BENEFIT CONSIDERATIONS

Before using this policy, please check the member-specific benefit plan document and any federal or state mandates, if applicable.

COVERAGE RATIONALE

Wilderness therapy is unproven and not medically necessary for the treatment of emotional, addiction, and/or psychological problems 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 Level of Care Guidelines and/or evidence-based clinical guidelines.

All services must be provided by or under the direction of a properly qualified behavioral health provider.

DESCRIPTION OF SERVICES

Wilderness Therapy is a behavioral health intervention targeted at children and adolescents with emotional, addiction, and/or psychological problems. The intervention typically involves 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 by 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. Some 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.

According to the U.S. Government Accountability Office (GAO), some of these programs are funded publicly by state and local government agencies, while others are privately owned and operated. Private treatment programs typically market their services to the parents of troubled teenagers and promote a range of services, including drug and alcohol treatment, confidence building, military-style discipline, and psychological counseling.

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".

CLINICAL EVIDENCE

Summary of Clinical Evidence

The wilderness therapy literature contains a number of studies that suggest participants show some level of improvement on behavioral health outcomes and/or recidivism rates for juvenile offenses. However, these results are not conclusive, and there are considerable limitations in the research methodology used to examine many of these programs. Most notably, there is a lack of randomized controlled trials or well-designed cohort studies that would allow causal conclusions about the impact of wilderness therapy to be drawn. There is also a lack of demonstrated durability of effect; few of the reviewed studies included follow-up measures, none of which included follow-up of a comparison group. There is extensive variability in the length, design, and fidelity of the programs themselves as noted by many of the authors of the reviewed research studies.

The reviewed studies and guidelines did not reveal that wilderness therapy was equivalent to or better than procedures currently in use. Further, there is explicit concern for safety in the use of many wilderness therapy programs; in their safety report, the GAO noted thousands of complaints of abuse and even death related to wilderness programs.

Authors note that for wilderness therapy to become a more formal part of the mental health delivery system, the field will need to be willing to conform to the standards of other ancillary health care providers. Particularly, higher standards of staff training and credentialing will be necessary, along with a more robust evidence base (e.g., Berman & Davis-Berman 2013).

Clinical Trials

Roberts and colleagues (2017) conducted a 3-year longitudinal assessment of outcomes in outdoor behavioral health (OBH) care. The study involved a convenience sample of 186 volunteer participants (age 18-32), drawn from clients of an OBH program in the southwestern United States. Participants were eligible if they completed the program’s 35-day minimum length of stay requirement. Length of stay decisions (ranging from 5-22 weeks) were made on the basis of client progress and establishment of a discharge plan. Participants mostly had a primary diagnosis of either a mood disorder, substance use disorder, or anxiety disorder. All participants completed the Outcome Questionnaire (OQ® 45.2) six times, between week 1 and 18-months post-discharge follow-up. Results found participants to show statistically and clinically significant change in their time in OBH care, and gains were maintained up to 18 months post-discharge. These gains appeared to be maintained as participants integrated back into the community. The authors note that the use of self-report data and only one outcome measure limit the findings of the study. Additionally, the study used a convenience sample and a within-subjects design without a control group, allowing potential threats to internal validity.

Bowen and colleagues (2016) evaluated Wilderness Adventure Therapy (WAT) outcomes based on participants’ pre- and post-program and follow-up responses to self-report questionnaires. A sample of 36 adolescents with mental health issues all completed a 10-week manualized WAT intervention. Results found the short-term standardized mean effect size to be small, positive, and statistically significant. Additionally, moderate, statistically significant improvements were seen in psychological resilience and social self-esteem. Short-term changes were largely retained at the three-month follow-up period. The authors conclude that while these findings indicate WAT to be effective for clinically symptomatic people, future research utilizing a comparison or wait-list control group and a larger sample size would be necessary to demonstrate the effectiveness of WAT interventions. Additional limitations noted include the evaluation design, reliance on self-reported data, regression to the mean, missing data, and use of non-validated questionnaires.
Zachor and colleagues (2016) examined the effectiveness of an outdoor adventure program in children with autism spectrum disorders (ASD). The study included 51 participants (age 3-7) who were currently enrolled in ASD special education programs. All individuals used the same educational protocols, and the intervention group (n = 30) also participated in the outdoor adventure program for 13 weeks. The control group was not significantly different in age, sex, cognitive or adaptive behavior measures. This program involved completion of challenging physical activities requiring cooperation and communication with both peers and instructors. The results found the outdoor adventure program intervention to have a significant impact on ASD symptom severity, as measured by subdomains of the Social Responsiveness Scale. The authors conclude that the outdoor adventure program may be an effective intervention in addition to traditional treatments in young children with ASD. They encourage future studies to examine the outcome of such programs delivered for longer periods of time and maintenance of the achievements over time.

Tucker and colleagues (2015) examined changes in body composition and mental health outcomes among adolescents who participated in a wilderness therapy program. A total of 516 adolescent clients (age 13-18; mean age 16.2) enrolled in wilderness therapy between 2011 and 2013 were included. These individuals had been diagnosed with a behavior disorder, including major depression, oppositional defiant disorder, learning disorder, impulse control disorder, and substance related disorders. The average length of stay for participants was 79.8 days. All participants in the program received individual and group psychotherapy, wilderness-living, psycho-education groups, adventure therapy activities, value-based academic curriculum, and a healthy lifestyle (i.e., healthy diet, sleep habits, work, and exercise). Family therapy was provided weekly using narrative therapy. Participants went on hike/backpack expeditions 4 to 5 times a week for 3 to 10 miles each. Primary measures for the study included BMI and the Youth-Outcome Questionnaire Self Report Version 2.0 (Y-OQ SR 2.0); these were gathered at both admission and discharge. Significant improvements in mental health functioning were reported, particularly among obese and female participants. The authors acknowledged the lack of a comparable comparison group of youth, and that mental health functioning data was limited to self-report only. They note that future research is needed on the long-term impact of WT programs for both physical and mental health outcomes among youth.

Tucker and colleagues (2014) explored pre-treatment youth characteristics and discharge outcomes for adolescents in residential treatment center (RTC) and outdoor behavioral healthcare (OBH) programs. Measures included the Youth Outcomes Questionnaire Self Report (Y-OQ SR 2.0) and its abbreviated version, the Y-OQ 30 SR; both youth self-report surveys to assess behavioral and emotional problems in youth. A total of 1,058 participants (aged 11-19; mean age of 15.7) with matched admission and discharge Y-OQ data from 15 different programs were included. A majority of participants came from OBH programs (n = 896; 84.6%). Analyses found that within OBH programs, females were more likely to have clinically significant improvements than males. Among RTC participants, those reporting a history of sexual abuse were more likely to achieve clinically significant improvements than those with no history. All other presenting problems within RTCs and OBH programs were nonsignificant, demonstrating equally beneficial treatment effectiveness with all other individual client characteristics (length of treatment, diagnosis, etc). The authors note several limitations, such as issues with missing data on presenting issues, and that the findings need to be interpreted with caution and do not generalize to the overall population of youth attending similar programs. The study did not include post-discharge data, and it is unclear if clinical improvements remained stable over time.

Tucker and colleagues (2013) evaluated adventure therapy (AT) as a viable option to meet the increasing need to identify effective mental health treatment practices for children and adolescents in community-based settings. Participants in AT were selected from a population of 1,135 youth from a community-based mental health center. This larger population had a mean age of 12.8 (range of 6-21), with over one-third of clients between ages 13-16 (36.8%). The majority of the population presented with a primary diagnosis that was behaviorally based, including disruptive disorder, adjustment disorder, mood disorder, and anxiety disorder. All clients received a comprehensive diagnostic assessment, complete with recommendation for both counseling and support services. AT services were typically offered to those with behavioral disorders and/or social skill deficits. A total of approximately 11% of clients participated in AT groups for an average of 42 hours. Pre- and post-mean scores of problem severity as reported by youth’s primary clinician were compared by type of treatment and client characteristics. AT participants had significant reported mean decreases in problem severity larger than those of clients not involved in counseling with an adventure component. Between 50-56% of youth that engaged in AT were considered recovered at discharge, compared to 43% of youth who did not have AT as part of treatment. The authors note that since clients were not randomly assigned, but rather referred by clinicians, it is not possible to know if AT was truly effective for all youth in the program, or whether certain individuals were drawn to participating. The authors conclude that it is unclear if the changes were specifically due to the intervention, or if there were certain client characteristics or severity of symptoms that made youth more or less amenable or ready for change. It was also unclear if the changes remained over time, since problem severity was not measured after clients discharge.

Magle-Haberek and colleagues (2012) used a quasi-experimental study with non-equivalent groups to examine the relationship between individual characteristics, programmatic use of adventure therapy, and Youth Outcomes Questionnaire (YOQ-30) score of participants attending outdoor behavioral healthcare (OBH) or residential treatment...
centers (RTC). A total of 278 adolescents were selected, with a mean age of 15.5. The majority of participants came from an OBH program (82%), with the remaining 18% coming from RTCs. To control for effects of program differences, a randomized subsample of participants was used; this changed the division to 58% for OBH programs and 42% for RTC programs. OBH programs incorporated expeditions into wilderness settings as part of their treatment modalities. Both programs showed a significant decrease between admission scores and discharge scores on the YOQ-30, with RTC demonstrating a larger drop. Additional analysis suggested that the RTC clients were more acute at admission than the OBH participants. RTC programs also had a significantly longer length of treatment (311 days vs. 85 days). A primary limitation of study as noted by authors was that a large portion of the overall sample represented a single program. As a result, the sample was not completely random or representative. The authors conclude that participation in a group may be an important aspect of adventure therapy. However, without fidelity measures, there was little consistency in the measures regarding programmatic variables and delivery of adventure therapy.

Norton (2010) explored the efficacy of a therapeutic wilderness program on adolescent depression and psychosocial development. Study participants were adolescents in Outward Bound’s youth-at-risk program, a 28-day wilderness canoeing and camping experience. A total of 21 adolescents participated, with 62% having some unipolar depressive diagnosis, and 76% having had previous counseling. Youth with prior involvement in the juvenile justice system were excluded from the study. The Reynolds Adolescent Depression Scale, 2nd Ed. (RADS-2), a 30-item, self-report questionnaire, measured depression level. The Measures of Psychosocial Development (MPD) measured psychosocial development. These measurements were administered one week prior to the wilderness program, and one week after. A follow-up assessment was administered three months following the program. Results found clinically meaningful decreases in rates of depression and statistically significant increases in rates of psychosocial development. Upon completing the course, participants reported elevation in mood, and three months post-course, 76% of youth reported experiencing more stability in mood. Data gathered from qualitative sources before and after the intervention showed a 47.5% decrease in family conflict, a 28.6% decrease in substance abuse, and a 62.9% decrease in school problems. The authors note that most of the study was based on self-report and self-administered tools, and there was no control group.

Walsh and Russell (2010) examined the contributions of perceived self-efficacy, resilience, and hope in youthful offenders participating in a wilderness adventure program (WE), and how these contributions impact future recidivism. All individuals enrolled in the program during a one year time period were considered potential study participants. The treatment group (n = 43; average age of 15.8; age range 14-17) was comprised of juveniles referred to WE via county judicial systems or probationary disposition. The WE program was a 21-day correctional-based wilderness and adventure program for youthful offenders in the state of Minnesota. Youth referred to WE were matched with youth having similar demographic characteristics and risk behavior scores to form a control group (n = 43). All instruments were administered by a master’s level therapist. Probation officers for both groups were contacted 6 months after release from the program and interviewed to determine probationary status and re-offense rates. Other outcome measures included self-efficacy, hope, and resiliency. The treatment (WE) group demonstrated significant increases in self-efficacy and hope; change in self-efficacy, hope, and resilience were not reported for the control group. In the treatment group, 44% of WE participants recidivated, compared to 42% of controls, with no statistical difference between groups. No statistical differences were seen in school enrollment or employment at follow-up either. The authors note that since changes in the control group on certain scores were not reported, it is difficult to attribute observed changes to the WE program. Because of the small convenience sample, the authors caution in generalizing any results beyond the participants of the research project.

**Systematic Reviews/Meta-Analyses**

Bettmann and colleagues (2016) conducted an outcome-based meta-analysis of private-pay wilderness therapy programs and benchmarked primary features of this approach. A search of the literature resulted in 36 studies occurring between the years 1982 and 2014 (total n = 2399) where each evaluated program had a wilderness component. The program also needed to last a minimum of 5 days and participants stayed overnight for the duration of the program. All included studies also had quantitative data that evaluated participants at least during two different points in time. The mean length of programs was 7.04 weeks with a range of 0.71 to 52 weeks. Results of the analysis found medium effect sizes for constructs of self-esteem, locus of control, behavioral observations, personal effectiveness, clinical measures, and interpersonal measures. The authors note that the majority of studies reviewed were pre-post designs without control group, which represents a significant limitation in the wilderness therapy literature. Additionally, 20 of the 36 studies included (56%) in the analysis were theses and dissertations, and many studies described their program models only partially. They advise that researchers investigating wilderness therapy programs aim to conduct randomized control trials in order to evaluate the treatment’s efficacy.

Lubans and colleagues (2012) conducted a systematic review, via search of electronic databases, on physical activity programs that have been identified as potential strategy for improving social and emotional well-being in at-risk youth who have prevalence of depression and low self-esteem. The search identified 15 studies which reported effects of three types of physical activity programs (outdoor adventure, sports/skill-based, and physical fitness). The duration of
the programs ranged from 4 hours to 3 months. Study populations ranged from \( n = 12 \) to \( n = 455 \). Significant improvements in self-worth, self-concept, resilience, perceptions of alienation, and self-control were observed in outdoor adventure studies. The authors note that these findings should be treated with some caution, as three of the studies involved quasi-experiments with matched comparison groups, and one of the interventions did not include either a control or comparison groups. Two programs did not improve social and emotional well-being. Risk of bias was assessed by two of the authors by scoring select criteria such as use of control groups, blinding, and baseline differences between groups. The risk of bias scored high on all of the included studies, with 94% agreement between the independent reviewers. The authors concluded that due to the mixed findings and the high risk of bias, it is difficult to determine the efficacy of physical activity programs for improving social and emotional well-being in at-risk youth. It is also not entirely clear which aspects of the programs are responsible for inducing any observed psychological benefits.

**Other Reports**
The United States Government Accountability Office (GAO) conducted a safety report in 2007 on residential treatment programs across the country referring to themselves as wilderness therapy programs, boot camps, and academies, among other names. Wilderness therapy was further defined as any program that places youth in different natural environments, including forests, mountains, and deserts. The safety report found thousands of allegations of abuse, some involving death, at treatment programs across the country, both publicly and privately funded, between the years 1990 and 2007. Allegations included reports of abuse and death recorded by state agencies and the Department of Health and Human Services, allegations detailed in pending civil and criminal trials with hundreds of plaintiffs, and claims of abuse and death that were posted on the internet. The GAO examined 10 closed cases from private programs in greater detail. Significant evidence of ineffective management was found in most of these cases, with many examples provided of how program leaders neglected the needs of program participants and staff. Several cases revealed program leaders who claimed to have credentials in therapy or medicine that they did not have. Specific factors in most of the examined deaths included untrained staff, lack of adequate nourishment, and reckless or negligent operating practices.

**Professional Societies**
**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 scope or intensity of services that would meet the definition of a clinical residential treatment center. Additionally, many of these programs do not involve the use of a multidisciplinary team including psychologists, psychiatrists, pediatricians, and licensed therapists who are constantly involved in the care of the individual.

**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 Policies and Coverage Determination Guidelines may apply.

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REFERENCES


HISTORY/REVISION INFORMATION

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