

Mental health issues and community gardening

Should we invest in nature- based social prescribing?

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Mental health disorders are a major challenge worldwide with nearly one billion people estimated to be experiencing mental health problems. As well as the impact this has on individuals and close others, there is also lost productivity estimated to be around US\$ 1 trillion p.a. [1]. Although this poses a major threat to public health, the care gap remains substantial as a result of under-investment [1], including in Austria. Estimates suggest that only 1 in 5 people in need of psychotherapy in Austria receive treatment [2]. This policy brief aims to show how investing in green social prescribing like community gardening could help reduce the gap between demand for mental health services and supply while simultaneously having a positive impact on the environment.

WHY should we invest in nature-based social prescribing?

What is nature-based social prescribing?

Nature-based social prescribing, a specific type of social prescribing, is a non-medical, nature-based intervention to improve mental and

physical health through exposure to and interaction with nature [3]. Nature-based social activities include community gardening, nature walks, conservation activities, care farms, and green gyms [3,4]. Some countries already invest in nature-based social prescribing, e.g. in 2020 the UK invested £4 Million in green social prescribing programmes to combat mental health issues [5,6].

What is community gardening?

Community gardens are green spaces where people can come together and garden collectively.

In Vienna, the *City of Vienna for Environment & Climate Protection* [7], in close collaboration with *the Bioforschung Austria – Garteln in Wien* [8], offers support for the establishment of new community gardens both financially and through counseling.

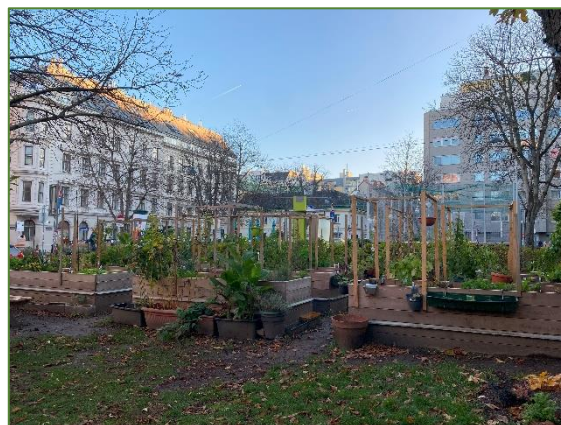


Figure 1: Community Garden - Bennoplatz, 1080, Vienna

Community gardening: Positive effects on mental health

The Final Report of the *Horizon 2020* expert group on *Nature-Based Solutions and Re-Naturing Cities* shows the positive effects of access to green spaces on health, well-being, social cohesion, and community support [9]. Furthermore, a systematic review and meta-analysis found that nature prescriptions can reduce depression and anxiety scores [10].

Regarding community gardening, a US study showed a reduction in perceived stress and anxiety among participants in the community garden intervention group compared to a control group composed of individuals on a waiting list for a community garden, thus not receiving the gardening intervention [11]. In the UK, the *Bridgewater Wellbeing Garden* programme found that community gardening reduces anxiety, helps develop confidence

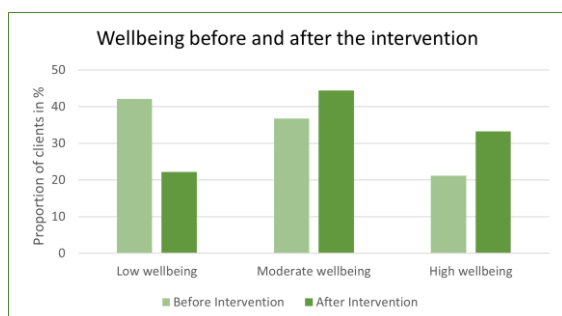


Figure 2: Proportion of clients in each group before and after the intervention [12].

and improves physical and mental wellbeing [12].

Taking these findings together, community gardening has been shown to decrease mental health problems by reducing loneliness and boosting confidence through social cohesion and community support.

"I can't begin to say. It's done me the world of good. I'd say it's saved me ... I don't know where I'd have gone if there hadn't have been this."

Figure 3: Quote of participant 3 – Bridgewater Wellbeing Garden [12].

Access to psychotherapy in Austria

As noted above, there is a substantial gap between demand for mental health services in Austria and supply resulting in long waiting times [13]. Furthermore, psychotherapy costs 70 € to 150€ per session [14] and is often only partly covered by health insurance making it difficult for people on lower- and middle-income classes to access these treatments. Furthermore, the number of people in need of psychotherapeutic treatment exceeds the number of treatments available [2]

HOW should we invest in nature-based social prescribing?

One way to reduce the gap between mental health services and supply would be to expand current projects using urban community gardening for people with mental health problems in Vienna and Austria more widely.

To reach people that could benefit from this project, one could work with the *ÖBV Österreichischer Bundesverband für Psychotherapie* [15]. They could link people with specific mental health issues to these gardening communities by informing them about the project on their website and by encouraging psychotherapeutic practitioners to refer people who sought treatment, but are currently on waiting lists, to access these (expanded) gardening communities.

The development of these gardens could be done in collaboration with the *Wiener Stadtgärten MA- 42* [16] which are already funding community gardens for the general population in nearly every district of Vienna.

A third actor would be needed for the organization of these gardening

communities. Key questions that the public would need answers to include Where are the community gardens?; How can I become a member of a gardening community?; At what days and times are the communities meeting?; and What do I need to bring? The easiest way would be to implement a website where people can sign up for a community and gather information.

Co-benefits of urban gardens

The urban heat island effect describes the fact that urban areas are on average 1.0 to 6.0°C warmer than nearby non-urban regions. While the urban heat island effect has many causes, one of them is a lack of urban green spaces. [17] Investing in community gardens could result in more green urban spaces and could thereby help reduce the urban heat island effect. Of course, since urban gardens are normally not that large, the cooling effect may be minor, but nevertheless will assist in combating urban heat if multiple gardens exist in a given district.

Recommendations

Start a pilot project in Vienna:

- Assess if the ÖBV [15] and *Wiener Stadtgärten MA- 42* [16] are willing to cooperate.
- Assess if people with mental health issues are interested in community gardening.

Conclusion

Taking part in a community garden project is not meant as a replacement for conventional therapy, but it could act as a complimentary therapy and/or provide interim support while waiting for more formal treatment. This would still need careful screening and management to ensure the appropriateness of participation. The positive effects of community gardening on mental health may prevent people with mental health problems from getting worse and assure that they have a support system while waiting for treatment. Gardening communities could also act as after care or be prescribed during conventional therapy. Lastly, community gardens may contribute to reducing the urban heat island effect in large cities like Vienna which is going to become even worse under future climate change scenarios.

References

- [1] WHO. World Mental Health Day 2020: the campaign. Move for mental health: let's invest [Internet]. Geneva: World Health Organization; 2020 Available from: <https://www.who.int/campaigns/world-mental-health-day/world-mental-health-day-2020/world-mental-health-day-campaign> Accessed June 2023
- [2] Plessen YC, Boeckle M, Liegl G, Leitner A, Schneider A, Preining B, & Pieh C. Bedarfsanalyse Für Ambulante Psychotherapie in Österreich. Demand for Psychotherapy in Austria. *Psychol Med.* 2016; 27(3): 4-9.
- [3] Wood C, Chalmin-Pui LS, Smyth N, Rajcani J. Editorial: Nature-based social prescriptions for improving health and wellbeing. *Front Psychol.* 2022 Dec 12;13:1095064. doi: 10.3389/fpsyg.2022.1095064. PMID: 36578683; PMCID: PMC9791649.
- [4] Van den Berg AE. From Green Space to Green Prescriptions: Challenges and Opportunities for Research and Practice. *Front Psychol.* 2017 Feb 27;8:268. doi: 10.3389/fpsyg.2017.00268. PMID: 28289398; PMCID: PMC5326776.
- [5] NHS England. Green Social Prescribing n.d. [Internet] Available from: <https://www.england.nhs.uk/personalisedcare/social-prescribing/green-social-prescribing/> Accessed June 2023
- [6] Garside R, Lovell R. Nature-on-prescription [Internet]. European Centre for Environment & Human Health. Available from: <https://www.ecehh.org/research/nature-prescription/> Accessed June 2023

- [7] wien.gv.at-Redaktion. Urbane Landwirtschaft - Nachbarschaftsgärten, Selbsternteflächen und Kleingärten [Internet]. Available from: <https://www.wien.gv.at/umwelt-klimaschutz/nachbarschaftsgaerten.html> Accessed June 2023
- [8] Bioforschung Austria. Gemeinschaftsgärten und Nachbarschaftsgärten [Internet]. Available from <https://www.garteln-in-wien.at/gemeinschaftsgaerten-und-nachbarschaftsgaerten/> Accessed June 2023
- [9] European Commission Directorate-General for Research and Innovation, Towards an EU Research and Innovation Policy Agenda for Nature-Based Solutions and Re-Naturing Cities: Final Report of the Horizon 2020 Expert Group on 'Nature-Based Solutions and Re-Naturing Cities'. European Commission, Brussels, 2015
- [10] Nguyen PY, Astell-Burt T, Rahimi-Ardabili H, Feng X. Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: a systematic review. *Lancet Planet Health*. 2023 Apr;7(4): e313-e328. DOI: [https://doi.org/10.1016/S2542-5196\(23\)00025-6](https://doi.org/10.1016/S2542-5196(23)00025-6)
- [11] Litt JS, Alaimo K, Harrall KK, Hamman FR, Hébert RJ, Hurley TG, Leiferman JA, Li K, Villalobos A, Coringrato E, Beck Courtney J, Payton M, Glueck DH. Effects of a community gardening intervention on diet, physical activity, and anthropometry outcomes in the USA (CAPS): an observer-blind, randomised controlled trial. *Lancet Planet Health*. 2023 Jan;7(1): e23-e32. DOI: [https://doi.org/10.1016/S2542-5196\(22\)00303-5](https://doi.org/10.1016/S2542-5196(22)00303-5)
- [12] Howarth M, Griffiths A, da Silva A, Green R. Social prescribing: a 'natural' community-based solution. *Br J Community Nurs*. 2020 Jun 2;25(6):294-298. DOI: <https://doi.org/10.12968/bjcn.2020.25.6.294>
- [13] Wiener Landesverband für Psychotherapie. Kostenübernahme [Internet]. Available from: <https://www.psychotherapie-wlp.at/informationen/psychotherapie/finanzierung/kostenuebernahme> Accessed June 2023
- [14] Mag. Stefan Hofbauer. Überblick: Kosten der Psychotherapie [Internet]. *Psychonline.at*. Available from: <https://www.psyonline.at/contents/7437/ueberblick-kosten-der-psychotherapie> Accessed June 2023
- [15] Österreichischer Bundesverband für Psychotherapie [Internet]. Available from: <https://www.psychotherapie.at/> Accessed June 2023
- [16] Stadt Wien Wiener Stadtgärten. Wiener Stadtgärten (MA 42) [Internet]. Available from: <https://www.wien.gv.at/kontakte/ma42/index.html> Accessed June 2023
- [17] Aram F, Higuera García E, Solgi E, Mansournia S. Urban green space cooling effect in cities. *Heliyon*. 2019 Apr 8;5(4):e01339. DOI: <https://doi.org/10.1016/j.heliyon.2019.e01339> PMID: 31008380; PMCID: PMC6458494.