Wilderness Therapy

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Instructions for Use

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This Behavioral Health Policy is used to make coverage determinations for behavioral health services in accordance with the member-specific health benefit plan document (e.g., Evidence of Coverage) and applicable federal and state laws.

All reviewers must first confirm member eligibility and identify the member-specific benefit plan document, and any applicable federal or state law(s) governing benefit coverage prior to using this Policy. In the event of a conflict between this Policy and the member-specific benefit plan document, the member-specific benefit plan document governs. In the event of conflict between the member-specific health benefit plan document and applicable law, the applicable law governs.

Optum reserves the right, in its sole discretion, to modify its Behavioral Health Policies and guidelines as necessary. This Policy is provided for informational purposes. It does not constitute medical advice.

Optum may also use tools developed by third parties, such as ASAM, LOCUS or CALOCUS-CASII criteria, to assist in administering behavioral health benefits. Optum Behavioral Health Policies 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.

Description of Service

Wilderness Therapy is a behavioral health intervention targeted at children and adolescents with emotional, addiction, and/or psychological problems. The intervention typically involves the individual being immersed in the wilderness or a wilderness-like setting, group-living with peers, administration of individual and group therapy sessions, and educational/therapeutic curricula including back country travel and wilderness living skill development. This therapy aims to remove children and adolescents from the negative influences and destructive patterns in their lives and placing them into a

more therapeutic environment. These programs include wilderness boot camps, though many have attempted to differentiate themselves from such types of treatment, which rely heavily on punishment, confrontation, and deprivation in order to gain compliance and obedience. Certain wilderness programs may be nationally certified by agencies such as the Council of Accreditation and the Joint Commission on Accreditation of Health Organizations and/or licensed by state agencies. Wilderness Therapy may be identified by other terms in the research literature, including: “Wilderness Treatment,” “Behavior Management Through Adventure,” “Residential Wilderness,” “Adventure Therapy,” “Nature-Assisted Therapy,” “Nature-Based Therapy,” “Adventure-Based Counseling,” “Wilderness Adventure Therapy,” and “Outdoor Behavioral Healthcare.”

Coverage Rationale

Wilderness Therapy is investigational for the treatment of mental health and substance use disorders including, but not limited to:

- Adjustment Disorders
- Mood Disorders
- Anxiety Disorders
- Conduct Disorders
- Impulse Disorders
- Social Functioning Disorders
- Substance Related Disorders
- Attention-Deficit Hyperactivity Disorder

- There is inadequate evidence of the safety and efficacy of wilderness therapy for treating these mental health and substance-related conditions. Inadequate study designs, safety concerns, inadequately trained staff, and questions of long-term benefit are key limitations.
- The requested service or procedure must be reviewed against the language in the member's benefit document. When the requested service or procedure is limited or excluded from the member’s benefit document, or is otherwise defined differently, it is the terms of the member's benefit document that prevails.
- Per the specific requirements of the plan, health care services or supplies may not be covered when inconsistent with clinical criteria.
- All services must be provided by or under the direction of a properly qualified behavioral health provider.

Clinical Evidence

Summary of Clinical Evidence

The Wilderness Therapy literature includes several studies suggesting participants show some improvement in behavioral health outcomes and/or reduced recidivism rates for juvenile offenses. However, these results are inconclusive due to significant methodological limitations. Most notably, there is a lack of randomized controlled trials or well-designed cohort studies to draw causal conclusions about the impact of wilderness therapy. Additionally, the durability of effects is not well-demonstrated, as few studies included follow-up measures. There is also extensive variability in the length, design, and fidelity of the programs. The reviewed studies did not show that wilderness therapy is equivalent to or better than current procedures. The field of Wilderness Therapy is still evolving, and there is a need for more rigorous research methodologies to better understand its efficacy and mechanisms of action. Future studies are needed to prioritize various populations and diagnoses, standardize outcome measures, enhance the generalizability of findings, and clarify therapy protocols.

Systematic Reviews and Meta-Analyses

Overbey et al. (2023) reviewed 35 wilderness therapy studies to assess their impact on behavioral and psychosocial outcomes. The review included 18 quantitative studies, 12 qualitative studies, and 1 mixed-method study, with sample sizes ranging from 4 to 816 participants aged 12 to 34. Many studies focused on youth with mental health conditions, substance use disorders, social problems, and trauma. Of the 35 studies, 31 specifically examined wilderness therapy programs, with intervention durations between 3 and 22 weeks. Interventions included learning outdoor skills, hiking, overnight camping, experiencing remote areas, individual and group therapy sessions, and parent involvement. Outcomes were measured from pre- to post-treatment, assessing factors such as self-esteem, locus of control, problem behaviors, substance use, social behaviors, school participation, and various psychosocial and health factors. Post-treatment data collection ranged from 6 weeks to 18 months.

Quantitative studies reported medium to large effect sizes, with overall positive results for psychosocial and behavioral outcomes, though family functioning results were mixed. The authors noted the need for further research, emphasizing the importance of empirical study designs, larger sample sizes (over 100 participants), generalizability, and enhanced durability analysis.

Beck & Wong (2022) conducted a meta-analysis of 11 studies to evaluate the effectiveness of wilderness therapy (WT) in managing youth delinquency. They analyzed both self-reported and caregiver-reported delinquency among 1,874 participants aged 11-26, with program durations ranging from 10 to 90 days. The programs included various forms of individual, group, or family therapy, and activities such as hiking, camping, canoeing, rock climbing, and survival skills. Most studies reported positive, significant, and moderate to large effect sizes, except for two studies with negative and nonsignificant results. A meta-analysis of caregiver-reported delinquency, comprising five independent studies using a random-effects model, found a large positive effect size of 1.054 ($Z = 3.171$, $p < .003$). This indicates that WT is effective in reducing caregiver-reported delinquency among youth. Similarly, a meta-analysis of self-reported delinquency from nine studies found a large effect size of 0.832 ($Z = 5.103$, $p < .001$), suggesting positive effects of WT on self-reported delinquency. Despite these promising results, the study noted several limitations, including a small study pool, lack of moderator analyses, insufficient durability data, large variability in interventions and activities, failure to address adverse effects, and missing information on sample sizes.

Stea and colleagues (2022) reviewed seven experimental studies on outdoor and family-based therapy. The studies included two with comparison groups, three without control or comparison groups, one with a control group, and one single case study. Participants, aged 6-18, were not randomized and primarily male. Sample sizes ranged from 32 to 221 children and adolescents, involving 124 families. Referrals were for substance abuse, behavioral and family issues, and psychiatric diagnoses. Four studies focused on wilderness therapy, while others varied in length of stay, time in nature, outdoor settings, therapist involvement, therapeutic techniques, and family participation. Outcomes were measured using various adolescent and family functioning tools. Despite the lack of statistical analysis, positive outcomes were noted, including improved mental health, self-concept, school success, reduced delinquency, and better family and peer relationships. Follow-up data, ranging from 4 to 12 months, indicated ongoing concerns in family relationships, mental health, and school performance. Limitations included study design, lack of randomization, participant differences, program variation, and low participation from disadvantaged families due to high costs. Stea and colleagues endorsed the need for well-designed empirical studies for clinical guidance and generalizability.

Thomas and colleagues (2022) conducted a critical review to evaluate the efficacy of green social prescribing interventions and provide recommendations for research and clinical practice. They reviewed six publications, including three mixed-methods studies, two qualitative studies, and one randomized controlled trial (RCT). Participants were adults with mental illness, aged 35-70, with sample sizes ranging from 9 to 64, totaling 334 adults. Interventions varied widely, including horticulture, art activities, canoeing, and shelter-building, with durations from 1 to 12 weeks. All studies reported improvements in psychological well-being, such as mood, self-confidence, and self-worth. However, limitations included small sample sizes, lack of statistical power, varied interventions and durations, lack of standardized measurement tools, insufficient durability data, difficulty generalizing results, failure to address adverse effects, and weak study designs. The authors recommend future high-quality research designs, such as RCTs, with detailed information on intervention settings, participant characteristics, and recruitment strategies.

Coventry and associates (2021) conducted a systematic review and meta-analyses to determine the most effective nature-based interventions (NBIs) and their optimal format and duration. Participants were adults aged 18 and older, with or without mental or physical health conditions. NBIs included independent or group activities in outdoor green spaces with natural vegetation, and either man-made or natural water bodies. The review included 16 randomized controlled trials (RCTs), 18 controlled studies, and 16 uncontrolled before-and-after studies. Risk of bias was low to moderate for RCTs and moderate to high for controlled and uncontrolled studies. Random-effects meta-analysis of RCTs showed NBIs were effective in improving depressive mood (effect size: 0.64), reducing anxiety (effect size: 0.94), enhancing positive affect (effect size: 0.95), and reducing negative affect (effect size: 0.52). The most effective interventions lasted 8 to 12 weeks, with optimal session durations of 20 to 90 minutes. Notable limitations included heterogeneity, insufficient subgroup analyses, unclear sample sizes, and too few studies to assess publication bias. Most studies measured short-term benefits, lacking follow-up and durability data. The authors recommend future RCTs with validated mental and physical health outcomes.

Harper and colleagues (2021) conducted an umbrella review of 14 systematic and meta-analytic reviews on nature-based therapies, including forest therapy, horticultural therapy, wilderness therapy, and adventure therapy. The objective was to establish a theoretical framework for practice. Wilderness therapy is defined as a form of residential treatment, primarily for adolescents, emphasizing wilderness locations. Adventure therapy involves outdoor activities combined with exploratory learning to address psychological problems. Key findings were positive across the studies. Wilderness therapy showed improvements in self-esteem, locus of control, behavioral changes, personal effectiveness, clinical symptoms, and interpersonal skills. Adventure therapy produced moderate short-term outcomes and durable positive improvements.
Limitations included heterogeneity in interventions and outcome measurements, lack of longitudinal assessments, failure to address adverse effects, lack of empirical designs, varied populations and issues treated, and unclear mechanisms of change. The authors concluded that rigorous future research is needed to develop a theoretical framework for outdoor therapies.

Atkins et al. (2020) completed a systematic literature review of 39 articles regarding nature-based therapy (NBT) for adolescents. Common findings throughout the articles suggested that NBT decreased psychosocial symptoms. In addition, NBT showed increased durability when compared to traditional psychotherapy. Interventions considered effective included strong therapeutic alliance, encouraged introspection, reinforcement of self-efficacy, improved social skills, and a high-accountability milieu. Future research is needed to standardize NBT evidence-based interventions and guidelines. The authors of this literature review conclude that future larger controlled trials are required to investigate the efficacy of NBT and its relation to psychiatry.

Weeland et al. (2019) found that increased exposure to nature benefits children's cognitive, affective, and behavioral self-regulation. They conducted two meta-analyses on schoolchildren (mean age = 7.84 years, SD = 2.46) aged 4-12, using peer-reviewed studies in English. The 3-level meta-analyses revealed small but significant positive relationships between nature exposure and self-regulation in both correlational (15 studies, $r = .10$, $p < .001$) and (quasi-) experimental (16 studies, $d = .15$, $p < .01$) studies. Moderation analyses showed no differential associations based on most sample or study characteristics. However, in correlational studies, the type of instrument used to measure nature exposure (index score vs. parent-reported) significantly moderated the association. Stronger associations were found when exposure was assessed via parent reports rather than an index like the normalized difference vegetation index (NDVI). The results suggest that nature can be a promising tool for enhancing children's self-regulation and potentially preventing child psychopathology. The authors highlight that nature interventions are easily implementable, affordable, and safe. They also acknowledge the need for more rigorous experimental studies with theoretically based conceptualizations of nature and validated measures of its outcomes.

Djernis et al. (2019) conducted a systematic review and meta-analysis of 25 studies involving 2,990 participants on nature-based mindfulness. The studies showed that nature-based mindfulness positively impacts psychological, physical, and social conditions. Compared to mindfulness in non-natural settings, nature-based mindfulness had moderately superior outcomes. Forests/wild nature and informal mindfulness practices were particularly effective, showing large differences in effect size. However, the small number of studies limited the significance of these outcomes. The authors noted that the overall low quality of the included studies poses a risk to the validity of the results. Additionally, generalizability is limited due to the heterogeneity of participants and intervention characteristics. The authors acknowledge the need for more research on mindfulness in natural settings.

Fleischer and colleagues (2017) conducted a meta-analysis of 30 studies, encompassing 53 effect sizes, 1,802 subjects, 39 adventure therapy samples, and 21 control samples. Participants had a mean age of 18 years, with 69% being male, and were either at risk or in treatment for behavioral or mental health issues. The meta-analysis examined the impact of adventure therapy on three components of self-concept: locus of control, self-efficacy, and self-esteem. Results showed moderate short-term effect sizes for both uncontrolled ($g = 0.51$) and controlled ($g = 0.56$) effects. There was no significant difference between the effects on locus of control, self-efficacy, or self-esteem. The high heterogeneity of effect sizes could not be explained by the examined moderating variables. Follow-up effects confirmed long-term changes in self-concept. Fleischer et al. concluded that future research should focus on the psychological processes involved in adventure therapy and aim for high methodological quality.

Clinical Trials & Studies

Roberts and colleagues (2017) conducted a 3-year longitudinal study on outcomes in outdoor behavioral health (OBH) care. The study included 186 volunteer participants (ages 18-32) from an OBH program in the southwestern United States. Participants were eligible if they completed the program’s 35-day minimum stay requirement. The length of stay, ranging from 5

to 22 weeks, was based on client progress and discharge plan establishment. Most participants had a primary diagnosis of a mood disorder, substance use disorder, or anxiety disorder. All participants completed the Outcome Questionnaire (OQ® 45.2) six times, from week 1 to 18 months post-discharge. Weekly individual and group therapy sessions were facilitated by a therapist, who also oversaw clinical assessment, treatment planning, and service delivery. The weekly treatment plan guided wilderness staff and clients in integrating therapeutic and relational goals into daily wilderness therapy. Results showed statistically and clinically significant improvements during OBH care, with gains maintained up to 18 months post-discharge as participants reintegrated into the community. However, the study's reliance on self-report data, a single outcome measure, a convenience sample, and a within-subjects design without a control group limit its findings.

Bowen and colleagues (2016) evaluated Wilderness Adventure Therapy (WAT) outcomes using pre- and post-program self-report questionnaires, along with follow-up responses. The study involved 36 adolescents (ages 12-18) with mental health issues who completed a 10-week manualized WAT intervention. This part-time program, facilitated by three WAT practitioners for groups of six to eight participants, includes four weekly components. The program begins with Week 1, which includes screening, assessment, engagement, orientation, and goal setting. During Weeks 2-9, participants engage in seven day-based adventure activities (e.g., bushwalking, rock climbing, cross-country skiing, white-water rafting), along with two-day and five-day training excursions. Additionally, parents, teachers, and support workers participate in up to eight weekly indoor problem-solving activities integrated into group therapy. Week 10 involves termination, including a review of goals, identification of post-treatment goals and strategies, and psychosocial support planning. Results showed a small, positive, and statistically significant short-term effect size, with moderate improvements in psychological resilience and social self-esteem. These gains were largely retained at the three-month follow-up. The authors suggest that while WAT appears effective for clinically symptomatic individuals, future research with a control group and larger sample size is needed. Limitations include the evaluation design, reliance on self-reported data, regression to the mean, missing data, and use of non-validated questionnaires.

Hoag et al. (2016) conducted a 3-year study to evaluate the efficacy of wilderness therapy and identify mechanisms of change. Between 2007 and 2010, 332 adolescents (ages 13-17) participated in at least 5 weeks of a wilderness program. Of these, 118 adolescents and their parents were included in the analysis. The most common primary diagnoses were mood, behavior, substance-related, and anxiety disorders. Adolescent outcomes were measured using the Youth Outcome Questionnaire Self-Report 2.0® (Y-OQ®SR 2.0), Life Effectiveness Questionnaire (LEQ), Hope Scale (HS), and Treatment Expectancy/Credibility Questionnaire (CEQ). Parent outcomes were measured using the Y-OQ® 2.01. Significant improvements (P<.001) were noted on the self-assessments for HS, LEQ, and CEQ from intake to discharge. Parent scores on the Y-OQ® 2.01 also showed clinically and statistically significant improvements (P<.001). The authors noted that outcome differences between males and females were nearly significant and warrant further research. However, low post-discharge follow-up rates prevented statistical analyses. Limitations of the study included low parent participation and post-discharge follow-up rates.

Guideline & Consensus Statements

American Academy of Child and Adolescent Psychiatry (AACAP)

- The AACAP published principles of care for treatment of children and adolescents with mental illness in residential treatment centers (Houston et al., 2010). The AACAP notes that some state statutes define “boot camps” or “wilderness therapy programs” as residential treatment centers. These programs, however, frequently do not provide the range or intensity of services that would meet the definition of a clinical residential treatment center. Additionally, many of these programs do not engage in the use of a multidisciplinary team including psychologists, psychiatrists, pediatricians, and licensed therapists who are constantly involved in the treatment plan of the individual.

Other Reports

An UpToDate review, Bukstein, O. (2024) states:

> Longer-term treatment for adolescents with SUD in residential programs, therapeutic communities, and wilderness/adventure programs such as Outward Bound may be available for some adolescents with SUD who have failed less intensive treatment. Few randomized clinical trials demonstrate the efficacy of these interventions exist for adolescents.

U.S. Food and Drug Administration

Wilderness Therapy programs are not subject to regulation by the FDA.

Centers for Medicare and Medicaid Services

Medicare National Coverage Determinations (NCDs) and Local Coverage Determinations (LCDs) for Wilderness Therapy programs could not be identified.

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
	There is no specific procedure code for Wilderness Therapy
T2036	Therapeutic camping, overnight, waiver; each session
T2037	Therapeutic camping, day, waiver; each session

References

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders*, (5th ed., text rev.). American Psychiatric Publishing.

Atkins, A., Mishrekar, A.P., Kaveh, K.B., Melnick, J., Pakhdikian, S., & Mortillaro, G. (2020). Meaningful elements of nature-based therapy for adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry,* 59(10S), S142-S143.

Beck, N., & Wong, J.S. (2022). A meta-analysis of the effects of wilderness therapy on delinquent behaviors among youth. *Criminal Justice and Behavior,* 49(5), 700-729. DOI: https://doi.org/10.1177/00938548221078002.

Bowen, D.J., Neill, J.T., & Crisp, S.J.R. (2016). Wilderness adventure therapy effects on the mental health of youth participants. *Evaluation and Program Planning,* 58,49-59.

Bukstein, O. (2024). Psychosocial interventions for substance use disorder in adolescents. UptoDate database: uptodate.com.

Coventry, P.A., Brown, J.E., Pervin, J., Brabyn, S., Pateman, R., Breedvelt, J., Gilbody, S., Stancliffe, R., McEachan, & White, P.L. (2021). Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis. *SSM-Population Health,* 16, 100934, 1-14.

Djernis, D., Lerstrup, I., Poulsen, D., Stigsdotter, U., Dahlgaard, J., & O'Toole, M. (2020). A systematic review and meta-analysis of nature-based mindfulness: Effects of moving mindfulness training into an outdoor setting. *International Journal of Environmental Research and Public Health,* 16(3202),1-19.

Fleischer, C., Doebler, P., Bürkner, P.C., & Holling, H. (2017). Adventure therapy effects on self-concept – A meta-analysis. *The Society for the Improvement of Psychological Science,* 1-53. https://doi.org/10.31234/osf.io/c7y9a.

Harper, N.J., Fernee, C.R., & Gabrielsen, L.E. (2021). Nature's role in outdoor therapies: An umbrella review. *International Journal of Environmental Research and Public Health*, 18(5117),1-13.

Hoag, M.J., Combs, K.M., Roberts, S., & Logan, P. (2016). Pushing beyond outcome: What else changes in wilderness therapy. *Journal of Therapeutic Schools & Programs,*45-56.

Houston, M., Trivedi, H., Axelson, A., Barron-Seabrook, S., Berland, D., Glasser, M., Goldman, S., Jackson, A., Ponfick, L., Sarvet, B., Schreter, R., Shain, B., Wegner, L., Malloy, E., Bernstein, B., Bhatia, S., Butt, S., Gaffrey, J., Gosselin, G.J., Hassuk, B.M., . . .Sorter, M.T. (2010). Principles of care for treatment of children and adolescents with mental illnesses in residential treatment centers. *American Academy of Child and Adolescent Psychiatry (AACAP)*. AACAP website: http://www.aacap.org/App_Themes/AACAP/docs/member_resources/practice_information/inpatient_and_residential_care/Principles_of_Care_in_RTC_FINAL.pdf.

Overbey, T. A., Diekmann, F., & Lekies, K. S. (2023). Nature-based interventions for vulnerable youth: A scoping review. *International Journal of Environmental Health Research*, 33(1), 15-53.

Roberts, S.D., Stroud, D., Hoag, M.J., & Massey, K.E. (2017). Outdoor behavioral health care: A longitudinal assessment of young adult outcomes. *Journal of Counseling & Development,* 95,45-55.

Stea, T.H., Jong, M.C., Fegran, L., Sejersted, E., Jong, M., Wahlgren, S.L., & Fernee, C.R. (2022). Mapping the concept, content, and outcome of family-based outdoor therapy for children and adolescents with mental health problems: A scoping review. *International Journal of Environmental Research and Public Health,* 19(58250,1-22.

Thomas, T., Aggar, C., Baker, J., Massey, D., Thomas, M., D'Appio, D., & Brymer, E. (2022). Social prescribing of nature therapy for adults with mental illness living in the community: A scoping review of peer-reviewed international evidence. *Frontiers in Psychology,* 7692,1-21.

Weeland, J., Moens, M.A., Beute, F., Assink, M., Staaks, J.P.C., & Overbeek, G. (2019). A dose of nature: Two three-level meta-analyses of the beneficial effects of exposure to nature on children's self-regulation. *Journal of Environmental Psychology,* 65(101326),1-25. https://doi.org/10.1016/j.jenvp.2019.101326.

Revision History

Date	Summary of Changes
03/15/2021	Annual Update
03/22/2022	Annual Update
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03/19/2024	Annual Review/Update
03/14/2025	Annual Review/Update; 04/15/2025 Optum Approval.

Appendix

Additional resources considered in support of this policy:

Tucker, A.R., Norton, C.L., DeMille, S.M., & Hobson, J. (2015). The impact of wilderness therapy: Utilizing an integrated care approach. *Journal of Experiential Education,* 39(1), 1-16.

Zachor, D.A., Vardi, S., Baron-Eitan, S., Brodai-Meir, I., Ginossar, N., & Ben-Itzchak, E. (2016). The effectiveness of an outdoor adventure program for young children with autism spectrum disorder: A controlled study. *Developmental Medicine & Child Neurology,* 59, 550-556.