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Forest-Based Treatments for Adolescents

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A Comprehensive Report

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Table of Contents

Executive Summary	1
Key Findings	1
Opportunities for Forest4Youth	2
1. Introduction	3
Why Forest-Based Treatments for Adolescents?	3
Purpose & Goals of the Report	3
Distinction from a Literature Review	3
Target Audience	3
2. Methodology	4
Countries Covered	4
Data Collection Methods	4
Limitations	4
3. Overview of Forest-Based & Nature-Based Treatments	5
Definitions and Key Concepts	5
Difference Between Forest-Based, Nature-Based, and Green Care	5
Definition of Target Population	5
Relevance for Target Population	6
Quick Facts: Benefits of Forest-Based Mental Health Interventions	7
4. Country Profiles	7
BELGIUM	7
National Context: Overview of Country and Policy Landscape	7
Existing Programmes	10
Other Initiatives	14
Stakeholders Involved	14
Challenges & Opportunities	15
Conclusion	17
FRANCE	17
National Context: Overview of Country and Policy Landscape	17
Existing Programmes & Frameworks	18
Stakeholders Involved	23
Challenges & Opportunities	23
Conclusion	26
GERMANY	27
National Context: Overview of Country and Policy Landscape	27

Existing Programmes & Frameworks	28
Past Programmes	32
Stakeholders Involved	33
Challenges & Opportunities	34
Conclusion	37
<i>IRELAND</i>	37
National Context: Overview of Country and Policy Landscape	37
Existing Programmes	40
Past Programmes	42
Stakeholders Involved	43
Challenges & Opportunities	43
Challenges	43
Conclusion	45
<i>LUXEMBOURG</i>	46
National Context: Overview of Country and Policy Landscape	46
Existing Programmes	48
Stakeholders Involved	51
Challenges & Opportunities	51
Challenges	51
Conclusion	53
7. Opportunities & Recommendations	56
Opportunities for Forest4Youth	56
Policy & Programme Recommendations	56
Research Recommendations	57
References	58

Executive Summary

This report maps the current landscape of forest-based and broader nature-based treatments for adolescents in psychiatric care across five European countries: Belgium, France, Germany, Ireland, and Luxembourg. It identifies existing policy frameworks, ongoing programmes, grassroots initiatives, and clinical or institutional barriers, with a particular focus on the potential of nature-based approaches in improving adolescent mental health.

Key Findings

- Forest-based therapies are gaining recognition as preventive and complementary care tools, but clinical integration remains limited.
- Policy support varies significantly by country, with Belgium and Ireland making the most progress in terms of reimbursement and institutional recognition.
- Countries like Luxembourg and Germany have plentiful access to nature, and a cultural history of nature appreciation, but have yet to connect that with broad-based coverage of mental health initiatives for adolescents.
- Germany and France have strong cultural and academic foundations, but lack cohesive national strategies.
- Many of the programmes offered for adult populations could be duplicated and expanded for adolescents, creating a more consistent landscape of interventions and a more systemic continuum of care.
- Training infrastructure is emerging, but adolescent-specific certification pathways are still underdeveloped.
- Social prescribing frameworks offer strong potential for embedding these interventions into formal care systems.

Opportunities for Forest4Youth

The Forest4Youth programme is uniquely positioned to address the absence of adolescent-specific forest therapy programming across Europe. By designing and piloting targeted interventions that directly support youth mental health needs, it can fill a critical gap in the current mental health landscape. Through rigorous monitoring and evaluation, Forest4Youth can also generate robust research evidence that contributes to national and EU-level policy development around nature-based mental health care.

In addition, the programme includes a vital training component aimed at equipping both healthcare professionals and foresters with the skills necessary to implement these interventions effectively. This dual-sector training model promotes interdisciplinary collaboration and ensures that forest therapy can be delivered in a safe, developmentally appropriate, and therapeutically sound manner. Finally, the programme holds strong potential to model scalable integration within public health and education systems. By aligning with social prescribing pathways, collaborating with schools, and embedding forest-based therapy within existing care infrastructure, Forest4Youth can demonstrate how nature-based approaches can be embedded into mainstream adolescent mental health support.

1. Introduction

Why Forest-Based Treatments for Adolescents?

Adolescents across Europe are facing a growing mental health crisis. Rates of anxiety, depression, and social isolation have surged, particularly following the COVID-19 pandemic. Conventional psychiatric care systems are overburdened and often under-resourced, prompting interest in complementary, accessible, and preventive models of care.

Nature-based therapies, particularly those rooted in forests and outdoor settings, have demonstrated significant promise for improving mental well-being, fostering resilience, and promoting emotional regulation. These benefits are particularly relevant for adolescents, who often respond well to experiential, embodied, and non-stigmatizing forms of support.

Purpose & Goals of the Report

This report was created as part of the Forest4Youth initiative under Interreg North-West Europe. Its purpose is to map existing forest-based and nature-based practices across participating countries, assess the current policy and implementation landscape, and identify gaps and opportunities for further development—with a focus on adolescent psychiatric care.

Distinction from a Literature Review

While rooted in emerging evidence, this is not a traditional literature review. Instead, the report focuses on **real-world practices**, including national policy frameworks, regional initiatives, informal community programmes, and professional training ecosystems.

Target Audience

This report is designed for policymakers, mental health professionals, education authorities, community organizers, and researchers working at the intersection of youth mental health and nature-based care.

2. Methodology

Countries Covered

This report covers five countries: Belgium, France, Germany, Ireland, and Luxembourg.

Data Collection Methods

To compile an accurate and detailed picture of the current landscape, a mixed-methods approach was employed. This included a review of national and regional policy documents, interviews with practitioners, programme leads, and relevant stakeholders, as well as an analysis of publicly available programme materials such as websites, flyers, and internal reports. Additionally, where available, findings from existing academic literature and evaluations of pilot initiatives were incorporated to support the analysis.

Limitations

Several limitations should be noted. First, not all programmes had accessible outcome data or formal clinical evaluations, making it difficult to assess their effectiveness or scalability. Many of the initiatives identified are still at a pilot stage or operate only at a regional level, which may not reflect broader national trends.

A further challenge involved navigating the vague or promotional nature of available government materials. In several cases, national or regional governmental websites emphasized high-level policy goals or public relations messaging without offering sufficient detail on actual implementation, funding mechanisms, or programmatic scope. This lack of specificity limited our ability to verify claims or compare interventions across countries on equal terms.

Moreover, the absence of centralized repositories or transparent policy portals often meant relying on indirect sources, such as press releases or interviews with local practitioners. In this way, the limited availability of concrete, operational data from public authorities affected both the depth and comparability of the analysis.

Finally, the lack of standardized terminology across countries posed a challenge. Terms like *forest therapy*, *nature-based intervention*, or *green care* were often used interchangeably, and not always with consistent definitions. This hindered robust cross-national comparison and thematic categorization.

3. Overview of Forest-Based & Nature-Based Treatments

Definitions and Key Concepts

- **Forest-Based Therapy:** Structured therapeutic interventions conducted in forest environments, often involving trained facilitators or health professionals. Includes sylvotherapy, forest bathing, and trauma-informed nature immersion. Note: The FAO (Food and Agriculture Organization of the United Nations) defines a forest as land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or capable of reaching these thresholds in situ. This definition also excludes land predominantly used for agriculture or urban development. Essentially, it's an area with a significant density of trees where trees are the dominant feature.
- **Nature-Based Interventions (NBIs):** A broader category encompassing all therapeutic or preventive approaches that leverage contact with nature, including horticulture therapy, care farming, adventure therapy, outdoor education, and green exercise.
- **Green Care:** An umbrella term widely used in policy and research to describe interventions that combine nature, care, and health goals.

Difference Between Forest-Based, Nature-Based, and Green Care

- **Forest-Based** is a subset of **Nature-Based**, which in turn is part of the broader Green Care concept. Forest-based approaches are often more immersive and sensory, while green care can also include indoor plant therapy, gardening, and social farming.

Definition of Target Population

This report, reflecting the objectives of the larger Forest4Youth Project, will focus on adolescents aged 12-18 that use mental health services. This report does not aim for specificity regarding the type or severity of the mental health condition, nor the nature of their treatment (duration, inpatient/outpatient, etc.) Rather, the focus is on adolescents 12-18 who have undergone mental health treatment in any format.

While the target population for the Forest4Youth programme is 12-18 years of age, for

additional context and a more thorough depiction of the clinical issues, this report would like to highlight for consideration the transition-age group between child and adult psychiatry. This population is typically defined as young people aged 15–24 who are moving from child and adolescent mental health services (CAMHS) towards adult mental health services (AMHS). Research shows that this period is marked by high vulnerability, as brain maturation (prefrontal areas) continues into the early twenties, and the incidence of psychiatric disorders peaks between the ages of 10 and 30. However, only a small proportion of young people experience an effective transition to adult services (e.g., around 5% in the TRACK study, UK). This will remain an at-risk population who are neither fully supported by child services nor yet established in adult care. However, within legal and social frameworks, the transition from childhood to adulthood is typically centred at the age of 18, and this is carried over into the mental healthcare system. Addressing this disjointedness between the legal and neuroscientific definitions of maturity will require social change that lies outside of the scope, and timeframe, of this report. However, it is an issue that deserves consideration for future advancements to be made in this field (Islam, et al., 2016; Singh, et al., 2010).

Relevance for Target Population

Adolescents experiencing mental health challenges often face significant barriers to accessing and/or engaging with traditional forms of therapy. These can include stigma, clinical environments that feel intimidating or alienating, and therapeutic models that may not resonate with their developmental needs or lived experiences (Rickwood et al., 2007). Nature-based therapies present a compelling alternative: they are generally perceived as non-clinical, less stigmatized, and more experiential, which can be particularly appealing to young people.

Engaging with natural environments has been shown to reduce physiological stress, including measurable decreases in cortisol levels, blood pressure, and heart rate (Twohig-Bennett & Jones, 2018). For adolescents, who are at a critical stage of emotional and neurological development, this can translate into improved emotional regulation and greater capacity for coping with anxiety and depressive symptoms (Tillmann et al., 2018). Additionally, forest-based interventions foster social connectedness through group-based, cooperative, and often play-based activities, supporting both emotional growth and peer bonding (Dettweiler et al., 2017).

Forest-based programmes may be especially well-suited for youth struggling with trauma, ADHD, or mood disorders, as they create structured yet flexible environments that balance therapeutic intent with autonomy and exploration (Gabrielsen et al., 2019). The multisensory and embodied nature of forest therapy also supports a trauma-

informed approach, allowing adolescents to rebuild a sense of safety, self-esteem, and agency in a non-verbal, non-confrontational way.

By positioning therapy outside conventional settings and using nature as a co-therapist, forest-based interventions open new avenues for adolescent mental health support that are engaging, empowering, and grounded in both science and accessibility.

Quick Facts: Benefits of Forest-Based Mental Health Interventions

- Forest exposure reduces cortisol levels and improves mood regulation (Twohig-Bennett & Jones, 2018).
- Pilot studies across Europe demonstrate promising outcomes for youth with ADHD, anxiety, or PTSD when engaged in structured nature-based programmes (Gabrielsen et al., 2019; Forest4Youth, 2024).
- Group-based forest activities enhance peer bonding and reduce feelings of isolation (Dettweiler et al., 2017).
- Multisensory experiences in nature contribute to trauma recovery and support emotional safety (Tillmann et al., 2018).
- Ecotherapy programmes for adolescents in the UK showed perceived reduction in negative emotions and anxiety, and greater self-esteem, confidence, and social skills. (Wang, EZQ et al, 2024)

4. Country Profiles

What follows is a snapshot of the nature-based intervention landscape within each country included in this report. A summary of their policies, programmes and initiatives, and key stakeholders are included. Each country profile is concluded with an overview of the challenges and opportunities for realizing the potential of nature-based interventions. An overall summary compiling and comparing challenges and opportunities between countries is available in section 6.

BELGIUM

National Context: Overview of Country and Policy Landscape

The state of mental health in Belgium is statistically similar to the rest of Europe—particularly with neighbours in the Northwest region. In 2019, approximately 17% of the Belgian population experienced a mental health issue. However, some addictive behaviours, such as alcohol consumption, were higher than the EU average (State of

Health in the EU, 2023). The figures for adolescent mental health also track consistently across the region—with 16.3% of young people aged 10 to 19 in Belgium diagnosed with a mental disorder in line with the World Health Organization's definition (For a healthy Belgium, 2023). Note that these estimates likely represent just the tip of the iceberg, as a higher percentage of adolescents remain undiagnosed compared to adults who more often seek clinical confirmation.

The Belgian health system is robust, with nearly universal coverage, high-quality medical facilities, and a strong research and development sector. The country is split into three regions: The Walloon region, the Flemish region, and the Brussels-Capital region. These regions are based on geographical factors, and each has its own government. Additionally, Belgium has three communities (Flemish, French, and German) with their own language and cultural landscape. This adds a layer of complexity to the policy landscape, particularly as it relates to the Belgian social security system.

Within this context, nature is usually defined as a psychosocial intervention through nature and adventure in outdoor settings—with forest bathing, horticulture therapy, and outdoor education being the primary types. However, Interreg reporters in Belgium indicate the health and education systems are currently integrating such solutions poorly. In addition, there are no certifications or standards related to nature-based therapies, which pose distinct challenges to integration.

Soins psychologiques de 1re ligne

Soins psychologiques de 1re ligne (“first-line psychology care”) is the main policy framework guiding mental health services in Belgium. It is administered and implemented by the federal *Institut national d'assurance maladie-invalidité (INAMI)* as part of a broader policy plan: *Nouvelle politique de santé mentale pour enfants et adolescents* (“new mental health policy for children and adolescents”).

Local networks accredited by INAMI such as PsyNam and PsyBru are responsible for organizing and coordinating access to primary mental health care. Some of the group activities listed on the PsyNam website, which are covered 100% by INAMI, include “Débranche. Gestion du stress en forêt (Unplug. Stress management in the Forest)” and “Tu décroches? Allons marcher (Are you disconnecting? Let’s go for a walk)” (PsyNam, n.d.).

Since 2010, the mental health sector in Belgium went through several reforms to ameliorate growing issues related to care—there was insufficient supply of mental health services compared to growing needs, mental health care was not well integrated into the

overall system, and the care that did exist did not take into account the socio-economic context of the population in need of treatment.

To address this, the policy framework created care networks which link patients with primary care psychologists (PPL), qualified professionals who offer help to people with mental health or psychosomatic problems. Care network coordinators ensure proper coordination of care between PPLs and other network partners. The set-up and delivery flow of the care network works as follows:

1. Mental health networks serving various regions sign an agreement with INAMI
2. Once approved by INAMI, these networks are responsible for managing and mobilizing front-line psychologists (PPL) in their respective regions
3. Patients must be referred by a healthcare professional (general practitioner, psychiatrist, etc.) to receive care from a PPL in the mental health network
4. INAMI reimburses front-line psychological care sessions, up to a maximum of four hours per week per PPL. For group sessions, there is no limitation.

Nature-based therapies can be covered under this scheme, as long as they refer to evidence-based practice and that they are referred to the INAMI by the mental health networks. All citizens can benefit from this first-line support, but the service is not fully covered as is the case for youth and adolescents. Young people up to the full age of 23 (24 minus 1 day) will be entitled to free individual or group sessions.

Complementarity and continuity of care, as well as an integrated approach for adolescents and their families, were some of the key challenges of this policy identified by Interreg reporters in Belgium. A comprehensive crisis care programme involving all relevant partners was developed to mitigate some of these challenges.

In the latest phase of this policy, various regions around Belgium requested the care networks develop an Early Detection and Intervention programme, which was established in 2017.

To solve for wait times and socio-economic disparities, the policy and overarching health system has attempted to expand access to these care networks across a greater sector of the population.

A recent revision of the policy will last until 2026, but future evolutions will be needed. For example, there is a need to bolster the evidence-based interventions recognized by the networks so they can be more readily rolled out by psychologists and practitioners.

Existing Programmes

1. Steunpunt Groene Zorg vzw

This programme is responsible for coordinating and certifying care farms, of which there is now form a network of over 1,000—mostly in Flanders and Brussels. The goal is to centralize expertise, standardize quality, and expand access to green care farms across Flanders, ensuring vulnerable individuals receive consistent support and therapeutic agricultural experiences.

Since its founding in 2004, the non-profit has provided a central hub for referrals, certification, training, and networking and has more recently been expanded to include youth and educational sectors. It is funded through Boerenbond, Ferm, and Cera grants, along with regional government subsidies. Having received strong support from the Flanders government and the care-farm community, there are plans for expansion into Brussels and further integration into broader social care initiatives. (Steunpunt Groene Zorg, n.d.)



Source: Steunpunt Groene Zorg

2. Soins Verts - Groene Zorg

The programme aims to address burnout and work-related depression by offering structured, nature based “green care” activities on therapeutic farms, providing participants with meaningful tasks, social support, and contact with nature to foster recovery and reintegration. Under the guidance of a designated reference person,

participants can attend half-day sessions on plant and animal care farms each week. (Soins Verts Groene Zorg, n.d.)

This programme was created by Fondation Terre de Vie in partnership with Steunpunt Groene Zorg vzw, ASBL Nos Oignons, Atelier Groot Eiland, and the HIVA–KU Leuven research team. It has a three-year programme period of 2023-2025, with data published in 2026. It is unclear at this time if the programme will be continued, and, if so, what alterations may be made. However, the programme sets an important precedent for the Forest4Youth programme in that it introduces green care at the federal level: People with issues like depression can be supported by means of a prescription for green agricultural care. The programme has also created a community of doctors and psychologists who are keen to mobilize social farming as a care tool.

3. CNP St Martin - Athanor Care Unit

Reconnecting vulnerable adolescents to nature is the goal of this care unit at the St-Martin Neuro-Psychiatric Hospital in Namur, Belgium. The programme is funded by the hospital, the King Baudouin Foundation, and has received the support of the Belgian Queen Mathilde. It is part of psychiatric in-patient admission for adolescents 15-18 and is structured around a short stay (two days, one night) in private forest sites in Wallonia.

The fee for the programme is reimbursed for patients who may suffer from social or school phobia, cyberaddiction or harassment, eating disorders, anxiety-depressive disorders, or other conditions related to mental health. Two adults from the team—a teen educator and a teacher at École Escale (the on-site school for hospitalized teenagers)—accompany the group during the short stays and lead the various experiences. They also play a key role upstream and downstream of the stay, preparing adolescents for the experience and for the return. The thinking behind the programme is that, by reconnecting adolescents to nature, they may more deeply experience the benefits of their treatment on their symptoms. Testimonials and reports back up the efficacy of this approach.

The programme is supervised by François-Xavier Polis (MD, Pedopsychiatrist). Société Royale forestière de Belgique (SRFB) organizes the link to private forest owners in order for the programme to take place in a safe and adapted environment. UNature shares and gathers scientific knowledge to ensure an evidence-based practice. These supports ensure the programme is geographically and scientifically well-positioned —partnerships that could be extended with positive effects in the Forest4Youth programme. Staff training and clinical evaluation remain the main challenges facing this programme. New protocols to mitigate these challenges will be developed during the Forest4Youth implementation period. (L'Athanor, n.d.)

4. CPFA Day Programme

The Clinique Psychiatrique des Frères Alexiens (CPFA) hospital in Verviers funds and offers a programme under the guidance of Head Nurse Christophe Brandt which encourages contact with nature and animals via weekly excursions. It serves an important niche—aimed at people of transitional age (15-24 years) with an emotional, behavioural or psychological problem for which outpatient follow-up is not sufficient and full hospitalization is not necessary.

Through exposure to new experiences, patients can improve confidence and engagement, thus supporting the treatment plan. Activities include farming, gardening, nature and forest walks, lake visits, and games in the park. Observations and self-reporting indicate programme efficacy. (CPFA, n.d.)

5. Club Terre Happy

This programme supports adults with mental health issues through garden therapy as part of Beauraing's Mental Health Service. Patients participate in kitchen garden activities which vary according to season and can also be used for artistic activities (such as theater, sculpture and painting). The idea is to break isolation and to develop new interests and skills. Evaluation methods for this programme are still being developed. (Province de Namur, n.d.)

6. Therra

This nature and forest education organisation promotes physical and psychosocial well-being through connection to the natural environment, particularly through horticulture therapy. The goal of the programme is to raise participants' awareness of the natural resources available in their environment which can provide a lever in the face of various stress and health problems.

Operating as a non-profit, it is funded by small private subsidies, subsidies from the Walloon Region, and the King Baudouin Foundation. The programme also promotes expertise in the form of green care training for professionals, and works towards the expansion of a green care network and green care think tank. (Therra, n.d.)

7. Nature Prescription Programme

The Centre de Santé Intégrée des Carrières (CSIC) in Sprimont, Belgium has piloted a project offering nature prescriptions with several area doctors. Patients can join a 2-month programme of nature activities to complement their treatment, and are provided a booklet to monitor their progress. Group activities—including walks, mindfulness,

fitness, plant and bird discovery—are also proposed every week and supervised by volunteers from the centre. Building on the success of the initial pilot, the non-profit organisation Kodama Px was established to formalize the initiative, secure funding, and respond to the increasing demand for training and guidance. The long-term goal is to expand the programme to additional medical centres across Wallonia within the next two years. (CSIC, n.d.)

8. Ecole du dehors

This programme, which translates to “outdoor teaching”, was initiated and is maintained by a collective of environmental education organisations, teachers, and other actors within the Walloon and Brussels region. It has been active more than 20 years. Though the programme is open to children from 2.5 to 18 years old, it is mostly administered by teachers to students aged 2.5 to 12 years. This programme trains and facilitates teachers to engage students in outdoor activities, such as sensory and nature observation, land art, physical activity in nature, and cooperative group games. While there are educational and pedagogical practices associated with the programme, the objectives vary according to location and the teachers themselves.

The programme is set to continue in the future. However, for its objectives to be fully achieved, it is essential to overcome the challenges of accessibility, teacher training, and learning assessment. Ongoing collaboration between educational institutions, teachers and local communities will be needed to tie the programme to school standards and integrate this approach sustainably into the Belgian education system. (L'Ecole du Dehors, n.d.)

9. Sac'ados

Created by AMO Le Cercle, a non-profit centre for youth, this long-standing programme in Namur Province offers sport adventure outings once a month. Adolescents, often from very different social and cultural backgrounds, get together around an unusual discipline—climbing, via-ferrata, orienteering, kayaking, aerial courses, caving, etc.

The goal is to offer a space for young people to express themselves, listen to others, get information, take action, and receive guidance and support. It has been positively received as a way to offer alternative or nature-based support spaces, though no formal data has been collected. Integrating highly vulnerable youth populations remains an ongoing challenge and opportunity for this programme. (Le Cercle, n.d.)

10. D'une cime à l'autre

Translating to, “From one peak to another”, this nonprofit organisation serves young people in Belgium with mental health difficulties, as well as education and social sector

professionals. Their programming offers a range of outdoor activities, including one-day immersions, three-day stays, training programs, and educational projects with institutions throughout the year. The goals of the project are to promote the well-being and remobilization of participants through immersions in nature, using activities such as hiking, climbing and canoeing as psycho-social support tools. This structured support is designed to help develop self-esteem and self-determination, improve emotional regulation, and re-establish healthy relational dynamics. More specific objectives are adapted to the needs and request of the individual participants.

Written testimonies from participants and educators report perceptions of personal transformation and overall positive impact. The program is co-funded by the European Union, as well as the P&V Foundation, Queen Paola Foundation, AVIQ. Contributions from participants also help to cover the cost of the program. (D'une cime à l'autre, n.d.).

Other Initiatives

There are also several individuals who run private programmes across Belgium. For example, Cecile Hankenne is a nature guide who takes children out into the Sonian forest in a programme called Art Nature. Virginie Samyn conducts walks in forests in and around Brussels to support groups of adolescents in crisis. Meryeme Khaled is a psychologist at the BrainCair Centre who practices forest therapies with adolescents in Brussels.

Though not a specific programme, an initiative of note is the Social Agriculture collective which brings together social agriculture stakeholders across Wallonia and Flanders. This network of farms open to social missions was formed in response to a cut in regional budgets for social agriculture at the start of 2024. Participating farms are part of a regional visibility and support system, and the collective helps to link farms with referring institutions (youth care, mental health, social assistance).

Stakeholders Involved

Civil society, the private sector, and research institutions are the main actors driving the development and implementation of nature-based interventions. It's the ingenuity of individuals working deeply within their communities that allow for many of the programmes listed above to be made available to the public.

Hospitals and health clinics, such as Clinique Psychiatrique des Frères Alexiens and CNP St-Martin, serve an important role in offering targeted support to the most vulnerable adolescent populations.

Non-profits, such as Steunpunt Groene Zorg and AMO Le Cercle, help to make these therapeutic opportunities more accessible to a wider cross-section of the population.

Challenges & Opportunities

Challenges

1. Limited public access to consistent programmes

Although policy support exists, access to nature-based therapies is still geographically uneven, with programmes available only in select municipalities or health networks. Many Belgians—especially in urban or underserved regions—do not yet benefit from these interventions.

2. Fragmentation across sectors and regions

Belgium's multi-cultural, multilingual, and regionally decentralized health system adds complexity to the integration of nature-based therapies. Coordination between community initiatives, hospitals, nonprofit organisations, and policymakers remains weak, which limits the scalability and sustainability of these programmes (Van Elsen & Renting, 2022; WHO Europe, 2021).

3. Lack of standardized training and clinical guidelines

There is currently no national certification pathway or formal curriculum for forest therapists or nature-based practitioners working with adolescents. This reduces the credibility of programmes within psychiatric systems, limits integration into formal care pathways, and limits comparative study.

4. Nature-based mental health interventions still seen as complementary

Forest therapy, care farming, and sylvotherapy are often viewed as “complementary” or “alternative” rather than evidence-based therapeutic interventions, particularly in clinical and psychiatric care settings. This framing undermines uptake and investment (Gallis et al., 2020).

5. Youth-specific programming is underdeveloped

While adolescent mental health needs are growing, most nature-based interventions in Belgium are designed for adults or general populations. The lack of adolescent-specific frameworks, staff training, and outreach models remains a key implementation barrier (Interreg NWE, 2023; HT Institute, 2023).

Opportunities

1. Existence of a supportive policy framework for nature-based interventions

Belgium is among the few European countries where nature-based therapies are recognized at the policy level. In some cases, these interventions are even eligible for reimbursement, and adolescents in need of mental health care receive full coverage under the public health system. This foundational policy environment supports the institutional integration of therapeutic nature-based practices, including forest therapy, ecotherapy, and therapeutic care farming.

2. Emerging “green prescription” model

Although still geographically limited, certain physicians in Belgium are now issuing green prescriptions, allowing patients to access structured nature-based programmes, including those set in farms, forests, and community green spaces. This signals increasing medical trust in nature as a complementary health tool.

3. Innovative positioning in holistic health system reform

Belgium is positioned ahead of some EU counterparts in its efforts to establish integrative, community-based models of care that emphasize holistic, preventive, and psychosocial approaches. This reflects alignment with EU strategies linking nature, health, and climate resilience (WHO Europe, 2021; Gallis et al., 2020).

4. Therapeutic care farms as mental health support infrastructure

Therapeutic care farms are well-established in Belgium and offer an underutilized resource for adolescent mental health care, particularly in the prevention of social isolation and promotion of emotional well-being. These farms provide structured, meaningful activities in nature, which have shown benefits in adult populations and could be adapted for youth (Van Elsen & Renting, 2022).

5. Potential for expansion of adult-focused programmes to adolescents

Many existing nature-based programmes target adults but could be adapted for adolescents, particularly in light of rising youth mental health needs post-pandemic. Institutions already offering forest or garden-based therapies have the capacity and infrastructure to scale, if supported through youth-focused adaptation and funding.

6. National conversations around training and evidence

Ongoing efforts from researchers, practitioners, and cross-border programmes are working to establish recognized training standards and promote evidence-based nature-based health practices. This includes calls to create national certification pathways and partnerships between NGOs and universities.

Conclusion

A health system that acknowledges the therapeutic quality of nature activities and fully covers mental health supports for adolescents—combined with an innovative landscape of nature-based interventions—means there is a lot of potential for the Forest4Youth programme in Belgium. Real innovation in this area will require turning the patchwork of programmes and therapists into a network that is fully woven into the health system. Further expansion of the green care network, such as the one proposed by Therra, will be crucial to this endeavour. In addition, robust data and reporting—particularly as it relates to adolescent programmes—will allow practitioners to concretize the outcomes. Finally, certifications and training for professionals will strengthen the accessibility and consistency of these programmes and would be particularly beneficial for the launch and continuation of the Forest4Youth programme.

FRANCE

National Context: Overview of Country and Policy

Landscape

In April 2024, *Santé publique France* released findings from the EnCLASS survey, which evaluated the mental health of over 9,000 middle and high school students. While a majority of students reported feeling generally healthy and satisfied with life (86% of middle schoolers and 84% of high schoolers), only 59% and 51%, respectively, reached a good level of mental well-being based on WHO criteria (*Santé publique France*, 2024a). The data reveal concerning trends: 27% of high school students and 21% of middle schoolers reported feelings of loneliness; more than half experienced recurring psychological or physical complaints such as insomnia and irritability; and approximately 14–15% were identified as being at high risk of depression. Alarming, 24% of high school students had experienced suicidal thoughts in the past year, and 10% had attempted suicide, with significantly higher rates among girls (31%) than boys (17%).

In March 2025, youth mental health was designated a national priority, with concrete actions including public awareness campaigns, enhanced school psychologist capacities, and a policy focus on integrating prevention and resilience, which may support nature-based solutions moving forward (*Adice*, 2024).

France has expressed an emerging interest in the integration of nature into public health and education through initiatives focused on environmental protection, urban green

space, and outdoor learning (Ministère de la Transition écologique, 2023). However, when it comes to addressing adolescent mental health, forest-based interventions remain fragmented and are largely led by individual practitioners, associations, and municipalities, rather than being systematically embedded in national health or education frameworks (HT Institute, 2024).

As of now, no formal national policy exists for forest therapy or nature-based mental health support in adolescent psychiatry. Nonetheless, interest in the intersection of nature and mental health has grown, especially since the COVID-19 pandemic. A range of grassroots programmes, alternative education models (such as *écoles de la nature*), and wellness-based therapeutic practices have emerged, targeting a broad audience that includes adolescents, vulnerable populations, and the general public (Le Bonheur est dans le Jardin, 2024). Some trained professionals, including forest therapy and ecotherapy practitioners, now integrate nature into their therapeutic work, though this remains informal.

Among nature-based approaches, horticultural therapy and healing gardens are currently the most common forms used in hospitals, clinics, and community centres, particularly with adults and individuals with disabilities (Joubert et al., 2024; Jardins de l'Humanité, 2024). These interventions represent a growing field with potential for adaptation to youth mental health contexts, but integration remains limited.

While there is growing momentum around nature-based interventions for adolescent mental health in France, it is important to note that such activities are not socially neutral. The emergence of forest therapy, ecotherapy, and related nature-health practices often reflects specific sociocultural dynamics, including access to green spaces, environmental values, class-based orientations toward wellness, and regional disparities in service delivery. As with other health innovations, the distribution and reception of nature-based care is shaped by issues of equity, professional legitimacy, and institutional support. Scholars and practitioners alike are beginning to acknowledge the need for a sociological lens to better understand who benefits from these approaches and under what conditions they become embedded within systems of care. Including this perspective may help guide more inclusive and reflective policymaking as forest-based strategies continue to evolve.

Existing Programmes & Frameworks

1. UNESCO's "Happy Schools" Framework in France

France is actively working to integrate mental health into schools, driven by a collaborative initiative launched in October 2024, involving the Ministry of National

Education, UNESCO, and the European Commission. This 24-month pilot project, conducted in academies like Poitiers, Reims, and Toulouse, focuses on strengthening teachers' and school leaders' ability to identify and support student mental health, creating inclusive, supportive school environments, and embedding social-emotional learning (SEL) into curricula (UNESCO, 2024). The initiative includes reviewing existing school well-being programmes, offering specialized training, sharing national and international best practices, and fostering collaboration between educational, health, and social services. In the long term, the goal is to implement a comprehensive approach to promoting student mental health in schools and to shift the mindset of educational staff toward creating a supportive school environment that fosters mental well-being and is free from bullying. Although nature is not explicitly embedded within the framework, it holds significant potential to be integrated into inclusive educational settings that embrace alternative learning approaches and respond to diverse sensory needs.

2. L'Envol des Sens – Bulle de Sérénité de Mère Nature

Founded by Christine Canteau in 2024, *Bulle de Sérénité* is a therapeutic nature-based programme operating in the Argonne region of Grand Est, France. Its core mission is to promote both mental and physical health through the deep, inherent connection between humans and nature. The programme runs year-round and offers both individual and group sessions in forest settings, drawing on methods such as sensory exploration, sylvotherapy, plant-based healing, and nature-based pedagogy inspired by Forest School, Montessori, and Freinet approaches. These sessions are designed to support emotional regulation, reduce stress, and help participants reconnect with themselves and the natural world (Canteau, 2024).

Bulle de Sérénité engages a wide range of participants, including school groups, adolescents, individuals living with disabilities or mental health challenges, and healthcare professionals. In addition to therapeutic sessions, the programme is developing long-term projects such as edible therapeutic forests and immersive well-being trails. While many sessions are self-funded or involve participant fees, others are supported by public institutions such as the Ministry of Education or local municipalities as part of specific educational and pedagogical initiatives. As one of the most active therapeutic forest programmes in France working directly with youth and school communities, *Bulle de Sérénité* stands out as a leading grassroots model. However, it remains a privately led and regionally based initiative and is not yet formally embedded within public psychiatric or healthcare structures.

3. L'appel des Forêts – Nature Reconnection and Sylvotherapy Programmes

L'appel des Forêts is a professional organisation based in the Loiret region of France, widely recognized for its dedication to nature reconnection and immersive forest-based

experiences. The association offers a diverse range of activities designed to enhance well-being through direct engagement with the natural world. These include sylvotherapy, survival training, and nature-based team-building experiences. Its programmes serve a broad audience—from families and adolescents to professionals seeking emotional renewal or group cohesion—and are regularly featured in regional health, wellness, and education events (Radio France, 2018).

One of the organisation's flagship offerings is a two-day immersive workshop held in the Orléans forest. This experience combines bushcraft and survival skills with sensory and therapeutic forest activities, fostering emotional resilience, ecological awareness, and a deeper sense of grounding. Although it is not formally integrated into clinical care or public education systems, *L'appel des Forêts* plays a valuable role in France's growing grassroots ecosystem of forest-based mental health support. However, the programme currently operates independently at the community level, without formal links to psychiatric or institutional frameworks.

4. Fédération Française Jardins Nature et Santé (FFJNS)

The FFJNS is a national federation uniting over 60 active and 75 supporting members across France—including therapists, landscape designers, caregivers, and educators—working in therapeutic gardens, horticultural therapy, and ecotherapy. Founded in 2018 and headquartered at the Théophile Roussel Hospital, the FFJNS promotes and supports the creation of therapeutic garden spaces, organizes conferences and webinars, and advocates for professional standards and recognition of nature-based therapies (FFJNS, 2024). It represents a central coordination body for nature-health initiatives, providing structural foundations that could support the development of youth-oriented forest therapy frameworks.

5. Le bonheur est dans le jardin

Le bonheur est dans le jardin is a widely recognized French blog and network community—active since 2012—that highlights and gathers horticultural therapy initiatives in France and internationally. The platform played a key role in catalyzing the formation of the FFJNS and reports on research developments, including a 2024 randomized controlled trial at CHU Saint-Étienne demonstrating horticultural therapy's positive impact on anxiety in psychiatric inpatients (Joubert et al., 2024).

6. Les Jardins de l'Humanité – Therapeutic Gardens & Horticultural Therapy

Founded in 2016 by Estelle Alquier, *Les Jardins de l'Humanité* is a 7,000–8,000 m² therapeutic garden and educational farm located in the Landes. It features multiple themed gardens—including a forest-garden—and includes animal-assisted therapy, sensory pathways, and horticultural therapy sessions designed to improve mental and

physical health through sensory engagement, social connection, stress reduction, and empowerment. The site is co-funded by the EU (Fonds Social Européen) and Nouvelle-Aquitaine region to develop as a “Nature & Health Community Hub” (HT Institute, 2024).

Since 2019, the initiative has advanced to include medical prescriptions for horticultural therapy: two general practitioners and a neurologist now prescribe sessions as part of a therapeutic protocol co-designed with Estelle Alquier. The project aims for full or partial reimbursement—supported by EU funding.



Photo: Centre for Ageing Better

7. Terre d'Hippocrate – Therapeutic Garden for Chronic Disease Management

Terre d'Hippocrate is an association that, since 2021, has been testing the integration of a free, preventive health strategy into the care pathway for chronic diseases in the Gapençais and Buëch Dévoluy regions. This strategy centres around a shared space: the therapeutic garden. Founded in 2021 by cardiologists from Gap Hospital, the initiative established a 2,000 m² therapeutic garden in Rambaud (Hautes-Alpes) to support patients with chronic illnesses. The programme offers free preventive care through hands-on activities such as gardening workshops, adapted physical activity, and nutrition education, all designed as complementary lifestyle interventions (Fondation de France,

2023). The garden model has demonstrated clear benefits, including improved mental well-being, social interaction, increased physical activity, and better dietary habits, and is now expanding to serve patients with psychiatric and neurodegenerative conditions across multiple sites (Gardette, 2022; Fondation de France, 2023).

8. Tree plan of the City Châlons-en-Champagne: one tree per inhabitant by 2026

Launched by the City Hall of Châlons-en-Champagne, this local policy aims to plant 45,000 trees by 2026—one for each resident—to address pressing environmental issues such as climate change, biodiversity loss, urban pollution, and heat islands. The initiative is aligned with broader European and national strategies on climate adaptation, biodiversity, and urban resilience. Implementation is managed by the city's Department of Green Spaces and Urban Ecology, with funding provided by the municipality and potential support from regional grants (City Hall of Châlons-en-Champagne, 2024).

The policy includes a strong civic engagement component, inviting residents, schools, and community groups to participate in planting and maintaining trees, with a growing emphasis on educational and participatory programmes. While not a health policy per se, it creates infrastructure and community habits that can support future nature-based health and well-being initiatives, including those targeting adolescents and schools. Full evaluation of the policy's impact is planned for 2026.

9. Adventure Therapy Pilot Projects

In the Alps, outdoor-therapy models rooted in Adventure Therapy and Outdoor Therapy are emerging, combining ecological experiences, physical activity, group dynamics, and therapeutic reflection—particularly relevant for adolescent mental health (Cerrutti, Menzardi & Bacchetta, 2023).

Past Programmes

Fondation de France

In 2018, *Fondation de France* and *Institut Montaigne* launched the two-year pilot *Let's Talk About Therapy Workshops*, a large-scale mental health consultation involving 1,300 participants from diverse backgrounds. The workshops led to innovative ideas for supporting people with mental illness and produced key recommendations—such as early detection, involving patient-experts, and shared decision-making—which were later included in the *Assises de la santé mentale et de la psychiatrie* (Fondation de France, 2019).

The Observatoire du rétablissement, launched in 2019 by the Centre Ressource de Réhabilitation Psychosociale in partnership with Fondation de France, is a structured five-

step action–evaluation initiative aimed at supporting mental health services in adopting recovery-oriented practices. It involves users, families, professionals, and peer-support workers across 17 pilot sites and begins with a sensitization workshop and baseline self-assessment using the Recovery Self-Assessment (RSA) tool, followed by analysis, co-creation of action plans, and follow-up assessments at six months and one year. The process is co-facilitated by clinical staff and peer-support mediators and is offered free of charge to participating services. Since 2021, the programme has continued under the support of Fondation IF, expanding its reach nationally (Centre Ressource de Réhabilitation Psychosociale, 2021).

Stakeholders Involved

Across France, a wide range of actors are advancing nature-based approaches to mental health, forming a decentralized but growing ecosystem. Local communes are increasingly integrating reforestation, green infrastructure, and community engagement into urban planning strategies, reflecting a nationwide commitment to green health environments (Ministère de la Transition écologique, 2023). Meanwhile, grassroots practitioners and civil society actors are delivering nature therapy programmes, such as *L'Appel des Forêts*, *Bulle de Sérénité*, and *Les Jardins de l'Humanité*, which promote emotional resilience and psychological healing through direct interaction with natural environments (Canteau, 2024; Jardins de l'Humanité, 2024).

In the education and health sectors, regional stakeholders and school partnerships are beginning to experiment with co-financed interventions, including nature-immersion experiences for students, stress prevention through outdoor play, and forest workshops aligned with emotional education (FFJNS, 2024; Le Bonheur est dans le Jardin, 2024). These programmes are often initiated at the local level and demonstrate strong potential for national expansion if institutionalized support increases.

At the national level, momentum is growing. In 2024, the Ministry of Education and UNESCO launched a pilot programme to promote mental health and well-being in schools, targeting three academic regions (Poitiers, Reims, Toulouse) and emphasizing prevention, student engagement, and staff training. While the project does not yet explicitly include nature-based interventions, it may open space for integrating forest therapy and eco-pedagogy into public education frameworks (UNESCO, 2024). This evolving multi-level ecosystem highlights the readiness of France to scale integrated, nature-based mental health approaches for youth.

Challenges & Opportunities

Challenges

1. **No formal recognition or reimbursement**

Forest therapy, sylvotherapy, and other nature-based interventions remain outside France's Code de la Santé Publique and are not covered by l'Assurance Maladie. While there are experimental models, such as *Les Jardins de l'Humanité* in the Landes, which recently piloted horticultural therapy prescriptions through general practitioners, these remain highly localized and not yet scalable within national healthcare policy (HT Institute, 2024; Jardins de l'Humanité, 2024).

2. **Fragmented implementation**

Forest-based mental health programmes are primarily led by passionate individuals, associations, or small-scale NGOs, such as *Bulle de Sérénité* or *L'Appel des Forêts*. Without national frameworks, most initiatives remain isolated and difficult to replicate or scale, relying on ad hoc funding or municipal-level engagement (Canteau, 2024).

3. **Lack of clinical research and academic institutional support**

While France has begun to produce promising clinical data—such as the 2024 randomized controlled trial at CHU Saint-Étienne on horticultural therapy—there is no coordinated national research strategy or academic chair dedicated to adolescent psychiatry in nature-based interventions, in contrast to Germany's LMU Munich or University of Greifswald (Joubert et al., 2024).

4. **Cross-sectoral siloing (health, education, environment)**

Mental health, environmental education, and ecological restoration continue to be treated as separate domains in French policy. As a result, integrated initiatives that could operate across ministries (e.g., health, education, environment) are slow to emerge, despite the growing relevance of nature-based preventive mental health care (UNESCO, 2024).

5. **Cultural framing of nature-based interventions as “complementary” or “alternative”**

In much of the public and clinical discourse, nature-based therapies are still regarded as non-medical, “soft,” or wellness-oriented. This perception, particularly in urban clinical and academic settings, limits professional uptake and referral potential among psychiatrists and school psychologists.

6. **Limited training pipelines for professionals**

Although training exists through entities like the FFJNS, Akademie Française de Sylvothérapie, and private ecotherapy institutes, France currently lacks a national accreditation body or unified curriculum for forest-based therapists working with adolescents. As a result, training quality and scope vary, and integration into formal mental health systems remains limited (FFJNS, 2024; Le Bonheur est dans le Jardin, 2024).

7. Equity and geographic access

Forest-therapy programmes are concentrated in rural or forested regions, such as Landes, Argonne, and the Alps, where natural infrastructure is accessible. Youth in urban or underserved areas, where mental health needs may be more acute, face limited access to these services unless outreach strategies or VR-based tools (e.g., Forest4Youth) are employed.

Opportunities

1. Extensive forest coverage and natural landscape as physical infrastructure

France is the fourth most forested country in the European Union, with forests covering over 31% of its national territory (Ministère de l'Agriculture et de la Souveraineté Alimentaire, 2023). This provides a rich physical foundation for forest-based therapeutic and preventive programmes. These landscapes are particularly well-developed in regions such as Landes, Grand Est, and the Alps, where many nature-based health projects are already taking root.

2. Growing awareness of nature's mental health benefits, especially post-pandemic

Although the COVID-19 pandemic lockdowns initially limited access to natural spaces, interest in forest visits surged as restrictions eased. National studies documented rising mental health distress among adolescents (Santé publique France, 2024). This has led to increased openness among educators, parents, and health professionals to explore nature-based alternatives that support emotional well-being (UNESCO, 2024; Joubert et al., 2024). While an awareness of the connection between nature and mental health has grown in France post-pandemic, it is still regarded largely as an alternative, rather than mainstream, intervention.

3. Grassroots innovation as a flexible and scalable driver

A growing number of grassroots programmes and associations—such as *Les Jardins de l'Humanité*, *Bulle de Sérénité*, and *L'Appel des Forêts*—have developed adaptable, community-embedded models for forest-based health support.

These programmes often operate through municipal partnerships, regional grants, or volunteer networks, and have the potential to scale if aligned with public policy or integrated into clinical care (Canteau, 2024; Jardins de l'Humanité, 2024).

4. Emergence of multidisciplinary interest across sectors

While formal structures are limited, there is growing interest from diverse professional sectors, including psychotherapists, educators, and local government actors, in integrating forest therapy into youth support and educational programmes. The cross-sectoral attention creates opportunities for future institutional support and interministerial collaboration, especially if combined with research and national frameworks (FFJNS, 2024; *Le Bonheur est dans le Jardin*, 2024).

5. Opportunities for innovation through digital and hybrid models

Projects like Forest4Youth, which combine forest therapy principles with virtual reality (VR), present a scalable model for reaching urban youth or schools without direct forest access. This innovation expands the potential for equity in access, even in densely populated or underserved areas.

Conclusion

Forest-based treatments for adolescents in France remain in an emergent stage, with scattered programmes showing strong promise but little systemic support. Single initiatives demonstrate how therapeutic forest immersion can promote emotional regulation, mental clarity, and social reconnection—particularly among adolescents.

While no national strategy currently supports clinical forest therapy, the momentum is building. With the integration of mental health in schools, there is a strategic opening to align therapeutic forest interventions with broader youth well-being goals. France is well-positioned to evolve its forest-based health offerings into scalable, adolescent-focused programmes—provided that training, research, and policy alignment continue to grow.

GERMANY

National Context: Overview of Country and Policy Landscape

Germany has a long-standing cultural affinity with forests and nature, deeply embedded in public life, recreation, and education. In recent years, forests have increasingly been used for wellness, prevention, and rehabilitation, particularly among adults. However, forest-based mental health treatments—especially for adolescents—remain underdeveloped and largely excluded from formal health and education systems.

Most forest-related initiatives fall into one of three categories: *Erholungswälder* (recreational forests), *Kurwälder* (preventive wellness forests), and *Heilwälder* (therapeutic forests). These designations, implemented in federal states such as Mecklenburg-Vorpommern and Bavaria, come with formal guidelines and can support prevention or rehabilitation programmes (Bäderverband Mecklenburg-Vorpommern). However, *Heilwälder* are still largely geared toward adults, with very limited programming targeting adolescents with mental health challenges.

Germany's policies loosely align with the WHO European Framework for Action on Mental Health 2021–2025, which emphasizes youth participation in service design, quality standards in adolescent care, and the integration of mental health into broader public health systems (WHO Regional Office for Europe, 2021). Yet, these goals are not currently reflected in forest-based mental health programming.

The COPSY study (2024) underscores the urgency of addressing youth mental health: 21% of children and adolescents report reduced quality of life and psychological symptoms, including anxiety—five percentage points above pre-pandemic levels (Ravens-Sieberer et al., 2022). Additionally, 21% report feeling lonely at least sometimes, and 72% express concern about global crises like war, economic instability, and climate change, a significant rise from 50% in 2023. These figures illustrate the growing emotional toll on German youth and the need for accessible, resilience-building interventions.

Although the term “nature-based intervention” is increasingly associated with forest therapy (Waldtherapie) or forest bathing (Waldbaden), these practices are rarely integrated into psychiatric or clinical care. Since 2015, there has been rapid growth in public interest and practitioner training, resulting in more than 3,000 individuals completing forest-health courses through institutions like EAG/FPI, IM-WALD-SEIN, and others (Wagner et al., 2022; EAG/FPI, 2024; IM-WALD-SEIN, 2024). Still, there is no protected professional title, no national standards, and no reimbursement pathway through Germany's statutory health insurance system (Wagner et al., 2022).

While a handful of municipalities and clinics have begun to pilot forest-based interventions, they remain unstandardized, adult-oriented, and not formally recognized as clinical mental health treatments. These gaps underscore the relevance of initiatives like Forest4Youth, which aim to build structured, evidence-based, and youth-specific models for integrating forest therapy into adolescent mental health care.

Existing Programmes & Frameworks

While few programs in Germany currently target adolescents specifically, several notable initiatives provide valuable reference points:

1. Kurwald and Heilwald Designations

Germany, particularly the federal state of Mecklenburg-Vorpommern, has pioneered the formal designation of forests for health purposes through the legal classifications of *Erholungswälder* (recreational forests), *Kurwälder* (preventive forests), and *Heilwälder* (therapeutic forests), as outlined in §22 of the Landeswaldgesetz M-V. These legal frameworks allow forest authorities to declare designated areas as health-promoting forests through official decrees, ensuring their development and management align with specific therapeutic and recreational functions. The criteria for selection include environmental, therapeutic, and logistical considerations, and guidelines exist for the funding and training of stakeholders involved in implementation (Landesforst Mecklenburg-Vorpommern, n.d.).

Mecklenburg-Vorpommern is also home to Europe's first officially recognized *Kur- und Heilwald* in Heringsdorf on the island of Usedom. This model has been expanded through the establishment of the Internationale Zertifizierungsstelle Heilwald—a world-first initiative to standardize and certify therapeutic forests globally. The certification process involves environmental assessments, collaboration with forest owners, and the development of medically validated therapeutic use plans. This ambitious project, supported by the Ministry of Economic Affairs, Infrastructure, Tourism and Labor of Mecklenburg-Vorpommern, positions the region as a leader in integrating forest environments into health promotion and therapy on both national and international levels (BioCon Valley GmbH, n.d.).

While these forests are primarily developed for adult populations, their infrastructure—such as accessible paths, rest areas, and certified usage plans—offers significant potential to be adapted for adolescent mental health initiatives, especially in collaboration with schools or clinics. They also have the potential to be used in social work and youth welfare practices.

2. Masterplan Gesundheitswirtschaft Mecklenburg-Vorpommern 2030

The Masterplan Gesundheitswirtschaft Mecklenburg-Vorpommern 2030 is a strategic policy framework designed to position Mecklenburg-Vorpommern (MV) as a leading region for health innovation, prevention, and care. Developed by BioCon Valley® GmbH in collaboration with the state government, the plan outlines a comprehensive vision to strengthen the regional health economy by 2030 through innovation, sustainability, and cross-sectoral integration.

Key priorities of the plan include:

- Expanding health tourism and preventive health infrastructure, including initiatives like certified Kur- and Heilwälder (therapeutic forests).
- Promoting digitalization and smart health services, particularly in rural and underserved areas.
- Integrating health and environmental sustainability, with an emphasis on nature-based solutions and their role in well-being and regional development.
- Strengthening education and workforce training across medical, therapeutic, and wellness professions.
- Supporting research and innovation by fostering collaboration between healthcare providers, academic institutions, and businesses.

The Masterplan highlights the unique potential of MV's natural landscapes—such as its forests and coastlines—as assets for sustainable health promotion, positioning the region as a model for “health from nature” at both national and international levels (BioCon Valley, n.d.).

3. Nature Coaching and Forest Bathing (Waldbaden)

Nature coaching and forest bathing (Waldbaden) have gained wide popularity in Germany over the past decade. Thousands of practitioners—from health, education, and tourism sectors—offer programmes focused on stress reduction, emotional regulation, and mindfulness. Sessions frequently include breathing exercises, sensory activities, and symbolic rituals, often in small-group settings. Although the majority of participants are adults, some programmes are beginning to include youth and families. Clinical integration remains minimal, however, with most programmes positioned in the wellness or preventive care sectors (HT Institute, 2023; IM-WALD-SEIN, 2024).

4. Communities That Care (CTC)

The Communities That Care (CTC) model is an evidence-based public health framework adopted in several German municipalities. It builds cross-sector coalitions, uses local data to identify adolescent risk factors, and selects interventions from the Grüne Liste Prävention—a curated list of over 100 programmes addressing depression, stress, life skills, and related challenges. Many of these programmes are publicly funded, and the

model encourages long-term, community-level mental health promotion (Ravens-Sieberer et al., 2022; Grüne Liste Prävention, 2024).

5. EAG - Forest Health Counseling (Waldgesundheitsberatung im Integrativen Verfahren®)

Offered by the Europäische Akademie für bio-psycho-soziale Gesundheit (EAG/FPI), this certified training programme integrates forest bathing, sensory experience, and therapeutic nature connection into a triadic care philosophy: care for nature, others, and self. The programme is structured and adaptable for work with youth and educational settings, though it is primarily applied in general wellness rather than psychiatric treatment (EAG/FPI, 2024).

6. IM-WALD-SEIN® Institute

Located in Munich, the IM-WALD-SEIN® Institute specializes in evidence-based forest medicine and Shinrin Yoku (Japanese forest bathing). It offers customized training for clinics and rehabilitation centres, along with forest-health packages applicable to both medical and tourism sectors. Although the scientific basis is solid, the institute's programming is primarily focused on adults, and adolescent-specific applications are still under development (IM-WALD-SEIN, 2024).

7. Bundesverband Individual- und Erlebnispädagogik e.V. (BE)

In addition to nature-based experiential education, the field of experiential therapy (Erlebnispädagogik) offers valuable complementary approaches, particularly for adolescents with psychosocial or developmental challenges such as ADHD or autism spectrum disorders. Experiential therapy applies structured outdoor and group-based activities—often in natural settings—as therapeutic interventions to build self-regulation, resilience, and social skills. In Germany, the Bundesverband Individual- und Erlebnispädagogik e.V. (BE) serves as the primary professional association for practitioners in this field, uniting a large network of trainees, educators, and therapists. The BE actively promotes standards, training, and recognition of experiential therapy across educational and mental health contexts. Given its relevance to school-based support systems and its growing application in youth care, experiential therapy—alongside forest-based and nature-oriented interventions—represents a promising area for integration into adolescent mental health strategies.

8. ATI - Adventure Therapy Institute

The Adventure Therapy Institute (ATI) provides a two-year training in adventure and nature therapy, including modules on youth psychiatry, trauma, and supervision. Designed for professionals in youth welfare and healthcare, ATI supports the clinical application of outdoor therapy. It is one of the few initiatives in Germany explicitly

addressing youth mental health in nature-based contexts, though it emphasizes adventure therapy over immersive forest therapy (ATI, 2024).



Photo: Adventure Therapy Institute

9. Projekt Wald | Gesund (University of Greifswald)

The Wald|Gesund Project is a multi-week forest therapy initiative developed by the University of Greifswald, targeting older adults, patients with hypertension, and individuals with depression. Conducted in a dedicated forest reserve, the programme includes mindfulness, creative exercises, and physiological tracking. Though currently not focused on adolescents, it demonstrates strong research value and potential for scalability (Gallis et al., 2020).

10. Rehabilitation Clinic Garder See (Mecklenburg-Vorpommern)

The Rehabilitation Clinic Garder See, located in Mecklenburg-Vorpommern, is a specialist facility offering rehabilitation for individuals with psychological and psychosomatic conditions. Situated in a forested landscape near the Garder lake, the clinic integrates access to nature into its therapeutic environment, supporting patient recovery through outdoor movement, physical activity, and leisure in natural settings. As part of Germany's statutory rehabilitation system, treatment at the clinic is reimbursed by public health insurance, aligning with broader efforts in the region to explore the health potential of forests. While the clinic does not explicitly list forest therapy or forest bathing ("Waldbaden") as formal interventions on its website, plans to implement it are in its

initial phase and its natural setting and psychosomatic specialization make it a relevant example of how forest-based environments can support mental health care, even in the absence of formal forest therapy certification or programming (Rehabilitationsklinik Garder See, n.d.; Bäderverband Mecklenburg-Vorpommern, 2023).

11. Forest Therapy Training Programmes

Numerous organisations provide certified training in forest therapy and forest bathing, including the Waldwohl Akademie, Akademie für Waldbaden, and Landesforst MV-Waldservice und Energie GmbH. Some courses are recognized by national training quality assurance bodies (e.g., ZFU, AzAV), helping standardize practitioner competence in wellness and education. However, psychiatric care integration remains very limited, and adolescent-specific modules are rare.

Past Programmes

GreenCare Natur- und Wildnistherapie: A Pioneering Pilot in Nature-Based Mental Health

Launched in 2017 through a partnership between the UNESCO Biosphere Reserves Rhön and Berchtesgadener Land, the GreenCare Natur- und Wildnistherapie initiative marked one of Germany's earliest efforts to integrate nature and wilderness therapy into public health strategy. Supported by the Bavarian Ministries of Environment and Health, the project aimed to develop and scientifically monitor therapeutic and preventive interventions centred on immersive experiences in nature. The initiative brought together actors from tourism, environmental education, and the health sector, and focused on strengthening psychological well-being through guided sensory and wilderness experiences in carefully selected natural landscapes. These sessions, which supported both preventive and curative aims, helped participants improve body awareness, resilience, and mindfulness—particularly in managing psychosomatic and psychological stressors.

Core components of the pilot included: a baseline analysis of existing nature-health programmes; the implementation of wilderness-based interventions across age groups; and the development of training and certification programmes for healthcare professionals and nature educators to deliver such therapies at scale. A standout feature of the project was its focus on cross-sectoral collaboration, uniting health professionals, therapists, biosphere reserve managers, and tourism actors around a shared vision of sustainable mental health care.

After a successful initial run from 2018 to 2023, the GreenCare programme is being continued and expanded to include all parts of the Rhön region, including Hesse and

Thuringia. With ongoing scientific evaluation and increasing integration into regional policy, the project demonstrates the potential of biosphere reserves as testbeds for innovative, nature-based health solutions that could serve as models for other European regions.

Stakeholders Involved

While national-level government bodies in Germany have not yet established strategic frameworks or dedicated funding for forest-based mental health interventions, a diverse and expanding network of stakeholders is driving grassroots innovation and professionalization.

Private clinics and rehabilitation centres have emerged as early implementers of forest-based approaches.

Training academies and professional networks play a central role in standardizing practice. Organisations such as the Europäische Akademie für bio-psycho-soziale Gesundheit (EAG/FPI), the Adventure Therapy Institute (ATI), the International Nature and Forest Therapy Alliance (INFTA), and the Akademie für Waldbaden offer certified programmes in forest therapy, forest bathing, and nature-based counseling (EAG/FPI, 2024; INFTA, 2023; ATI, 2024). Though national accreditation is lacking, these academies are building pathways to formal recognition.

Academic and research institutions also play a growing role. The University of Greifswald and LMU Munich have led pilot studies and field-based interventions, particularly in preventive care and aging populations (Gallis et al., 2020; Wagner et al., 2022). The Carstens Foundation, known for funding integrative and complementary medicine, supports scientific evaluation of nature-based health practices, including forest therapy (Carstens Stiftung, 2023).

Civil society actors and independent facilitators continue to broaden the field. NGOs such as Green Care Deutschland, PAN-Praxis, and hundreds of individual practitioners provide forest bathing sessions, community education, and youth engagement programmes—often without direct links to psychiatric or clinical institutions (Wagner et al., 2022).

State and municipal governments have provided local support, particularly through the development and promotion of Heilwälder and Kurwälder, which offer regulated forest spaces for public health use. These spaces create opportunities for pilot interventions and educational activities, even if they are not yet fully integrated into healthcare delivery.

Finally, an increasing number of health professionals—including psychotherapists, Heilpraktiker (naturopaths), and rehabilitation specialists—are exploring the integration

of nature-based practices into their care protocols. This growing interest suggests a positive shift toward broader adoption, especially as training and research become more accessible.

Challenges & Opportunities

Challenges

1. **No formal recognition or reimbursement**

Forest therapy is not formally recognized as a therapeutic intervention within the German public health system and is not eligible for reimbursement through statutory health insurance. This positions forest therapy outside the clinical care continuum, limiting access and institutional uptake. Programmes are typically framed as preventive wellness, which hinders their application in psychiatric contexts (Wagner et al 2022).

2. **Lack of clinical trials and adolescent-specific research**

There is a shortage of high-quality, peer-reviewed clinical trials, especially those focused on adolescents. While some studies on adult populations (e.g., University of Greifswald) show promise, longitudinal data and standardized outcome measures for youth mental health are missing, reducing the credibility of forest-based therapies in psychiatric treatment planning (Gallis et al., 2020; Wagner et al 2022).

3. **Absence of adolescent-specific programmes**

Existing forest therapy initiatives in Germany almost exclusively target adults—with only a few adventure or outdoor therapy programmes mentioning adolescents. No scalable or institutionalized forest-based programme currently exists to address the specific psychological and emotional needs of young people with diagnosed mental health disorders (ATI, 2024).

4. **Sectoral fragmentation**

Forest-based programmes are distributed across tourism, private wellness, outdoor education, and adult rehabilitation, often operating in silos. There is no coordinating framework or shared platform linking these efforts, which reduces visibility, consistency, and integration potential—especially in clinical and school settings (Wagner et al 2022).

5. **Lack of protected professional titles and training standards**

Terms like “forest therapist” or “nature coach” are not protected, and training programmes vary widely in rigor and duration. This results in inconsistency in quality and reduces professional credibility in the eyes of psychiatrists or public institutions. Psychiatric facilities are unlikely to invest in staff training without clearer frameworks and professional standards (EAG/FPI, 2024; IM-WALD-SEIN, 2024).

6. Perception of forest therapy as alternative or non-clinical

In Germany, forest therapy is still often perceived as complementary or esoteric, especially outside academic research settings. This makes it difficult to gain traction among psychiatrists or within insurance-based care systems where evidence-based practice is paramount (Gallis et al., 2020).

7. Equity and accessibility issues

Forest-based programmes are primarily located in rural or forest-rich regions, making them less accessible to urban youth—particularly those from disadvantaged backgrounds, where mental health support is often most needed. Without outreach models, digital tools, or school-based access, these interventions risk excluding vulnerable populations (Forest4Youth, 2024).

8. Regulatory ambiguity and institutional inertia

The lack of national standards, combined with institutional caution around non-traditional therapies, makes it difficult for forest therapy to gain traction at the policy or funding level. Even when individual professionals are trained, they often lack a systemic framework in which to apply their skills.

Opportunities

1. Strong public trust in forests and cultural affinity

Germany has a deeply rooted cultural relationship with forests, reflected in literature, education, and recreation. During the COVID-19 pandemic, forest visitation increased by over 40%, demonstrating the population’s strong connection to nature and creating a receptive climate for forest-based interventions (DFWR, 2021; Wagner et al 2022).

2. Established training infrastructure and growing professional field

Institutions such as EAG/FPI, IM-WALD-SEIN, and the Adventure Therapy Institute (ATI) offer structured training in forest health counseling, sylvotherapy, and nature therapy. While national certification is lacking, this growing network provides a

professional foundation for expanding youth-focused programming (EAG/FPI, 2024; IM-WALD-SEIN, 2024; Wagner et. al, 2022).

3. Academic research momentum in forest-based health

Universities such as LMU Munich and the University of Greifswald are producing promising studies on the health impacts of forest environments, particularly related to stress reduction, cardiovascular health, and psychological restoration. Though research targeting adolescents is limited, these institutions form the basis for future evidence-based expansion (Gallis et al., 2020).

4. Designated Kurwälder and Heilwälder as legal and practical platforms

The formal designation of Kurwälder (preventive forests) and Heilwälder (healing forests) in states like Mecklenburg-Vorpommern and Bavaria provides legal frameworks and physical infrastructure to implement forest therapy in a structured, medically legitimized context (Bäderverband Mecklenburg-Vorpommern, n.d.; BioCon Valley, n.d.).

5. Openness among some public clinics to pilot forest-based approaches

Clinics such as Garder See are seeking to integrate forest immersion activities into adult psychiatric care and rehabilitation, indicating institutional willingness to explore non-traditional approaches—an opportunity that could be adapted for adolescents.

6. Integration potential through digital innovation (e.g., VR)

Germany's leadership in digital health and telemedicine offers fertile ground for the future implementation of hybrid forest therapy models. Emerging initiatives like Forest4Youth are currently in development and aim to demonstrate how virtual nature experiences could expand therapeutic access for urban youth or clinical settings where direct forest contact is limited (Forest4Youth, 2024).

7. Policy alignment across health, education, and climate strategies

Germany's national and EU-level strategies increasingly link mental health, biodiversity, and education. Policies such as the German National Strategy on Biological Diversity and WHO-supported urban green space frameworks emphasize nature as a determinant of public health—providing avenues for the policy-level adoption of forest-based interventions (BMU, 2021; WHO Europe, 2021).

8. High forest coverage and green infrastructure

With over 30% of Germany's land area forested, and extensive infrastructure such as health resorts and urban green networks, the country is geographically and logistically well-positioned to host scalable forest therapy programmes, especially for schools and youth services (Bundesministerium für Ernährung und Landwirtschaft, n.d.)

9. **Rising awareness of adolescent mental health needs in education**

Post-pandemic, schools and youth welfare services are increasingly aware of the psychosocial challenges facing adolescents. This awareness has created a demand for low-threshold, non-stigmatizing support tools, which forest-based programmes could fulfill—especially if aligned with school curricula or extracurricular frameworks (WHO Europe, 2021).

Conclusion

In conclusion, Germany offers a fertile yet underdeveloped environment for integrating forest-based therapies into adolescent mental health care. While the adult wellness sector and nature-based education are thriving, structured therapeutic applications for youth remain largely unexplored. Forest4Youth stands out as a pioneering initiative with the potential to redefine this landscape—by directly addressing adolescent needs, embedding forest therapy into psychiatric contexts, equipping professionals through targeted training, and leveraging digital tools to broaden reach and engagement. With strategic investment and policy alignment, such programmes could serve as models for a new standard of care—one that harnesses the healing power of nature to meet the urgent mental health challenges facing young people today.

IRELAND

National Context: Overview of Country and Policy

Landscape

Since 2006, Ireland's population has risen 8%—a major impact on the island nation's health system. Mental health, in particular, is a growing issue exposing major health inequalities, with levels of depression and admission to psychiatric hospitals higher among less affluent socio-economic groups. Youth mental health data also shows some worrying trends. In Ireland, the mortality rate from suicide in the 15-24 age group is the fourth highest in the European Union (Healthy Ireland, 2013-2025).

To address these trends, and create robust mental health supports for a growing population, the Health Service Executive (HSE) has developed and implemented several policy frameworks—many of which lay the foundation for non-clinical adolescent mental health supports that are the focus of this comprehensive report. The aspects of these frameworks most relevant to the development of forest-based programmes for adolescents, such as Forest4Youth, are identified below (Healthy Ireland, 2013-2025).

1. Healthy Ireland Policy Framework

This HSE framework was put into effect in 2013, with several goals to improve society-wide involvement in health promotion activities, create a multi-agency approach, and bolster prevention measures for children and families (Healthy Ireland, 2013-2025). Other goals of note include:

- Reference 2.12: Working with the Environmental Protection Agency on its Health Advisory Committee to explore the role that protection of the environment plays in improving health. In fact, one of the broader determinants for the *Outcomes Framework for Healthy Ireland* will be the availability of, and access to, green spaces.
- Reference 3.1: Support and link existing partnerships, strategies, and initiatives that strengthen the self-esteem, health, and resilience of young people.
- Reference 4.9: Promote a skilled, diverse, cross-trained prevention workforce through training and continual professional development.

The government of Ireland supports the implementation of this policy through community grants and supports for local health initiatives and wellness programmes. Government health reports, reviews and statistics point to positive progress, particularly as it relates to community health initiatives and public awareness. Funding limitations, socioeconomic disparities, and coordination among diverse sectors are a few of the challenges identified.

Though Healthy Ireland goes until 2025, the policy framework is expected to continue—with a deepening of community health collaborations, enhanced mental health supports, and further integrations with EU health strategies proposed. The focus on cross-sectoral, community-based health programmes could be leveraged to help connect people with nature—particularly adolescents identified as needing support.

2. Sharing the Vision Implementation Plan

Extending from *Healthy Ireland*, this implementation plan aims to improve mental health services in Ireland through early intervention, investing upstream, and community-based support. This more community-based approach is part of the wider Sláintecare reform programme, the purpose of which is to create a system better able to meet growing demand for mental health services (Sharing the Vision, 2022).

Based on annual reviews and implementation phase reports, progress in mental health service delivery and integration has been made as a result of *Sharing the Vision*, with strong support from mental health organisations, community groups, and service users.

Some of the key challenges identified were workforce shortages, integration challenges across community and clinical services, and stigma around mental health in some communities. The policy is part of a ten-year strategy (2020–2030) with periodic implementation plans. The 2025–2027 Implementation Plan includes expansions in social prescribing and crisis services (Sharing the Vision, 2022).

3. Pathways to Wellbeing, the National Mental Health Promotion Plan

Launched in tandem with *Sharing the Vision*, this plan provides a strong mandate for supports such as social prescribing. Under this plan, social prescribing link workers connect with service users to understand their needs and link them with community-based activities that can support their mental health. Tailored training for link workers was launched under Project Echo, an online peer learning network (Sharing the Vision, 2022).

The *Social Prescribing Framework of 2021* grew service provision from six services in 2017 to 44 by the end of 2023. Access to social prescribing will be expanded to include targeted supports for young people (Sharing the Vision, 2022). Schools are set to play a greater role in bolstering the referral pathways between schools and local services (Sharing the Vision, 2022). The University of Galway is currently undergoing a study of social prescribing services in Ireland, but the data has not yet been published (Mckenna, 2024).

Promotion and prevention have also taken centre stage, with a specific focus on strengthening foundations for positive mental health in early years and enhancing children and young people's social and emotional development (Sharing the Vision, 2022).

Though there is no specific mention of nature contact as part of any formal health policies, health-oriented interventions such as forest therapy, community gardening, and guided outdoor activities are increasingly integrated into the healthcare system through social prescribing.

Existing Programmes

Social Farming is Ireland's most wide-spread nature-based programme, and has received the greatest cross-sectoral government support. However, programmes taking place in forests or other contexts are also available and listed below.

1. Social Farming Ireland

Developed in 2011 by the Department of Agriculture, Food and the Marine (DAFM) and the CEDRA Fund, this programme offers activities on family farms as a form of social support service. It is designed to promote farm business diversification, promote inclusive rural community development, and implement people-centred services that can result in positive life changes (Social Farming Ireland, n.d.).

In 2021, a collaboration between Social Farming Ireland and the Department of Children, Equality, Disability, Integration and Youth served 135 participants, only 5 of whom were below the age of 18. The goals were to support people's health and social connection in a non-clinical setting—goals that could certainly be extended to meet the needs of young people on a more expanded basis.

Social Farming Ireland also collaborates with educational institutions to incorporate farm-based experiences into school curricula. At the Carndonagh Community School in County Donegal, students participated in an 8-week social farming programme, engaging in tasks like feeding calves and fencing (Social Farming Ireland, n.d.).

The results show a positive impact for participants. A Cost Benefit Analysis undertaken by Social Farming in 2020 showed the following:

- 90% of services/commissioners that have supported people to participate in Social Farming felt that there had been improvements in confidence and self-esteem amongst participants.
- 83% of services felt that participants had an improved sense of belonging and social inclusion.
- 85% felt that participants had improved their social skills.
- 78% felt that new friendships and relationships had been forged.
- 84% felt that participants experienced improved mental health.

The report concludes that this model of support is, "substantial, multi-dimensional and impossible to replicate in an institutional service or clinical context" (The Value and Values of Social Farming, 2022).

Some of the challenges of the programme identified by farm families include time commitment in working with participants, as well as balancing health and safety with skill development and progression.

Some of the challenges identified by participants include the daunting aspect of farm work for those new to it. One mitigation strategy is to help participants discover which farm activities suited them best. Making sure the necessary supports are in place for all participants, and ensuring adaptations can be made, is crucial to relationship building, the quality of the experience, and the effectiveness of the programme in general (The Value and Values of Social Farming, 2022).



Photo: Irina Novikova

2. LEAF Ireland's Woodland Initiatives

This programme is the result of a partnership between an international non-profit organisation, The Foundation for Environmental Education, and An Taisce, the National Trust for Ireland. Since 2021, approximately 5,000 students have participated in the Investigate Woodlands Workshops, where students plant trees and learn about the health benefits of woodlands. "Na Coillte Beaga" (Little Woodlands) facilitated the planting of 800 native trees with four schools in County Cork (LEAF Ireland, n.d.).

3. Junior Cycle Wellbeing Programme

Introduced in 2017, this mandatory component encourages schools to adopt a whole-school approach to wellbeing, potentially incorporating nature-based activities. It is primarily funded by the Department of Education, with support from the HSE. This initiative is delivered as a 400-hour, three-year programme designed to enhance students' physical, mental, emotional, and social wellbeing. It aims to help students

develop essential life skills and a strong sense of connection to their school and community (Junior Cycle Wellbeing Guidelines, 2021).

4. Doon Social Farm

This 33-acre organic farm located in County Limerick offers wellness programmes and biodiversity camps for children and young people facing social isolation, including those with additional needs. The farm also provides a QQI Level 4 course in organic horticulture, targeting learners facing educational challenges. It is supported by the Department of Rural and Community Development and Pobal through the Community Services Programme. (Ballyhoura Development, n.d.)

5. Forest School Ireland

This organisation offers both programmes for children and certified training courses, with the mission of getting children outdoors. The forest skills nature camps, home school, and after-school forest school programmes are part-funded and booked through The Heritage Council's Heritage in Schools scheme. (Forest School Ireland, n.d.)

Past Programmes

Woodlands for Health Programme

Created by Mental Health Ireland, Get Ireland Walking, Coillte, and University of Limerick, this 12-week green exercise programme supported adults in need of mental health services or supports. Woodland-based walks were organized in partnership with local organisations. It was implemented from 2014-2023. No current information on the programme is available.

A study of the programme was completed by the HSE and University College Dublin which showed a 75% improvement in mood and an 82% decline in suicidal thoughts. Interviews with participants found that the benefits included reduced medication dosage and decreased number of clinical appointments. The programme encouraged people to access forests for their mental health, and there are indications that the programme, if revived, could offer similar support for younger populations (Woodlands for Health, n.d.).

Green Prescription

This programme created by the HSE in 2012 allowed doctors around County Donegal to prescribe green exercise as a treatment with the goal of improving people's mental and physical health. People could also enter the 12-week programme via self-referral. The programme was not continued, perhaps due to the relatively low number of participants. However, an official evaluation of the programme released in 2013 indicates that improvements in mental wellbeing and socialisation were reported by participants. Though most of the referred patients were older adults in need of physical activity, this particular model—where an HSE officer links the individual with the community groups

facilitating the programmes—could be revived and replicated for adolescents (The Value and Values of Social Farming, 2022).

Farm care, forest care, and green exercise are the three main themes found across the programming landscape, with many reporting mental health improvements for the population served. Complications related to implementation across a wider population was a major theme across many of these programmes.

Stakeholders Involved

The main actors driving nature-based programmes are the government sector, as outlined in the policies section above, NGOs like LEAF Ireland, non-profits like An Taisce, and the private sector, such as organic farms participating in social farming. One private company of note is Coillte, Ireland's semi-state forestry company, is responsible for managing 440,000 hectares of primarily forested lands. It is the nation's largest forester and producer of certified wood. Coillte is also the largest provider of outdoor recreation space in Ireland and undertakes nature rehabilitation projects of scale (Coillte, n.d.)

Challenges & Opportunities

Challenges

1. Lack of systemic cohesion and integration across programmes

Ireland's mental health landscape for adolescents remains fragmented, with a patchwork of initiatives that lack strong coordination and connection to national policy frameworks. This limits the ability to mainstream nature-based therapies within the health and education systems. The current challenge is to create more seamless pathways—such as through social prescribing—that connect community programmes, clinical care, and policy to enhance scalability and impact (Health Service Executive, 2023).

2. Private funding leads to inconsistencies in quality

Many nature-based initiatives are established through private organisations that either charge a fee—making the service inaccessible to many—or rely on grants or funding to make them affordable. The latter can impact the consistency of the service, the quality of the therapeutic intervention, or the availability of formally-trained therapists.

3. Need for stronger evidence on social prescribing effectiveness

While social prescribing is gaining momentum, comprehensive research data on its impact—especially related to nature-based mental health interventions—is still

emerging. Continued rigorous evaluation is critical to build confidence among health professionals and policymakers, ensuring social prescribing can reliably serve as the main integration mechanism for Forest4Youth and similar programmes.

4. Training programmes for nature-based therapies remain underdeveloped

Ireland currently lacks formal, accredited clinical training pathways in forest therapy and related nature-based mental health interventions. Although academic programmes like the MSc in Outdoor Education at Atlantic Technological University and Forest School Leader certifications at Forest School Ireland provide foundational knowledge, further development is needed to establish specialized practitioner training that addresses mental health outcomes specifically (ATU, 2024; Forest School Ireland, 2024).

5. Policy frameworks do not yet explicitly embed forest therapy

Despite openness to innovative and integrated care models, national strategies such as Sláintecare have not yet formally incorporated forest therapy or structured funding for nature-based mental health interventions. This policy gap restricts the widespread adoption and sustainable financing of programmes like Forest4Youth, requiring ongoing advocacy and evidence-based dialogue to bridge this divide (Government of Ireland, 2023).

6. Dependence on emerging research to validate programme models

The credibility and scalability of nature-based interventions hinge on robust scientific validation. While RCSI leads important translational research, the field overall is nascent. Continued investment in research and knowledge dissemination is essential to solidify the evidence base, support practitioner training, and inform policy adaptation.

Opportunities

1. Strong momentum toward social prescribing as an integration pathway

Ireland has become one of the leading European countries in developing social prescribing as a tool for mental health and community well-being. The HSE's Healthy Communities Programme and Sláintecare reform agenda have introduced community-based, non-clinical referral models, increasingly accepted within general practice (Health Service Executive, 2023). This creates a powerful entry point for integrating nature-based mental health interventions—especially those targeting adolescents—into the formal health system.

2. Research capacity through academic leadership at RCSI

The Royal College of Surgeons in Ireland (RCSI) conducts translational research focused on the health benefits of nature exposure. Through its Centre for Positive Health Sciences, RCSI explores mechanisms linking nature contact to physical and mental health, helping to establish an evidence-based foundation for nature-based therapies (RCSI, 2024).

3. Emerging training landscape in outdoor education and well-being

While Ireland does not yet offer certified clinical training programmes in forest therapy, its education sector is taking a leadership role in developing nature-based learning and well-being curricula. Atlantic Technological University offers a Master of Science in Outdoor Education, Sustainability and Well-being, bridging environmental education and holistic health (ATU, 2024). Additionally, Forest School Ireland provides Level 3-accredited Forest School Leader training, creating a foundation of practitioners skilled in child-centred outdoor learning (Forest School Ireland, 2024). These programmes create a pipeline for expanding forest-based interventions into youth care settings, especially with additional modules focused on mental health.

4. Policy openness to innovation and integrated care models

Ireland's national strategies in health and education increasingly reflect an interest in whole-person, community-based care. The Sláintecare Implementation Strategy emphasizes prevention, early intervention, and intersectoral collaboration, which aligns well with nature-based mental health initiatives (Government of Ireland, 2023). Though forest therapy is not yet embedded in national frameworks, policy discourse and funding streams for health-enabling environments and youth well-being offer clear avenues for scaling evidence-based programmes like Forest4Youth.

Conclusion

Existing and past nature-based programmes in Ireland show strong potential for encouraging society-wide involvement in mental health promotion. Amplification and integration in the delivery of these supports across the lifespan, particularly for youth, will require continued collaboration of multiple agencies and community partners. As a form of social prescribing, green prescriptions could be a key driver of systematic change. By tapping into this social prescribing framework, Forest4Youth could be a tool to move these policies and programmes off the page and into the everyday lives of Irish youth.

LUXEMBOURG

National Context: Overview of Country and Policy

Landscape

Across Northwest Europe, the figures for youth mental health have been steadily on the rise—a trend noticed prior to, but further accelerated by, the COVID-19 pandemic. The statistics show that for two of the most common mental health conditions, anxiety and depression, the figures stay consistent and notable across the region. The 2022 Health Behaviour in School-aged Children (HBSC) study of adolescent mental health in Luxembourg showed that 28% of girls and 14% of boys aged 11-18 are at risk of depression. A prevalence for anxiety is also higher among girls in Luxembourg, with 45% of girls experiencing moderate to high anxiety symptoms compared to 23% of boys. The number of adults in Luxembourg experiencing mental health issues, burnout, absenteeism at work, and substance abuse has also risen (Health Behavior in School-aged Children, 2022).

In response to these mental health trends for youth and adults, the Luxembourg government has bolstered its commitment to mental health promotion under several policy initiatives, mainly the 2023-2028 Coalition Agreement outlined below. The potential for this policy response to be supported by nature-based initiatives is predicated by Luxembourg's unique geographical characteristics, which may offer particular advantages for innovative treatment approaches. As a notably green nation, Luxembourg provides abundant natural resources through its extensive parks, forests, and agricultural lands that remain easily accessible to residents. The country's deep-rooted connection to nature, stemming from its forested landscapes and historical agrarian traditions, continues to foster a close relationship between its people and the natural environment—creating an ideal foundation for exploring forest-based therapeutic interventions for adolescent mental health (Coalition Agreement, 2023-2028).

1. Coalition Agreement Prioritizing Prevention and Accessibility

Under the 2023-2028 Coalition Agreement, the Luxembourg government has committed to expanding mental health care, increasing the provision of mental health first aid courses, and increasing training for mental health care professionals. They also plan to develop a prevention strategy for mental health that will include regular health screenings, improved school health services, and the establishment of urgent care centres. It also advocates for outpatient care and home treatments, reflecting a shift towards accessible, community-based healthcare.

However, it should be noted that the working definition of prevention in the Coalition Agreement at the time of writing is more focused on early detection rather than prevention. Therefore, more awareness and integration of prevention strategies will be needed for effective execution. The agreement also recognizes the central role of education in building lifelong well-being and emphasizes school-based mental health, nutrition, and resilience-building (Coalition Agreement, 2023-2028).

2. Ministry of Health - Plan National de Santé Mentale

The main objective of the PNSM (2024-2028) is to improve the mental health and well-being of people in Luxembourg, to prevent mental disorders, to guarantee access to quality treatment adapted to needs, and to facilitate the social integration of people with a mental disorder, paying particular attention to particularly vulnerable populations. Though the Plan does not mention any correlation between nature and mental health, it does recognize the importance of investing in a “well-being economy”. This plan focuses on enhancing physical, mental, and social well-being through cross-sector collaboration and investment in various forms of capital. It aims to foster inclusive, resilient communities and protect natural resources, aligning with the vision of a healthier nation by 2035. It draws from evidence-based approaches to help people sustain physical, mental and social well-being (PNSM, 2024-2028).

3. Ministry of Education Youth Policy – National Youth Action Plan 2022-2025

The national action plan sets out the strategic objectives which are to guide the government’s youth policy up until 2025, within the framework of three areas of intervention affecting the well-being of young people:

1. promoting well-being at school
2. promoting well-being within youth and socio-educational structures
3. giving young people a voice and networking partners.

In particular, point 2 is supported by, among other methods, being outdoors with children (National Youth Action Plan, 2022-2025).

4. Ministry of Environment - The National Nature Protection Plan (PNPN)

This is the strategic instrument for implementing nature protection policy. It defines the priorities and strategic axes of this policy. It is mainly related to nature protection and restoration, with no direct link between nature and health, nor nature and education,

though it does underscore the country's commitment to protecting nature for the benefit of citizens (PNPN3, n.d.).

5. Addressing Mental Health and Child Well-being

Prime Minister Luc Frieden, in his 2024 State of the Nation address, acknowledged the impact of poverty on health and education. He announced plans to transform school medicine into comprehensive school health services, focusing on proactive health promotion and mental health support for children. This includes a shift toward learning environments that support mental, physical, and emotional development — providing fertile ground for nature-based educational models (State of the Nation, 2024).

6. Environmental Protection within Ville de Luxembourg

The City of Luxembourg seeks to protect the environment with the aim of improving the health, well-being and quality of life of all its residents. The City's priority policies mention that trees and forests have a positive impact on physical and mental health, and need to be preserved (Ville de Luxembourg, 2024).

Existing Programmes

Most of the programmes currently on offer in Luxembourg centre around therapeutic gardening and animal care, drawing upon the county's agrarian roots and also evidence that shows gardening can be good for mental and physical health.

1. The Therapeutic Garden

In the child psychiatry department of the Centre Hospitalier in Strassen lives a therapeutic garden designed to improve the psychological well-being of children aged 5 to 12 years old with psychiatric disorders. The programme enables the children to work the land, discover nature, and explore temporal reality through the seasons. The two-year programme is designed to increase self-esteem, improve their ability to concentrate, and to promote resistance to stress. Staff, including project lead Dr. Jean-François Vervier, have observed a high degree of engagement in and care for the garden, as well as less self-judgement (CHL, 2020).



Source: Paul Fogueenne, CHL

2. Community Garden in the City

The City of Luxembourg is promoting sustainable, communal and healthy gardening practices for citizens, though does not target youth specifically. The first community garden was opened in 2013 as a pilot project in Bonneweg-Kaltreis park, but has grown in three other locations.

These community gardens are places for people to meet, relax and exchange ideas. Luxembourg City offers year-round courses in organic gardening led by external experts. Novice gardeners are also supported by a city employee during their first year. As part of an agreement (2017-2019) with the Ministry of Sustainable Development and Infrastructure called “urban gardening”, the Centre for Ecological Learning Luxembourg (CELL) is further developing this multi-faceted systemic project, supported by the National Research Fund (Jardins de Ville, n.d.)

3. Youthful Nature Programme

This project allows children and young people who have experienced trauma to engage in ecology and sustainability workshops. It is a programme offering of SOS Kannerduerf Lëtzebuerg, a non-profit organisation dedicated to providing care and support for children and young people in Luxembourg, particularly those who cannot live with their biological families. Thanks to the support of the Fondation de Luxembourg, young people placed in the care of SOS Kannerduerf Lëtzebuerg benefit from animal-assisted learning

through the programme. Children take responsibility for animal care which gives opportunities for emotional healing and also serves as effective training for following rules and social structure— helping to build confidence and a sense of responsibility. The programme was inspired by a survey conducted by and for the organisation’s internal youth parliament (Fondation de Luxembourg, n.d.).

4. PSSM Teen Programme

This programme, launched by the Luxembourg Mental Health League and supported by l’Oeuvre Nationale, is aimed at teenagers—teaching them how to recognize the signs of mental health problems in their peers and how to provide them with appropriate support. This programme aims to create a culture of mutual support where teenagers know when and how to seek help from adults, thus facilitating early intervention. Though limited resources have made deployment challenging, 449 PSSM teen rescuers have been trained across at least 9 high schools. The objective is for these courses to be available in all secondary schools in Luxembourg. It is based off of a programme designed for adults and has been well received by schools and participating students (l’Oeuvre Nationale, n.d.).

5. Nature-Based Learning

Luxembourg is also home to a handful of robust nature-based learning programmes within school settings, including at the International School of Luxembourg (ISL), the Elementary School Lorentzweiler, among others. ISL is a fee-paying school in the private sector, and their NBL programme is notable for the purpose of this report because it offers support to students in their Lower School, particularly those who do not do well in traditional classroom environments. The school selects a group of students for a weekly intervention, taking place over the course of six weeks, in a natural environment where they are afforded the space to roam and explore. These nature areas are accessed by free public transportation within the space of the school day.

Part of the pilot included the publication of a 2023 research paper which explored the impact of the programme on its students, ages 10-14. A combination of observation, discussion, and self-report questionnaire provided insight into the engagement and enjoyment of the students’ experience. The programme’s leader, Gail Keech, said the results of the study showed a wide-range of benefits for the students, including joy, well-being, confidence, risk-taking, hands-on learning, curiosity, calm, and learning engagement (Keech and Gray, 2023).

6. The Forest and I Programme

Luxembourg-based nonprofit and Interreg North-West Europe partner UNature has adapted their signature Nature (Re)Connection programme specifically for high school students. Since its inception in 2021, the programme has been delivered to 300 students,

in collaboration with the Oeuvre Nationale de Secours Grande-Duchesse Charlotte in the context of their “Action Jeunes – Bien Vivre la Pandémie”.

The goal is to get students out of the classroom and into the forest to help them both rediscover their connection with nature and offer them the possibility of developing a positive relationship with nature that will counterbalance the negative discourse about our environment that is deeply affecting their mental health (UNature, n.d.).

Past Programmes

I'm out ("Mir si raus") Action

This short-term outdoor learning project using nature walks for anxiety reduction in children was promoted by the Ministry of Education, but has since been discontinued.

Stakeholders Involved

Commitments to nature protection and the wellbeing of children by the Ministry of Health, the Ministry of Education, the Ministry of the Environment, and the City of Luxembourg all indicate that the government plays a key role in creating nature-based mental health supports for adolescents in Luxembourg. There is also a growing landscape of non-profit organisations, foundations, and individual actors who offer or facilitate nature-based programmes. The Centre for Ecological Learning Luxembourg (CELL), UNature, natur&mwelt, and Fondation de Luxembourg are a few mentioned within this report.

Challenges & Opportunities

Challenges

1. There is no official link between nature and mental well-being.

Though evidence showing a link between nature contact and mental health promotion is recognized, there are no official policies prioritizing these types of interventions. Neither the health system nor private insurers reimburse fees for nature prescriptions or programmes.

2. The patchwork of providers is disconnected.

Though there are several nature-based programme providers operating, they are not well-integrated into the public consciousness, well-connected to each other,

nor recognized within national frameworks. This makes access to these programmes difficult, and the quality of the offering inconsistent.

3. Training courses are not integrated into the policy frameworks.

Some training courses do exist to support outdoor educators, such as those offered through Natur Bewegung Entwicklung (NBE) and the advisory services on teaching outdoors offered through Natur- & Geopark Mëllerdall. However, these courses are scattered in various parts of the country, are not mandatory requirements, and have no universal certifications associated with them. If these trainings were better integrated into the policy frameworks and more widely available, they would provide much better support to those working with youth.

Opportunities

1. A national health plan that emphasizes well-being.

Governmental bodies, particularly the Ministry of Health, have demonstrated a commitment to health promotion through well-being programmes, some of which recognize the importance of nature-based support. However, the link has yet to be made through any official policies or procedures.

2. Nature accessibility.

Luxembourg is a green country with many parks, forests, and farmland which make nature a relatively accessible resource. There is also free public transport links to a wide range of forest and green areas, enabling practical access for many. In addition, the country has long held an affection for nature through its forests and traditional agrarian society which help to keep people in closer contact with the natural world.

3. A robust nature protection plan.

The policy frameworks of the country's Ministry of the Environment support this historical context, showcasing an aptitude for nature protection and an appreciation for the health benefits of nature.

4. A rich kaleidoscope of nature-based practitioners.

There are many nature-based programmes, courses, and workshops offered by organisations and individual practitioners around the country.

Conclusion

Luxembourg possesses significant strengths that position it well for developing nature-based mental health interventions for adolescents, including abundant natural resources, a cultural affinity for the outdoors, robust environmental protection policies, and a diverse ecosystem of nature-based practitioners offering programmes across the country. The Ministry of Health's commitment to health promotion through well-being programmes further demonstrates governmental recognition of holistic approaches to mental health. However, these considerable assets remain underutilized due to critical systemic challenges: the absence of official policies linking nature contact to mental well-being, a disconnected network of service providers, and scattered training opportunities that lack mandatory requirements and universal certification. By addressing these gaps, Luxembourg will be able to offer robust programming to support the mental health of adolescents.

6. Cross-Country Comparison & Emerging Patterns

Across all five countries studied—Germany, France, Belgium, Ireland, and Luxembourg—there are several commonalities and differences. By comparing these, it is possible to draw a few key emerging patterns that can help to chart a path forward for the region.

Commonalities

Cultural Affinity with Nature: In all countries, there exists a longstanding cultural and emotional connection to forests and natural landscapes. This shared affinity provides a strong societal foundation for the development of nature-based interventions.

Youth Mental Health as a National Priority: All participating countries recognize the rising mental health needs of adolescents and have taken steps to prioritize youth well-being in national policy agendas. This includes strategies ranging from school-based mental health initiatives to increased funding for community mental health services.

Grassroots and Local Innovation: Forest-based and nature-based programmes tend to emerge from local actors—such as NGOs, independent therapists, educators, or municipalities—rather than from centralized national health systems. These initiatives reflect strong bottom-up innovation, often responding directly to community needs.

Fragmented Training and Standards: While there is growing interest in professional development for forest therapy and nature-based interventions, training opportunities remain highly decentralized. No country has yet established a nationally recognized or protected title for forest therapy practitioners working with adolescents, resulting in inconsistent standards and a lack of formal clinical pathways.

Differences

Policy and Reimbursement Integration: Belgium and Ireland have paved the way towards the integration of forest and nature-based therapies into national mental health strategies—though formal integration has yet to be fully realised. Both countries have initiated or expanded reimbursement pathways, such as social prescribing in Ireland and green care certification systems in Belgium, which make nature-based mental health support more accessible and sustainable.

Civil Society vs. Clinical Uptake: Germany and France have strong networks of grassroots initiatives, training academies, and civil society organisations promoting forest therapy. However, these efforts have yet to gain traction within formal psychiatric institutions, limiting widespread clinical implementation. These countries tend to rely more on passionate individual actors than system-level mandates.

Institutional Coordination: Luxembourg, although smaller in scale, is demonstrating promising cross-ministerial coordination between its health, education, and environment sectors. This whole-of-government approach positions the country as a model for systemic integration of forest-based programmes in adolescent care.

Innovative Practices

Belgium – Care Farm Certification and Green Prescriptions: Belgium has established a robust care farm certification network that formally integrates agriculture-based mental health support into public services. Through green prescriptions, health professionals can refer individuals to nature-based activities, creating a clear pathway between clinical care and outdoor therapies. This model highlights how structured governance and policy alignment can legitimize nature-based approaches.

Germany – Kurwald/Heilwald Designations and Forest Health Research: Germany's innovative Kurwald and Heilwald classifications designate forests for preventive and therapeutic use, respectively. These designations are supported by scientific partnerships with institutions like LMU Munich and the University of Greifswald, which are conducting research into forest-based therapy's impact on stress, anxiety, and physiological markers. This infrastructure offers strong potential for future clinical application.

Ireland – Social Prescribing and Translational Research: Ireland has worked to create a foundation of social prescribing pilots, evaluated for clinical impact by the HSE and RCSI. The task of integrating nature-based practices into the health infrastructure is a long and arduous one, with the extent of the roll-out hindered by a lack of sustainable funding and limited uptake by the general population. A stronger evidence base will also be needed to support broader policy adoption.

France – UNESCO School Initiative and Forest Wellness Programmes: France's participation in UNESCO's "Happy Schools" initiative supports the integration of emotional well-being and nature-based learning into national education frameworks. Alongside this, community-level programmes like Bulle de Sérénité and L'appel des Forêts are pioneering therapeutic forest models for youth. Though currently informal, these efforts signal a shift toward system-wide uptake of forest therapy within mental health and educational settings.

Shared Challenges

Lack of Adolescent-Specific Clinical Programmes: Across all countries studied, very few forest-based interventions are designed explicitly for adolescents with psychiatric diagnoses. Most programmes target adults or general populations and lack the specialized frameworks necessary to meet the therapeutic needs of youth.

Absence of National Standards or Accreditation: There is currently no protected title or nationally recognized training pathway for forest therapy practitioners specializing in adolescent mental health. This creates inconsistencies in practice quality and hesitancy among clinical stakeholders to refer patients or invest in staff training.

Access Disparities Between Urban and Rural Areas: Many forest therapy programmes are concentrated in rural or forest-rich regions. Adolescents in urban or underserved areas—where mental health needs may be more acute—often lack access to these services. Without scalable outreach or digital components, this geographic imbalance limits equity.

Limited Clinical Evidence Base: While anecdotal evidence and preliminary evaluations are promising, there is a general shortage of peer-reviewed, high-quality research supporting the long-term efficacy and cost-effectiveness of forest-based interventions for adolescents. This weakens the case for funding and policy-level adoption. In fact, for many of the countries included in this report, the lack of healthcare reimbursement for forest-based therapies is the direct result of an underdeveloped body of evidence. Closing the funding gap will therefore require an investment in robust clinical research.

7. Opportunities & Recommendations

Opportunities for Forest4Youth

The Forest4Youth programme is uniquely positioned to address the absence of adolescent-specific forest therapy programming across Europe. By designing and piloting targeted interventions that directly support youth mental health needs, it can fill a critical gap in the current mental health landscape. Through rigorous monitoring and evaluation, Forest4Youth can also generate robust research evidence that contributes to national and EU-level policy development around nature-based mental health care.

In addition, the programme includes a vital training component aimed at equipping both healthcare professionals and foresters with the skills necessary to implement these interventions effectively. This dual-sector training model promotes interdisciplinary collaboration and ensures that forest therapy can be delivered in a safe, developmentally appropriate, and therapeutically sound manner. Finally, the programme holds strong potential to model scalable integration within public health and education systems. By aligning with social prescribing pathways, collaborating with schools, and embedding forest-based therapy within existing care infrastructure, Forest4Youth can demonstrate how nature-based approaches can be embedded into mainstream adolescent mental health support.

Policy & Programme Recommendations

Establish National Accreditation and Training Pathways: Countries should develop national certification or quality assurance systems for professionals working in forest and nature-based mental health care. These systems should be paired with structured training programmes to ensure practitioners—whether psychotherapists, educators, or forest guides—are adequately prepared to deliver safe, evidence-informed interventions. This dual approach would create consistent standards, foster professional credibility, and support the integration of nature-based approaches into clinical and educational care pathways.

Promote Cross-Sectoral Collaboration: Ministries of health, education, and environment should work collaboratively to embed forest-based approaches into mainstream adolescent mental health care. Interministerial task forces or working groups can help bridge existing policy silos and build joint funding mechanisms.

Fund and Evaluate Pilot Programmes: Public health authorities should support pilot programmes in psychiatric clinics, schools, and community settings to test and refine

adolescent-specific forest therapy models. These pilots can act as demonstration projects to evaluate impact, identify best practices, and promote scale-up.

Embed Forest Therapy into Social Prescribing: Nature-based interventions should be formally included in national social prescribing frameworks, allowing general practitioners, school psychologists, and other professionals to refer individuals to forest therapy as part of a recognized care pathway. To reinforce both scalability and inclusivity, programmes that have shown efficacy with adults should be adapted and expanded to meet the developmental needs of adolescents. Ensuring that forest therapy is available across the continuum of care—from early prevention to clinical treatment and recovery—will help address current gaps in age-specific access and strengthen integration into broader mental health strategies.

Research Recommendations

Advance Rigorous Evaluation: There is a pressing need for randomized controlled trials (RCTs) and longitudinal studies specifically focused on adolescents engaged in forest-based therapy. Such studies would provide the empirical evidence necessary to inform clinical guidelines and policy decisions.

Study Cost-Effectiveness and Access: Future research should investigate the economic impact of forest therapy interventions, including cost-effectiveness compared to conventional treatments and their ability to reach underserved populations. Equity outcomes, such as geographic and socioeconomic accessibility, should also be explored.

Document and Disseminate Best Practices: Research institutions and implementing partners should work together to map best practices in training, delivery, and supervision. Comparative studies across countries and programme models would help build a replicable and scalable framework for adolescent forest-based care.

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Forest4Youth

THE PROJECT

Forest4Youth aims to develop forest-based therapies for young people in North-West Europe by assessing current practices and co-designing care protocols.

Transnational collaboration will ensure these protocols are harmonised and evidence-based, implement pilot projects, explore VR-based alternatives to enhance access, and offer training for professionals adopting these interventions.

Total project budget

€5,5 million

EU funding

€3,3 million

Timeline

2025 - 2028

