mental state and behavior, clinical global response, and quality of life and wellbeing. Five out of seven studies included symptoms as an outcome measure, with one reporting improvements in negative symptoms and one study reporting improvements in positive and emotional symptoms. The remaining studies reported no significant effects of AAT. Three studies included quality of life as an outcome measure but did not find any noteworthy effects. Two studies revealed improvements in various measures of self-view. The authors denote that rigorous, large-scale randomized controlled trials with long-term follow-up are needed to determine the significance of AAT for schizophrenia. There is potential for the treatment of negative symptoms and negative self-view, however, currently results remain inconclusive.

Lai et al. (2019) conducted a systematic review regarding the efficacy of animal-assisted therapy (AAT) for people with dementia. Inclusion criteria was randomized controlled trials (RCTs), cluster-randomized trials, and randomized cross-over trials that compared AAT versus no AAT, AAT using live animals versus alternatives such as robots or toys, or AAT versus any other active intervention. There were 9 RCTs with 305 participants reviewed. Results from 2 studies with 83 participants revealed that people with dementia who had AAT were perhaps slightly less depressed at treatment conclusion than people who had standard care or other interventions not related to animals. Evidence from 3 studies with 164 participants showed that people who received AAT had no clear difference in their quality of life compared to those who did not. The authors report there was no evidence of an effect on social functioning (interactions with their environment and families), behavior, agitation, activities of daily living, self-care ability or balance. There were no clear variances when AAT was compared with the use of a robotic animal in 2 studies with 156 participants (in social functioning, behavior, and quality of life), or with the use of a soft toy cat in 1 study with 64 participants (in social functioning). The authors report that AAT may potentially decrease depressive symptoms, however, there is no clear evidence on whether AAT is beneficial or safe for people with dementia. Further studies with robust design are required to determine benefits of AAT for dementia.

Srinivasan et al. (2018) conducted a focused systematic review to evaluate the effects of equine therapy in individuals with autism spectrum disorder. Inclusion criteria for studies peer-reviewed articles and/or studies reporting data on treatment effects of “equine” therapy using experimental or quasi-experimental study designs. This review included 15 studies with 428 participants. The review suggested that equine therapy has beneficial effects on behavioral skills and to some extent on social communication in ASD. According to the authors, the evidence for positive effects of equine therapy on perceptuo-motor, cognitive, and functional skills is currently limited. Future studies are required, using rigorous study designs with large sample sizes to analyze the role of equine therapies as a treatment option for individuals with ASD.

Music Therapy

In a Cochrane Database systematic review, Ghetti et al. (2022) examined the direct effects of music therapy (MT) in relieving symptoms associated with substance use disorders. Comparisons for MT were completed with 2 categories of MT; in addition to standard care versus standard care alone, or to standard care plus an active control intervention. There were 21 trials reviewed with a total of 1984 participants diagnosed with substance use disorder; 52% identified alcohol as their substance of choice. Results for 3 studies, 269 participants indicate a moderate-certainty evidence with medium effect for MT plus standard care over standard care alone for substance craving (standardized mean difference (SMD) -0.66, 95% confidence interval (CI) -1.23 to -0.10). In 5 studies, 408 participants there was a greater reduction in craving for MT intervention lasting 1 to 3 months; and small-to-medium effect supporting MT for motivation for treatment/change (SMD 0.41, 95% CI 0.21 to 0.61). There was no definitive evidence of a positive effect on depression in 3 of the studies, 100 participants (SMD -0.33, 95% CI -0.72 to 0.07). In 5 studies, 411 participants, a moderate effect was detected in motivation for treatment/change when comparing MT plus standard care to another active intervention plus standard care (SMD 0.46, 95% CI -0.00 to 0.93). No definitive evidence was found for effect of MT on motivation to stay sober when compared to active intervention, effect on substance craving, effect on depression, effect on substance use, or effect at 1-month follow-up. The authors conclude that MT as 'add on' treatment to standard care can produce moderate reductions in substance craving and enhance motivation for change for people diagnosed with SUDs receiving treatment in various settings. The authors rate findings as low-to-moderate confidence due to limitations present within the studies.

Dhippayom and associates (2022) conducted a systematic review and network meta-analysis on the effects of music intervention on depression in older adults. Fifteen RCTs were reviewed with 1144 adult participants (mean age 67.9-86.6 years), diagnosed with depression. Six trials included individuals diagnosed with dementia, while the remaining trials did not measure and report dementia conditions among their participants. Most of the studies (10 out of 15) were investigating older adults with mild depression (527 participants). Three trials were studied in 423 older adults with an average to normal level of depression;

and one trial each were studied in older adults with major depression, without a measured baseline level of depression among participants. Music interventions were categorized into 3 methods; active music therapy (ACT), receptive music therapy (Recep), music medicine (MM). Duration of the music interventions were described per week, i.e. high (>60 minutes/week), and low (\leq 60 minutes/week) intensity. Results indicate when compared with usual care, the most effective music intervention was active music therapy >60 minutes/week by music therapist (Act/High/MT) (SMD -3.00; 95%CI, -3.64,-2.35), followed by music medicine >60 minutes/week by non-music therapist (MM/High/NonMT) (SMD -2.06; 95%CI, -2.78,-1.35) with moderate and high certainty of evidence, respectively. Depression scores in adults > 60 years old treated with ACT/High/MT were also notably lower than all other interventions, except MM/High/NonMT. Low intensity music interventions other than ACT/Low/MT had no impact on depression. No follow-up data was reported. More high-quality, randomized controlled trials are needed to assess the effects and durability of music intervention on depressive symptoms among adults > 60 years old.

Icel and Basogul (2021) completed an experimental study to investigate the effects of progressive muscle relaxation training and music therapy on anger and sleep quality. Participants (n=66) were chronic psychiatric patients, ages 18-59, attending the Community Mental Health Center (CMHC). Participants were divided into a control group (n=32) and intervention group (n=34). Progressive muscle relaxation training with music therapy were implemented in the intervention group for 2 sessions per week, 1 hour sessions, for 3 months. The Pittsburgh Sleep Quality Index (PSQI) and the Trait Anger/Anger Expression Inventory were used for the pre and post-test measures. The overall findings showed statistical significance difference between the pre-test and post-test mean scores of the intervention group ($p \leq .001$). After the intervention, a statistically significant difference was indicated between the PSQI, anger-in, anger-out, anger-control, and trait anger scale scores of the two groups ($p \leq .001$). An additional notable result was a statistically significant relationship between sleep quality and anger scores in both the pre-test and post-test ($P < .05$); the post-test result reveals that the intervention controlled anger expression while sleep quality increased. According to the researchers, the results of this study support relaxation training and music therapy combined with pharmacology as beneficial to chronic psychiatric patients. Limitations of the study include small sample size, limited to CMHC participants with lack of generalizability, and lack of durability follow-up data. Future research with robust study design is recommended to further establish and support efficacy.

Rabeyron and colleagues (2020) compared music therapy and music listening for children and autism spectrum disorder in a randomized controlled trial. Thirty-seven participants aged 4 to 7 years old were recruited for this study from psychiatric facilities in France. The 37 participants were randomly assigned to either the Music Therapy (MT) group or the Music Listening (ML) group using a generated randomization list for each group at t0 (start point of study). The MT consisted of 25 sessions that lasted 30 minutes with a qualified music therapist; 19 participants completed all sessions. The ML consisted of 25 sessions that lasted 30 minutes with no specific therapeutic intervention; 17 participants completed all ML sessions. All sessions occurred between October 2014 and June 2015 at the same room in each facility on the same schedule every week, except during holidays. Outcomes were measured by The Clinical Global Impression (CGI) a 7-point scale, The Childhood Autism Rating Scale (CARS), a 15-item scale, and The Aberrant Behavior Checklist (ABC), a 57-item checklist. The results showed CGI scores improved to a better extent in the MT ($d=2.16$) than in the ML condition ($d=1.33$) with a large effect size at t1 (the endpoint of the study), ($d=0.80$). This improvement was clinically significant as 63.2% of the children scored a decrease of at least 2 points on the CGI in the music therapy group compared to 29.4% in the music listening group. The ABC subscales noted significant improvement regarding lethargy and stereotypy symptoms. There were no clinically meaningful results for t0 and t1 and the CARS. The authors report a variety of limitations such as not relying on gold standard evaluation tools for autism spectrum disorder and no follow-up to test the durability of the music interventions. Future studies are encouraged to address these limitations and to include larger sample sizes.

van der Steen et al. (2018) assessed the effects of music-based therapeutic interventions for people with dementia on emotional well-being including quality of life, mood disturbance or negative affect, behavioral problems, social behavior and cognition at the end of therapy and 4 or greater weeks after the treatment conclusion. Twenty-two studies with 1097 randomized participants were included. Twenty-one studies with 890 participants contributed data to meta-analyses. Participants in the studies had dementia of varying degrees of severity, and all were resident in institutions. Seven studies delivered an individual music intervention; the other studies delivered the intervention to groups of participants. The methodological quality of the studies varied. All were at high risk of performance bias and some were at high risk of detection or other bias. The authors concluded that providing people with dementia who are in institutional care with a minimum of 5 sessions of a music-based therapeutic intervention probably reduces depressive symptoms and improves overall behavioral problems at the end of treatment. It potentially improves emotional well-being, quality of life, and decreased anxiety, however, may have little or no effect on agitation, aggression, or cognition. There is uncertainty about effects on social behavior and

durability of this approach. According to the authors, future studies are needed to examine the duration of effects in relation to the overall duration of treatment and the number of sessions.

Geipel et al. (2018) systematically reviewed and quantified the effects of music-based interventions in reducing internalizing symptoms (i.e., depression and anxiety) in children and adolescents using a meta-analytical approach. Five studies were included and focused on the treatment of children and adolescents with either pathological depressive symptoms or pathological anxious symptoms. The participant ages ranged from 8-18 years. Analysis of data from randomized controlled trials, showed a significant main effect, indicating a greater reduction of internalizing symptoms in youth receiving music-based interventions (n = 100) compared to different control group interventions (n = 95). The existing evidence is limited to studies of low power and methodological quality. Included studies were highly heterogeneous with regards to the nature of the intervention, the measurements applied, the samples studied, and the study design. The authors concluded that study findings identify that music-based interventions may be efficient in reducing the severity of internalizing symptoms in children and adolescents. While these results are promising with the application of music-based intervention, more research adopting well controlled study designs of high methodological quality is needed.

Guidelines & Consensus Statements

Department of Veterans Affairs and Department of Defense (VA/DoD)

- The Department of Veterans Affairs and Department of Defense (VA/DoD) Clinical Practice Guidelines for the Management of Major Depressive Disorder (2022) indicates the following for complementary and alternative treatments:
 - For patients with major depressive disorder (MDD), there is insufficient evidence to recommend for or against acupuncture as an adjunctive treatment to pharmacotherapy.
 - For patients with MDD, there is insufficient evidence to recommend for or against yoga, tai chi, or qi gong as an adjunctive treatment to pharmacotherapy.

American College of Physicians (ACP)

- In clinical guidelines on the nonpharmacologic versus pharmacologic treatment of adult patients with major depressive disorder, the ACP evaluated the use of complementary and alternative medicines (including acupuncture) and did not recommend their use (Qaseem et al., 2016).

U.S. Food and Drug Administration

As the practice of CAM has increased in the United States, the Food and Drug Administration (FDA) has seen increased confusion as to whether certain products used in CAM are subject to regulation under the Federal Food, Drug, and Cosmetic Act. See the following FDA website for more information:

<http://www.fda.gov/RegulatoryInformation/Guidances/ucm144657.htm>.

Centers for Medicare and Medicaid Services

Medicare does not have a National Coverage Determinations (NCDs) for the following complementary and alternative medicine modalities used in treating behavioral disorders and/or substance use:

- Art therapy
- Dance/movement therapy (DMT)
- Equine therapy
- Music therapy

Medicare does not cover acupuncture as an anesthetic or as an analgesic or for other therapeutic purposes. Refer to the following NCDs (www.CMS.gov):

- NCD for Acupuncture (30.3)
- NCD for Acupuncture for Fibromyalgia (30.3.1)
- NCD for Acupuncture for Osteoarthritis (30.3.2)

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member-specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other clinical criteria may apply.

Procedure Codes	Description
97810	Acupuncture, 1 or more needles; without electrical stimulation, initial 15 minutes of personal one-on-one contact with the patient
97811	Acupuncture, 1 or more needles; without electrical stimulation, each additional 15 minutes of personal one-on-one contact with the patient, with re-insertion of needles(s). (List separately in addition to code for primary procedure.)
97813	Acupuncture, 1 or more needles; with electrical stimulation, initial 15 minutes of personal one-on-one contact with the patient
97814	Acupuncture, 1 or more needles; with electrical stimulation, each additional 15 minutes of personal one-on-one contact with the patient, with re-insertion of needles(s). (List separately in addition to code for primary procedure.)
90899	Unlisted psychiatric service or procedure
G0176	Activity therapy, such as music, dance, art or play therapies not for recreation, related to the care and treatment of patient's disabling mental health problems, per session (45 minutes or more)
H2032	Activity therapy, per 15 minutes
S8940	Equestrian/hippotherapy, per session

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Revision History

Date	Summary of Changes
12/16/2016	Version 1 (Approved by UMC)
12/16/2017	Annual review performed. Formatting and references updated.
07/15/2019	Annual review performed. Formatting and references updated.
06/15/2020	Annual review: updated references/sourcing.
06/21/2021	Annual review: updated references/sourcing.
06/21/2022	Annual review: updated references/sourcing.
07/18/2023	Annual review: updated references/sourcing.

Appendix

Additional resources considered in support of this policy:

Aalbers, S., Fusar-Poli, L., Freeman, R.E., Spreen, M., Ket, J.C.F., Vink, A.C., Maratos, A., Crawford, M., Chen, X.J., & Gold, C. (2017). Music therapy for depression. *Cochrane Database of Systematic Reviews*, 11, CD004517, DOI: 10.1002/14651858.CD004517.pub3.

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