**Green spaces & mental health – an overview**

Extern

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| This paper on green spaces & mental health intends to provide an overview of this relationhip. It consists of – in most cases – literal quotes from articles about mental health & nature. For more detailed information and context, please consult the original sources.  *(This paper does not address dementia & green spaces – seperate papers will be produced for other health challenges).* |

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Illustration by Dan Evans, in Lucy Jones, 2017

**Mental health – one of the bigger issues in our societies**

The early years of the 21st century have witnessed a worldwide epidemic of poor mental health and related illnesses (Flemings, S., 2019).

Stoffels states - in an article that is part of The World Economic Forum Annual Meeting - the following about mental health:

“Mental health and brain disorders are increasingly prevalent. Suicide and depression affect people who may appear “healthy”, as evidenced by several tragic high profile suicides in 2018. Worldwide, anxiety affects one billion people. Nearly a third of that figure suffer depression, 60 million suffer bipolar affective disorder and a further 21 million have schizophrenia or other severe psychoses. Additionally, dementia - already a widespread condition - is expected to impact more than 150 million people 30 years from now.

The biology of these challenges is complex. Although neuroscience is advancing, the speed of progress is limited by public and private investment that lags behind that in other less prevalent disease areas. Meanwhile, inaccurate assessment, social stigma and a limited number of trained healthcare providers compound the inability to address the mental health epidemic effectively. To solve these challenges, we need even greater international coordination and collaboration to help drive innovation at the same speed and scale as we did in epidemic disease”. (Stoffels, P., 2019, World Economic Forum).

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| **Number one mental health concern**  *While depression is the condition most will associate with mental health issues, and the leading cause of disability worldwide, it is not the number one mental health concern people face. That unwanted accolade goes to anxiety. An estimated 275 million people suffer from anxiety disorders. That’s around 4% of the global population, with a spread of between 2.5% and 6.5% of population per country. Around 62% of those suffering from anxiety are female (170 million), compared with 105 million male sufferers.* (Flemings, S., 2019). |

**Reducing green spaces, reducing mental health**

The truth is, day-to-day life is increasingly distant from nature and natural settings, in particular due to the still increasing urbanisation in most parts of the world. More than 50% of people now live in urban areas. By 2050 this proportion will be 70%. Urbanization is associated with increased levels of mental illness, but it’s not yet clear why. (Bratman, G.N., 2015). Also our current social and communication patterns bring us further away from nature. In fact, city dwellers have a 20 percent higher risk of anxiety disorders and a 40 percent higher risk of mood disorders as compared to people in rural areas. People born and raised in cities are twice as likely to develop schizophrenia. (Jordan, R. 2015).

Re-connecting to nature is therefore becoming a very important topic in relation to human health in general, and mental health and health care in particular.

**Benefits of green spaces for mental health**

Spending time in green space or bringing nature into your everyday life can benefit both our mental and physical wellbeing. For example, doing things like growing food or flowers, exercising outdoors or being around animals can have lots of positive effects. It can, according to Mind *– for better mental health* (2018):

* improve your mood
* reduce feelings of stress or anger
* help you take time out and feel more relaxed
* improve your physical health
* improve your confidence and self-esteem
* help you be more active
* help you make new connections
* provide peer support.

Spending time in nature actually has a physiological effect on the body, reducing blood pressure andthe hormone cortisol, which is linked with stress. Being in beautiful outdoor surroundings acts as [refreshment for the brain](http://www.nationalgeographic.com/magazine/2016/01/call-to-wild/), which can also improve focus, creativity, and problem-solving abilities.

While over-exposure to UV rays comes with health risks, getting some natural sunlight is important. Studies have found that night shift workers who get very little daylight may produce less melatonin. Melatonin imbalances can affect the mood cause seasonal affective disorder (SAD). (Donnelly, S., 2018).

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| **Positive time-effect on mind of exposure to nature, based on Urban Mind app project**  *Firstly, the positive effects of a single exposure to nature – for example, a walk, run or stint in the garden – can last for seven hours after an individual has experienced it. This refers to feeling happier and in good spirits.*  *That means that walking to work in the morning, or taking the dog for a stroll first thing, can really leave you feeling happier all day.*  *Secondly, not everyone will have the same reaction after exposure to nature. Most interestingly, those individuals at greater risk of developing mental health issues, including anxiety and depression, benefit more from getting outdoors than others.*  *This is a really important finding and will be useful in helping patients to overcome their mental health issues. It can help people who are prone to periods of unease adapt their lifestyle to better suit their mental needs.*  (Urban Mind app project, in: Pritchard, E-L., 2018). |

The results finding of a study in South Sweden (2012) do not directly support the hypothesis of a preventive mental health effect by access to the green qualities. However, the additive effect of serene nature to physical activity contributed to better mental health at follow-up. This tendency was equal for both sexes, but statistically significant only for women. (Per-Olof Östergren, Björk, J., Grahn, Patrick, Skärbäck, Erik & Peter Währborg, 2012).

There is scientific documentation that people who live in greenspaces generally seem to be happier, and may live longer than those who don’t. Passmore is taking that research further. This study is one of a series by a research team in the University of British Columbia (UBC) Okanagan’s psychology department known as the “Happy Team” which is providing evidence that nature can increase happiness (Wellborn, P., 2017).

An UK study has found that people living in the city have higher levels of mental well-being when they are in contact with nature, including being outdoors, seeing views of the trees and the sky, and hearing the birds sing. For the study, researchers at King’s College London, landscape architects J & L Gibbons and the art foundation Nomad Projects developed a smartphone-based app called Urban Mind, which was designed to determine how exposure to natural features in cities can impact a person’s mental well-being. (Pedersen, T. , 2018).

In a study of G.N. Bratman c.s. , addressing the natural vs. urban settings**,** two groups of participants walked for 90 minutes, one in a grassland area scattered with oak trees and shrubs, the other along a traffic-heavy four-lane roadway. Before and after, the researchers measured heart and respiration rates, performed brain scans and had participants fill out questionnaires.The researchers found little difference in physiological conditions, but marked changes in the brain. Neural activity in the subgenual prefrontal cortex, a brainregion active during rumination – repetitive thought focused on negative emotions – decreased among participants who walked in nature versus those who walked in an urban environment. (G.N. Bratman c.s., 2015 ).

Findings in 2017 from the University of Exeter, the British Trust for Ornithology, and the University of Queensland indicate that people living in neighborhoods where they can see more trees, shrubs — and birds — have improved mental health. After controlling for factors like income, age, sex, and neighborhood deprivation, researchers found that respondents had reduced levels of depression, anxiety, and stress when they could see more birds in the afternoon from places such as their windows or gardens (Wachter, H., 2017, University of Exeter, 2017).

**Quality or quantity of green spaces – what matters for mental health?**

Growing research suggests that just about any kind of green space—from hiking trails and coastlines to soccer fields and local parks—can make you happier and boost your mental health, as long as it has a few key qualities.So what makes a green space high quality (and therefore healthful)? Some research has linked specific types of green spaces—broadleaf woods, parks that feature water and areas with significant biodiversity, for example—to good health. (Abigail, A., 2017). Others point out to the functionality of green spaces as parks (including social contact and safety).

People may also experience the benefits of green spaces in unique ways. Lots of research assumes that humans have an evolutionary connection to nature or that people enjoy green spaces because they remind them of childhood experiences, says Sarah Bell, a research fellow at the University of Exeter’s European Centre for Environment and Human Health. But that expectation can feel exclusionary to low-income communities or disabled people who may not have had access to nature growing up, says Bell (Abigail, A., 2017).

When it comes to seeking happiness, the quality of the green space matters more than the quantity. In one recent study in the journal *BMC Public Health*, researchers found no significant link between the amount of green space in an individual’s local area and their mental wellbeing (see below box). Merely having vegetation doesn’t guarantee a positive experience (Abigail, A., 2017).

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| *“The proportion of green space in an individual’s local area was significantly and positively associated with mental wellbeing in univariate models, but became weaker and statistically non-significant after adjusting for socio-demographic variables and urban/rural location. While the green space in an individual’s local area has been shown to be related to aspects of mental health such as happiness and life satisfaction, the association to multi-dimensional mental wellbeing is much less clear. Further research is therefore needed to explore the relationship of other aspects of green spaces aside from size, such as accessibility, aesthetics and use, to mental wellbeing”.* (Victoria Houlden, Scott Weich & Stephen Jarvis, May 2017). |

**Positive effects of nature for mental health in relation to mental health care**

The field of ecotherapy – the idea of connecting to nature to aid your wellbeing – isn't new. In his book*Biophilia*, Edward O. Wilson (1984) put forward a theory that the affiliation we have with nature is rooted in our biology and genetics. Around the same time Wilson was writing, Japanese doctors began to prescribe forest bathing for optimum health. In Norway, 19th century poet Henrick Ibsen coined the word "friluftsliv" – meaning "open-air living", which soon turned into a Scandinavian cultural phenomenon. But until recently, strong scientific evidence to back up anecdotal evidence that nature is good for your mental health was scant. That's changing, however. (Lucy Jones, 2016).

The World Health Organisation (WHO) states that access to green spaces can reduce health inequalities, improve well-being, and aid in treatment of mental illness. WHO says that some analysis suggests that physical activity in a natural environment can help remedy mild depression and reduce physiological stress indicators (WHO, 2019).

New Port Academy lists the positive affects of nature for mental health and mental health care as follows:

* Nature relieves depression and anxiety
* Nature inspires awe and gratitude
* Nature is counteracting the effects of too much screen time
* Natural relief from the symptoms of ADHD and mental fatigue
* Nature builds resilience and confidence.

Contact with nature has also been shown to reduce agitation and improve sleep and hormonal balance. These results, representing the outcomes of several studies, are summarized on the University of Washington’s [Green Cities: Good Health](http://depts.washington.edu/hhwb/Thm_Mental.html) website (Lines, E., 2013).

The Canadian National Collaborating Centre for Environmental Health reports that there are several pathways by which time in nature improves mood- by reducing stress both physiologically and through attention restoration, by increasing physical activity and by increasing social contact with others.  Additionally, scientists have demonstrated changes in brain activity and reduced rumination following a walk in nature.  Rumination is a preoccupation with negative thoughts and is associated with depression Participants of the David Suzuki 30×30 challenge (30 minutes daily for 30 days) reported better moods, more energy and vitality as well as increased fascination ( which is researcher speak for a sense of awe and affinity with the natural world). (Nature Canada, 2018).

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| **Mental Health Promotion**. *Nature is a vital element for so called ‘mental health promotion’, which is about positively framing mental health and wellbeing, promoting the importance of protecting it and highlighting the types of activities that can help to achieve this. One of the challenges is confusing language, where mental health and mental illness are often seen as the same thing. However, the World Health Organization (2013) defines mental health in this positive way as: …a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community. Mental health promotion strategies are primarily about promoting mental health rather than focusing on treatment or recovery from mental illness. It is important that they are inclusive of everyone however, from those who are suffering from a mental illness, to those who are experiencing good mental health and wellbeing. Nature has been shown to be both restorative, for those recovering/suffering from mental illness (Alvarrson et al. 2010), and protective for general mental health (Government of Australia, 2016).* |

With the vast range of therapeutic tools and techniques at our disposal, mental health practitioners often overlook a key resource that has a multitude of mental, emotional and cognitive benefits, is generally accessible to most people, and doesn't cost a thing: the great outdoors. As humans become less connected with nature, we lose an essential health buffer. (Tori Rodriguez, 2015).

Positive health effects have been found for not only being immersed in nature — like in the woods or a park — but also for looking out the window at natural scenes and even simply looking at photos of them.

Ulrich (1984) found that hospital patients who could view the outdoors through a window recover from surgery faster than those with restricted views; that students who watched a stressful film recovered faster in a natural setting (Ulrich, 1991); and that prisoners with a view of nature show stress symptoms less frequently (Moore, 1981). The ability to view a natural scene may also enhance attention and improve job satisfaction (Kaplan and Kaplan, 1989). Maller, Townsend, St. Leger, et al. (2008) also refer to studies that indicate mood is improved by viewing nature. They note that simple observation is itself an activity and one that appears to offer restorative impacts. Viewing nature is positive for health, particularly in terms of recovering from stress, improving concentration and productivity, and improving the psychological state, particularly of people in confined circumstances such as prisons, hospitals, and high-rise apartments/high-density living (Quote from: Lines, E., 2013).

A study, published in 2013 in *Environmental Science & Technology*, investigated the impact of different types of images on stress recovery. Participants viewed slides of scenes from either nature or a built environment for 10 minutes, and then they completed a task designed to induce mental stress. (Brown, DK, Barton, JL, Gladwell VF, 2013). The sounds of nature appear to have similar benefits, according to a 2013 study of Annerstedt M, Jönsson P, Wallergård M,et all,  showing that hearing recorded sounds from nature had similar effects on recovery from a stressful situation as the study involving nature images (Tori Rodriguez, 2015).

Another – recent - study indicates that people who grew up without green spaces are 50 per cent more likely to develop schizophrenia compared with those who grew up surrounded by green spaces. Green spaces include grassy fields, forests, or a field of corn. All types of vegetation count. This was the conclusion from a study of scientists from the Department of Bioscience and the Centre for register research at Aarhus University, Denmark. Schizophrenia develops by a combination of many different factors, which increase the risk and ultimately lead to schizophrenia. Our surroundings are apparently one of these factors (Barse, M., 2018; Engemann Kristine, Pedersen Carsten, Bøcker, ArgeLars, Tsirogiannis Constantinos, Mortensen Preben & BoSvenning Jens-Christian, 2018).

Research from Natural England shows that something as small as seeing that pear tree every day could have a real impact on my mental health. A report from 2016 shows that taking part in nature-based activities helps people who are suffering from mental health problems and can contribute reducing levels of anxiety, stress, and depression. The report focuses on the 3 main green care interventions that are currently helping people in England who have mental ill-health: care farming; environmental conservation; and social and therapeutic horticulture. The report presents evidence that shows that projects in each of these areas are already making a difference to people’s lives and bring a range of positive benefits for those with existing mental ill health. These include a reduction in depression, anxiety, and stress symptoms, and an improvement in dementia-related symptoms. The report also shows that people involved in these types of green care activities have a greatly increased level of social contact and inclusion; as well as a sense of belonging and personal achievement. (Natural England, 2016). The report identifies the need for greater collaboration and leadership to help enhance the provision of green care services. The launch of the Green Care Coalition, involving around 25 organisations from the care farming sector to social and therapeutic horticulture organisations, will help tackle this issue. (Natural England, 2016)

From observations in psychotherapy we know that mental health and well-being become elevated when people experience some kind of engagement or connection with the larger world, outside of themselves (Douglas LaBier, 2018). Now, a recent empirical study of the University of British Columbia - published in the *Journal of Positive Psychology* -   finds evidence in support of what was observed clinically. It found that virtually any form of immersion in the natural world, outside of your internal world, heightens your overall well-being and well as more positive engagement with the larger human community. Even short nature interventions can bring out the best in people. (Patty Wellborn, 2017).

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| *“The art of healing comes from nature, not from the physician.” Paracelsus, 16th-century German-Swiss physician* |

This is not to say that nature can replace the traditional pharmacology and psychotherapy treatments for mental problems like depression. However, it does suggest that everyone, including those who suffer from depression would benefit from access to green spaces (Canada Nature, 2018). This includes living in proximity to nature; a study in the U.K. of disadvantaged pregnant women found that higher residential greenness was associated with reduced depressive symptoms (McEachern, RRC, Prady, SL, Smith, G. Et al.  2015).

Conclusions from Benjamin P. Bishop (2013) are that mental health services should engage nature-related programming to provide opportunities that enhance multiple aspects of health and well-being, increase constructive interpersonal relationships that lead to a more authentic social inclusion, and support the destigmatization of mental illnesses.

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| **Nature-related programming benefits**  *As a contemporary method for mental health treatment, Nature programming appears to enhance participants' overall quality of life. A study by Hefley (1973) has identified four categories of benefits associated with these specific interventions: intellectual, social, emotional, and physical:*   * *Intellectual benefits: attainment of new skill sets; improved vocabulary and communication skills; arousal of curiosity; increased powers of observation; pre-vocational and vocational training; and multi-sensory stimulation* * *Social benefits: improved interaction within groups and with members outside of the group; and increased consideration of self and other individuals* * *Emotional benefits: increased self-confidence and self-esteem; opportunities for socially acceptable relief of aggressive drives; promotion of individual interest, satisfaction and creative drives; and increased hope and enthusiasm for the future* * *Physical benefits: development and improved fine and gross motor skills; maintenance of physical activity goals; increased outdoor activity and exercise; and enhanced knowledge of related fields of study (e.g. birds, insects, geology, etc.)*   *(in: Benjamin P. Bishop (2013)).* |

**What makes nature-based interventions for mental health successful?**

In his paper “What makes nature-based interventions for mental health successful?” Dan Bloomfield (2017) outlines the evidence for nature-based interventions for mental health and well-being. He describes how one mental health focussed service, ‘A Dose of Nature’, was developed and delivered. In the paper Bloomfield considers likely patient benefits from this sort of intervention; and outlines key challenges and factors that ensure success for mental health issues.

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| **Dose of Nature**. *From spring 2015 to autumn 2016, eight different nature-based interventions for health and wellbeing were run in Bristol, Exeter and locations throughout Cornwall, all in the south-west of the UK. The work began with a lengthy process of engagement with doctors, mental health professionals, patients, environmental managers and those able to run interventions. It allowed for a model to slowly emerge of what kind of nature-based intervention was both practicable and attractive to all. At the beginning of the programme the general objective, following the logic of knowledge exchange work, was to increase interest in the topic in all relevant groups, and to build capacity in the system to support further work and identify subsequent research questions. As a result, at first, no specific mental health diagnosis was the focus of the work; doctors were able to make a referral simply because they felt that such an activity would be good for that individual. At this stage, it was not yet the intention to replace existing clinical care options (e.g. the prescription of antidepressants or a referral to community mental health services), but only to increase choice, for both patients and referrers. As the project developed, the referral process tightened to focus on patients with a diagnosis of mild to moderate depression and/or anxiety. In the final patient cohorts, all referrals were based on a diagnosis of depression, from mild to severe (i.e. referrals from both primary care and clinical psychiatrists within secondary care) The impacts on patient-participants involved in A Dose of Nature have been numerous. These include mental health gains as well as social and financial benefits.* (Bloomfield, 2017). See also: <http://www.adoseofnature.net/> |

The experience of developing and delivering A Dose of Nature has identified a number of key factors affecting success of nature-based interventions for mental health (Bloomfield, 2017):

* Engagement
* Flexibility
* Managing the introduction
* Practitioner skills
* Timing
* Applicability.

There are huge challenges to all of this, according to Bloomfield. Everyone is time poor, especially in primary care, and everyone is under budgetary constraints. Because of the need for facilitation, a course of nature-based activities is not free, and we are researching how the costs compare to other standard treatments, and whether the NHS prescription fee can follow such a referral. But these are also problems that nature prescription can help solve, by reducing the number of people needing to see their doctor and eventually, we hope, by providing a new source of income for nature conservation. The project has created a lot of interest around the country, and the aim now is to spread what we have learnt out to all parts of the English NHS so it can be repeated elsewhere (Bloomfield, 2016).

**Children and mental health & nature/green spaces**

In a 2018 scientific review about mental health benefits of interactions with nature in children and teenagers: a systematic review was made of 35 papers. The majority focused on emotional well-being and attention deficit disorder/hyperactivity disorder. Other outcome measures included overall mental health, self-esteem, stress, resilience, depression and health-related quality of life. About half of all reported findings revealed statistically significant positive relationships between nature and mental health outcomes and almost half reported no statistical significance. (Suzanne Tillmann, Danielle Tobin, William Avison, Jason Gilliland, 2018).

Research suggests that time in nature (also known as “green spaces”) can significantly reduce ADHD symptoms in children. One study tested children with ADHD in a controlled setting after they had walked in one of three environments: a park, a neighborhood, and a quiet downtown area. Each area had a different level of greenery. The results confirmed that the children who spent time in the greenest settings functioned better (New Port Academy, 2018)

In the article on the website of New Port Academy on “How Nature Supports Teen Mental Health”, they state “Kids aren’t spending enough time in nature. As a result, both children and teens (and adults, too) suffer from what author Richard Louv calls “Nature Deficit Disorder. Nature Deficit Disorder is characterized by a collection of mental health and physical symptoms that are caused or made worse by lack of time outdoors. These include anxiety, depression, ADHD, myopia, obesity, and other conditions”. Teens are less and less outdoors. (New Port Academy. 2018). See also: “*Last Child in the woods: Saving our children from nature-deficit disorder*”, Louv, R., 2018)

According to a report on USA teens by the Outdoor Foundation, a non-profit organization that encourages future generations of outdoor enthusiasts, teens overall are spending less time outside. Among girls ages 13 to 17, participation in outdoor recreation is about 50 percent, the lowest rate since the first report in 2006. And overall, according to the study, the rates of time outdoors have continued to drop for both girls and boys ages 16 to 20. (New Port Academy. 2018).

In fact, being outside in nature actually lowers levels of the stress-associated chemica cortisol**.** In one study, university students were sent into the forest for two nights. As a result, researchers found that they had lower levels of cortisol than those who spent those two nights in the city.

Many factors contribute to this effect. Our feelings of mindfulness, positivity, and wonder increase when we spend time outside. Furthermore, being surrounded by nature can inspire tranquility and positivity. Therefore, our state of mind improves (New Port Academy, 2018).

Moreover, nature can heal the stress and fatigue associated with what scientists call “directed attention.” According to the Attention Restoration Theory, being in cities requires directed attention. Specifically, we need to ignore distractions in order to function in urban environments. As a result, our brains are exhausted. (New Port Academy, 2018)

American teens consume an average of nine hours of media a day, and 50 percent of teens feel they are addicted to their smartphones. Unfortunately, this constant use of technology has detrimental effects on teens. Therefore, teen mental health suffers. However, nature can help. Specifically, unplugged time in nature has been shown to regulate mood disturbance and nervous system arousal caused by too much time in front of screens (New Port Academy, 2018).

**How to improve mental health with nature – recommendations and inspiring examples**

Mind – *for better mental health* (2018) gives tips and ideas to explore the mental health benefits from nature, and those include:

* grow or pick food
* bring nature inside
* do activities outdoors
* help the environment
* connect with animals.

New Port Academy (2018) – a teen rehabilitation centre - “offer comfort and natural beauty to cultivate transformation and healing from teen mental health issues, trauma, eating disorders, and substance abuse”. For teen engagement in nature to improve mental health, New Port Academy (2018) recommends:

* Encourage them to bring friends
* Let them choose where they want to go
* Do something unusual
* Send them on a guided wilderness adventure
* Make it creative
* Support your teen to be a nature mentor to younger children.

In Adventure-Based Therapy, individuals work together to overcome a wide variety of obstacles. These might include using a compass, scaling rock walls, navigating a river, or other challenges. As they encounter opportunities to explore their own strengths and weaknesses, teens learn to take calculated risks, and push their limits in a safe and supportive environment.

The most common advise for improving mental health is “go for a walk in nature”. Roe and Aspinall (2011) compared the restorative benefits of walking in rural and urban settings for adults with either good or poor mental health and found that restorative benefits, based on cognitive and affective measures, were generally greater for both groups in the rural setting. Also, similar to the findings of Ottosson and Grahn (2008), those with poorer mental health showed the greatest gains (Lines, E., 2013).

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| **Take that black dog for a walk in the woods**  *Winston Churchill suffered from periods of depression or melancholy throughout his life; he referred to this as the “black dog”.  Statistically, he was in good company as depression is a common disorder and is considered the leading cause of disability globally. In Canada over ten percent of youth have had a depressive episode and eight percent of adults will experience depression in their lifetime.  But the simple act of spending even short amounts of time in nature can improve moods, even in people who have been diagnosed with a mood disorder (Canada Nature, 2018).* |

One does not have to embark on a cross-country adventure to feel the benefits of nature. Even a walk around your local park or an afternoon of gardening is a step in the right direction. Small breaks away from the bustle of daily life can switch your focus and leave you feeling refreshed (Donnelly, S., 2018).

Green care, or ecotherapy, is one of the most recent methods we are turning to in order to soothe minds. It is also one of the most exciting. The main premise of green care is to use nature as an arena for a range of outdoor activities designed to cure our human psychological troubles. (The European Nature Trust, 2018).

There is a growing number of local initiatives focussing on mental health and well-being, for instance MindFood.

MindFood is an allotment site in west London, UK, which runs courses in how to manage mental wellbeing. The sessions allow people with common mental health problems to work together, improve the garden, learn new skills and benefit from some gentle exercise. "Simply speaking, working outside brings you out of your head and back into the world," says one of the project's employees, Ed Harknes (in: Lucy Jones, 2016).

The relationship between mental health and nature can also be included in awareness campaigns. A good example is the Western Australian Mental Health Week that ran from 7 – 14 October 2017 and the theme of which was ‘Connect with nature, community and self for mental wellbeing’. There were several community events running to promote the benefits of nature for mental health. (Pomlett, M. 2017).

Bringing different kinds of people together at local level in order to connect nature with mental health, can be gratifying and effective. For instance, in Cleveland *the Healing with Nature group* was established. The group is a collaboration of individuals in Cleveland County focused on community connectedness, health, and wellness from the personal to the planetary. Each year their goal is to host events around Earth Day in Cleveland County that focus on wellness and healing of our local community, from the natural environment we live in to the overall well-being of our individual community members. The Mental Health Association in Cleveland County (MHA) serves as a partner and the fiscal sponsor for the Healing with Nature events (The Mental Health Association of Cleveland County, 2018).

Another interesting example is mental health promotion of the Healthy Parks Healthy People South Australia (SA) framework. It seeks to promote contact with nature as an effective public health intervention tool, and as a vital asset for population mental health and wellbeing activities. This nature-based approach is essential given the escalating increase in mental illness within the SA community: • Each year, one in every five Australians will experience a mental illness – it is the third leading cause of disability burden nationally (Mindframe 2014). • Suicide is also a significant social issue, an average of 8.3 Australians die from suicide each day (ABS 2016). The Healthy Parks Healthy People South Australia framework wants access to nature to be seen as part of a range of therapies, for the treatment of mental health problems, but also as a daily or weekly habit for all South Australians to better protect their mental health and wellbeing. In this framework the Five Ways to Wellbeing are promoted. The five simple, easy to remember actions have been proven to be effective in promoting positive mental health and wellbeing, they include: connect, be active, give, keep learning and take notice (Government of Australia, 2016).

Agricultural farms are used as a basis for promoting human mental and physical health and social well-being. On these farms, animals, plants, the garden, the forest and the landscape are used in recreational or work related activities for different kinds of patients. The number of these farms is increasing rapidly in many countries (Maas, J, 2009).

UCSF Benioff Children’s Hospital in Oakland, California is integrating contact with nature in its health programmes. having noticed the emerging data on nature and health. As part of a pilot project, they training pediatricians in the outpatient clinic to write prescriptions for young patients and their families to visit nearby parks. It’s not as simple as taking a pill. To guide the physicians and patients into a new mind-set, one of the doctors says, “we have transformed the clinical space so nature is everywhere. There are maps on the wall, so it’s easy to talk about where to go, and pictures of local wilderness, which are healing to look at for both the doctor and patient.” The hospital is partnering with the East Bay Regional Parks District to provide transportation to parks and programs there for entire families. (Williams, F., 2016).

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| **Return to our nature**  *A 15-minute walk in the woods causes measurable changes in physiology. Japanese researchers led by Yoshifumi Miyazaki at Chiba University sent 84 subjects to stroll in seven different forests, while the same number of volunteers walked around city centers. The forest walkers hit a relaxation jackpot: Overall they showed a 16 percent decrease in the stress hormone cortisol, a 2 percent drop in blood pressure, and a 4 percent drop in heart rate. Miyazaki believes our bodies relax in pleasant, natural surroundings because they evolved there. Our senses are adapted to interpret in- formation about plants and streams, he says, not traffic and high-rises.* (Williams, F., 2016). |

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