

Valuing the mental health benefits of woodlands

During the COVID-19 pandemic, the prevalence of mental illness has increased. Access to trees, woods, forests and other natural environments, including urban parks and green spaces, has become even more important for individuals to support and maintain their well being. This new research is the first of its kind to value the mental health benefits associated with the UK's woodlands. The values are based on the role of woodland in alleviating mental illnesses, resulting in reduced costs to the NHS and employers. The annual mental health benefits associated with visits to the UK's woodlands are estimated to be £185 million. Country-level values, based on population size, are provided in the table below. This research is expected to be of use to policymakers in making the case for continued investment in and expansion of the UK's woodlands and treescapes, and the provision of public access to ensure people reap the benefits of those woodlands.

An 'avoided costs' approach, and what this means

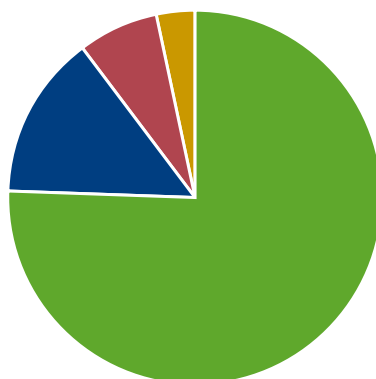
- The research is the first attempt to estimate the mental health benefits associated with the UK's woodlands using an avoided costs approach, by valuing woodland through the reduced prevalence of mental illness.
- The values are based on evidence of the reduced incidence of depression and anxiety resulting from regular visits to woodland.
- The avoided costs are based upon the average annual costs to society of living with depression or anxiety.
- These comprise costs associated with treatment, including visits to GPs, drug prescriptions, inpatient care and social services.
- They also include employment-related costs based on estimates of the number of working days lost due to mental health issues.
- The use of an avoided costs approach avoids 'double counting' with values for the other benefits of woodlands e.g. recreation or physical health benefits.

There has been a lack of evidence on the economic value of woodlands in improving mental health. This ground-breaking research is the first of its kind to value the mental health benefits associated with the UK's woodlands

Values for each of the four countries of the UK, based on population size

England	£141 million
Scotland	£26 million
Wales	£13 million
Northern Ireland	£6 million
United Kingdom	£185 million

Country figures are individually rounded so do not sum to the UK total



■ England
■ Scotland
■ Wales
■ Northern Ireland

Methods for estimating avoided costs

The values presented are based on the most robust approach out of a number of pathways considered in the study for valuing the mental health benefits of woodlands. These pathways are summarised in the table below, and include the impact of regular physical exercise on the incidence of mental health conditions. The 'visits to nature' pathway, based on the evidence of regular visits to natural environments and reduced incidence of depression and anxiety, is considered to be the most robust of the four pathways examined.

- The other approaches include proximity-based measures which are based upon links between residential greenspace and lower mental ill health, as well as between street tree density and reduced antidepressant prescriptions.
- In view of the conservative approach to valuing the mental health benefits of street trees in terms of reduced antidepressant prescription costs alone, adding this value to that for visits to woodlands is considered feasible.
- The aggregate annual value is estimated to be £202 million (at 2020 prices). At country level (rounded to nearest million), these values are £155 million for England, £27 million for Scotland, £13 million for Wales and £6 million for Northern Ireland.

Summary of the mental health research used within pathways

Pathway	Description
Visits to nature	Visits to outdoor greenspace of 30 minutes or more per week have been associated with a 7% reduction in the prevalence of depression in the population, according to research published in Scientific Reports
Physical exercise	Findings from research tools developed by Sport England suggest that, on average, adults in the UK can reduce their incidence of depression by 0.67% by walking two hours per week
Antidepressants and street trees	Research published in the journal of Psychological Science reported a decrease of 1.18 prescriptions per thousand population, per unit increase in trees per kilometre of street in London
Proportion of greenspace	Research has found improvements in mental health in areas with a greater proportion of greenspace. Estimates of avoided mental health spending have been applied to these findings to estimate a mental health value of greenspace in London of £370 million
Forest bathing/ forest therapy	Forest bathing, or taking in the forest atmosphere, has been found to be beneficial in the alleviation of anxiety and stress. However, this pathway was not quantified due to lack of data

An underestimate of the true value?

- The reported values are likely to be underestimates because they are based upon conservative estimates of the costs of mental health issues, while the number of regular woodland visitors is based upon year-round visiting habits.
- Mental health benefits for people who visit woodlands during the summer, but not during winter, are not currently accounted for using this approach.
- Mental health benefits received by those who would not have developed a specific mental health condition were it not for the woodlands, but nonetheless benefit, are not accounted for. Akin to the invisible part of an iceberg below the water, these mental health benefits of woodlands may potentially be substantially larger than those quantified using an avoided costs approach.
- Further research exploring links between improvements in mental health or reductions in mental distress and visits to the UK's woodlands would significantly improve the evidence base and provide more robust estimates in the future.



Further information and references for this research are published in Forest Research report *Valuing the mental health benefits of woodlands*

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To find out more about this and related research, go to:
[forestresearch.gov.uk/
research/valuing-mental-
health-benefits-forests](https://forestresearch.gov.uk/research/valuing-mental-health-benefits-forests)