



# Pathways to Lifelong Mental Wellbeing

18–21 October 2021  
Online from Uppsala



Uppsala Health Summit is an international forum for frank dialogue between decision-makers, experts and opinion formers on global health challenges. Each year, invited participants gather to explore how to implement research and innovation for better health globally.

The Summit is a collaborative effort led by Uppsala University, which includes the Swedish University of Agricultural Sciences, Uppsala Region, Uppsala University Hospital, the Medical Products Agency, the National Veterinary Institute, The Swedish School of Sports and Health Sciences, Uppsala Monitoring Centre, the City of Uppsala and the network World Class Uppsala.

## CONTENTS

Time to Rethink Mental Health and Wellbeing 4

### Workshops

<b>A</b> Implementation of the Swedish Method Physical Activity on Prescription (PAP-S)	8
<b>B</b> Psychological Flexibility, Mental Health, COVID-19 and Beyond	12
<b>C</b> Public Mental Health: Discussions of Semantic and Taxonomic Problems Regarding Mental Health and Illness	16
<b>D</b> Hormones and Mood	20
<b>E</b> Addressing Peripartum Depression	24
<b>F</b> Public Mental Health Promotion	28
<b>G</b> How to Improve Access to Evidence- based Psychological Interventions	34
<b>H</b> Animal-Assisted Intervention	38

Governance 42

# Preface

Dear readers and participants,

We look forward to welcoming you to our second digital Uppsala Health Summit. While we regret that the COVID-19 pandemic still prevents us from inviting you to Uppsala Castle in person, we know that the digital format also has some advantages. By meeting online, we can welcome a more diverse group to our workshop discussions and reach a wider audience for our plenary sessions.

We are particularly grateful for this opportunity due to the urgency of our theme: Responding to the growing mental health crisis worldwide will require a whole-of-society approach with a fresh vision for how different actors can help.

We have named the summit “Pathways to Lifelong Mental Wellbeing” because we hope to explore the different ways this can be achieved. In workshops and plenary sessions, we will discuss promising new practices, new knowledge, and how existing methods can be made accessible to many more in need.

Mental health and wellbeing concern us all! On behalf of the Uppsala Health Summit’s steering committee, I wish to extend a warm welcome to all of you.



Anders Hagfeldt  
Chairman of Uppsala Health Summit and  
Vice-Chancellor of Uppsala University

# Time to Rethink Mental Health and Wellbeing

Professor Karin Brocki  
Department of Psychology, Uppsala University  
Chair of the Uppsala Health Summit Programme Committee

Mental health includes our emotional, psychological, and social wellbeing. Our mental health includes the way we feel, think and act. The state of our mental health influences how we handle stress, our relationships with others, and how we make decisions in life – big and small. Mental health matters at every stage of life, from childhood to adolescence and throughout adulthood. At the same time, growing mental ill health is one of the worlds’ most acute public health challenges, with billions of people suffering from mental problems ranging from ordinary unwanted feelings of anxiety, depression and stress to diagnosable mental disorders. In fact, one in four people is burdened with a mental disorder at some point in life, and women are twice as likely as men to receive a diagnosis. For many, mental ill health begins in childhood and adolescence, making early detection and prevention crucial. People who suffer from poor mental health are burdened by stigma, gender discrimination, physical illness, human rights violations and premature death. Shockingly, there is a global treatment gap for people affected by mental ill health and mental disorders, with 70% of those afflicted not receiving the care they need. This gap is even wider in low-income countries. Common barriers to mental health treatment include lack of resources and trained health workers, but one of the greatest barriers is stigma. For these reasons, the need to make prevention of mental ill health a public health priority is very clear.

## **The Impact of the Pandemic on Global Mental Health**

The detrimental impact of the COVID-19 pandemic on mental health and wellbeing around the world is now accumulating. The pandemic has created what some experts call the perfect storm for mental ill health, as it naturally exacerbates established risk factors such as isolation, uncertainty, and threats to daily life as we know it. Importantly, the pandemic seems to most affect the mental health of vulnerable groups such as young people and those already burdened with mental problems. The detrimental effects on global mental health in the wake of the pandemic are even being referred to as the “second pandemic.” Thus, the global issue of mental health may be more topical than ever before, and the call for action is clear. But who is listening, who is responsible for overturning the global trend of growing levels of mental ill health in society? And how do we best protect global wellbeing and prevent mental ill health? Providing the answers to these questions is one of the most important public health challenges of our time.

## **Mental Health Redefined**

The well-known principles of health proposed by the World Health Organization (WHO) – “There is no health without mental health” and “Mental health is more than just the absence of a mental disorder” (WHO, 2013) – capture the complexity of the mental health construct very well. Further, the lack of an established global definition of mental health emphasizes

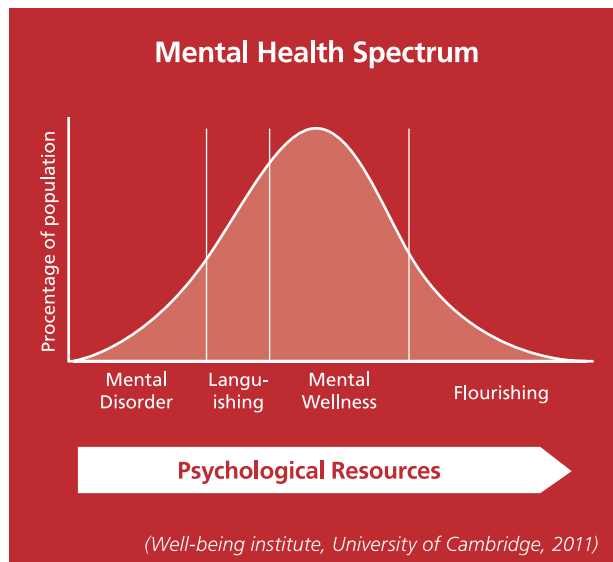


Figure 1. Illustrating the spectrum of Mental health

the diversity of this umbrella term. Indeed, the meaning of mental health has changed over time quite drastically. Historically, a categorical yes/no approach to mental health was assumed, meaning that the psychological symptoms and behaviors characterizing a mental disorder were distinct and qualitatively different from those that occur in the general population, resulting in the concept of a person being mentally ill or mentally well.

Today, most researchers, clinicians, and experts agree on some key principles underlying the mental health construct. First, mental health should be understood as a continuum with flourishing mental health and disabling mental illness representing its ends. Thus, most of us lie somewhere along the continuum between these extremes, and we all experience levels of common mental health difficulties like anxiety, depression or stress from time to time as natural parts of life. The extreme end of the continuum represents the space where this normal variation shifts into mental illness (see Figure 1). Here, the level of behavioral or psychological symptoms, and their impacts, cross the diagnostic threshold for a mental disorder.

While a growing body of research findings support a continuous approach to mental health, the two main diagnostic systems for mental disorders – The WHO International Classification of Disorders (ICD) and the Diagnostic and Statistical Manual of Mental Disorders (DSM) – still rely on a categorical approach to classifying mental disorders. That said, attempts to integrate the dimensional approach into current classification systems have been made by adding severity levels for some disorders. There is currently not merely a great treatment gap for mental disorders, but also a gap between the actual dimensional nature of mental ill health and the categorical diagnostic systems that individual depends on for access to treatment, health benefits and other human rights linked to mental ill health.

One second essential principle of mental health concerns its multidimensionality and the move away from traditional, overly simplistic, one-cause models. Mental health is determined by multiple biological, psychological, social and societal factors that interact over time to shape each individual's unique pathway to mental health across their lifespan. Brofenbrenner's

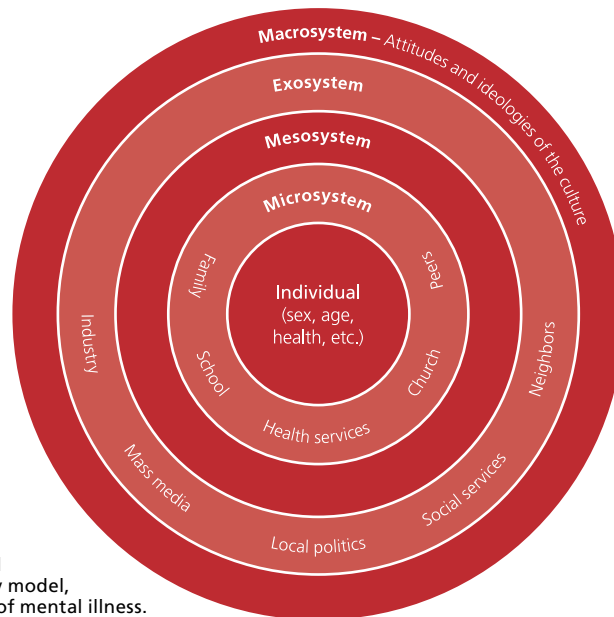


Figure 2. The systems of Bronfenbrenner's original Ecological Systems Theory model, expanded to the context of mental illness.

Ecological Systems Theory from the 1970s has explanatory power regarding the multilayered complexity of mental health (see Figure 2). Ecological models emphasize both individual and contextual systems as well as the bidirectional relationship between them in the formation of mental health. Risk and protective factors for individual differences in mental health therefore exist at the biological (e.g., genes), individual (e.g., personality factors), family (e.g., domestic violence), social (e.g., bullying) and cultural (e.g., poverty, racism) levels. Multidimensional explanatory models naturally have consequences for the application of effective clinical prevention and intervention. These should ideally be taken into account at all levels, from the individual to the population level, and target established risk factors at each key stage in life. But what does this enhanced knowledge of mental health mean for global clinical practice and intervention and what has been done so far?

### Promoting Mental Health: a Global Health Priority

In light of the key principles of mental health described above, several global health organizations have formed ambitious global health agendas and action plans specifically aimed at promoting mental health and preventing mental disorders. The WHO's Mental Health Action Plan 2013–2020 stresses the key role of mental

health in reaching healthier people around the globe. It adopts a life-course perspective that is grounded in four major targets: “1) *more effective leadership and governance for mental health*, 2) *the provision of comprehensive, integrated mental health and social care services in community based settings*, 3) *implementation of strategies for promotion and prevention; and strengthened information systems* and 4) *evidence and research*” (WHO, 2013).

Furthermore, in 2018, The Lancet Commission on global mental health and sustainable development presented a reframed agenda for mental health that includes six key actions: 1) scaling up mental health services as a key component of universal health coverage, 2) tackling barriers and threats to mental health including stigma and discrimination, 3) protecting mental health through public policies and developmental efforts in multiple sectors including education, workplaces and social welfare, 4) embracing new opportunities and innovations including those offered by trained non-specialists and digital technologies, 5) making substantial additional investments in mental health urgently owing to the large economic and health gains, and 6) investing in research and particularly in novel multidisciplinary approaches to advance our understanding of the mechanisms underlying mental disorders and to develop new interventions to prevent mental ill health.

These action plans are, undeniably, key steps toward the improvement of global mental health for whole populations. At the same time, they are extremely extensive and may appear abstract and farfetched. There is a need for greater clarity regarding what these mean in practice, what methods are available, how they can be implemented and how services can be made accessible to all. Therefore, we need to ask how these global mental health targets can be brought into action in our local communities.

### **Uppsala Health Summit: Bringing Global Action Plans for Improved Mental Health and Wellbeing into Local Action**

The focus of this Uppsala Health Summit is on bringing together actors who play a role in sustaining mental wellbeing in different populations and on sharing experiences of researching and implementing interventions that promote mental wellbeing. The summit includes plenary sessions and workshops focusing on important aspects of mental health that in many ways echo the global principles and action plans for mental health promotion and intervention, albeit on a more concrete level. *The summit is an attempt to bring the global actions plans for improved mental health and wellbeing into local action. A diverse variety of researchers, experts and practitioners will gather to discuss the following specific mental health matters:*

- How can we improve implementation and adapt the Swedish method of physical activity on prescription?
- How can we best predict, prevent and treat the prevalent mental health problems in women around childbirth?

#### **References and further reading**

Mental Health Action Plan 2013–2020, World Health Organization, 2013.


Patel, V., Shekhar, S., Lund, C. et al (2018) The Lancet Commission on global mental health and sustainable development, *Lancet Commissions*, 32, 1553–1597.

Eriksson, M., Ghazinour, M., & Hammarström, A. (2018) Different uses of Bronfenbrenner's ecological theory in public mental health research: what is their value for guiding public mental health policy and practice? *Social Theory and Health*,

McCracken, L., Badinlou, F., Buhman, M., & Brocki, K. (2020). Psychological impact of COVID-19 in the Swedish population: Depression, anxiety, and insomnia and their associations to risk and vulnerability factors. *European Psychiatry*, 63(1),

- What do we know about the hormonal mechanisms underlying the increased risk for mental distress in women throughout the reproductive lifespan and how can we tackle these effects?
- How can animal-assisted interventions improve lifelong wellbeing for children with mental ill health at school?
- How can access to evidence-based psychological interventions be further improved through digital advancements?
- How can available big data and AI be applied nationally and globally to support federal and regional governments in making informed policy decisions and to develop new effective interventions for mental health?
- How can we promote public mental health as an integral part of clinical and community care programs through the lifecycle?
- What have we learned about mental health problems during the pandemic and how can we use this knowledge to develop and implement scalable approaches to global mental health?

At Uppsala Health Summit 2021, we hope to create a space in which we can freely discuss and find some answers to these important questions. We hope you find the summit rewarding and meaningful, and we look forward to welcoming you online!



Holmes, E. A., O'Conner, R.C., Perry, V.H. et al. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry*. 2020, 7: 547-560

Adam, D. Mental health: On the spectrum. *Nature* 496, 416–418 (2013)

Idele, P., & Banati, P. We Are All in This Together: COVID-19 and a Call to Action for Mental Health of Children and Adolescents (2021) *Frontiers in Psychiatry*, 11, 1639.

Concepts used in the area of mental health (The Public Health Agency of Sweden, 2020)

# Implementation of the Swedish Method Physical Activity on Prescription (PAP-S)

**Lena Kallings\***, Department of Physical Activity and Health, The Swedish School of Sport and Health Sciences (GIH), Board member of the Professional Associations for Physical Activity (YFA), Sweden

**Amanda Lönn**, Department of Physical Activity and Health, The Swedish School of Sport and Health Sciences (GIH)

---

\* lena.kallings@gih.se

A large proportion of the population are insufficiently physically active or even inactive. This is worrisome, as regular physical activity is positively associated with physical and mental wellbeing (Bull et al., 2020; Professional Associations for Physical Activity, 2021). Moreover, physical activity is recommended in treatment of individuals with several physical and mental diseases (Stubbs et al., 2018; Professional Associations for Physical Activity, 2021). In light of the COVID-19 pandemic, studies have identified a negative trend in both mental wellbeing and lifestyle habits, including physical activity (Stanton et al., 2020; Blom et al., 2021). In addition, decreased mental wellbeing is associated with comorbidity, e.g., cardiovascular and metabolic diseases. Thus, if we are to promote public health, there is an increased need to promote physically active behaviour in society.

The healthcare sector has a unique role to play in promoting public health, in that it sees a large portion of the population. In Sweden, the method Physical Activity on Prescription (PAP-S, Swedish FaR) has been developed and used for 20 years within the healthcare sector, the goal being to use physical activity in the prevention and treatment of diseases (Kallings L, 2008). PAP-S is now an evidence-based method for promoting physical activity level and health (Onerup et al., 2019), recommended by the Swedish National Board of Health and Welfare. Moreover, PAP-S has been chosen as best practice by the World Health Organization (WHO) as well as by the European Commission, which has determined that PAP-S is to be implemented in other EU Member States (<https://www.eupap.org/>).





PHOTO BY RILEY CRAWFORD/UNSPLASH

### **Aim of the workshop**

Given the challenge that the PAP-S method still needs to be implemented more broadly in Sweden and other countries, the main focus of the workshop will be on implementation of PAP-S. In the discussions, the following questions will be addressed:

- How can implementation of PAP-S in Sweden be improved?
- How can PAP-S be adapted to different contexts in different countries?
- How can PAP-S be implemented in different countries?

### **The Swedish Physical Activity on Prescription method (PAP-S)**

The purpose of the PAP-S model is to enable caregivers to help patients, in an evidence-based and structured way, to increase their physical activity level in the prevention and treatment of diseases. Compared to similar methods in other countries, the PAP-S model is unique in several ways. The basic idea underlying PAP-S is the person-centred approach, which consists of five core components. The physical activity is performed outside the healthcare services (including both everyday activities and more structured exercise) (Kallings LV, 2016).

#### *Core components of PAP-S (Figure 1):*

*Individualized counselling*, a person-centred approach that takes the patient's health status, motivation, prior experiences, possibilities and support needs into consideration.

*Individualized written prescription*, includes type of physical activity (aerobic fitness training/strength training/flexibility training), dose (frequency, relative intensity, and duration), prescribed activities, contraindications and a follow-up plan. Moreover, the prescription describes the current physical activity level, reasons for the prescription, and the patient's own goals regarding their increased physical activity. The written prescription can be viewed as an agreement between the patient and prescriber.

*Individualized follow-up*, the prescriber is responsible for ensuring that there is follow-up of both the health outcome and the level of physical activity. Follow-up can be accomplished through return visits, phone calls, letters, e-mail or text messages, etc. The advantage of following up the prescription is that it enables adjustment of the prescription and provision of support to improve motivation when necessary.



Figure 1. The five core components of the Swedish Physical Activity on Prescription model (adopted from Kallings 2008).

*FYSS – Evidence-based physical activity recommendation*, the scientific handbook “Physical Activity in the Prevention and Treatment of Disease – FYSS” summarizes the effects of physical activity and gives physical activity recommendations for various diseases (Professional Associations for Physical Activity, 2021) (<http://www.fyss.se/in-english/>). FYSS is an essential tool for healthcare professionals when prescribing PAP-S.

*Supporting environment, community-based network*, collaboration with activity organizers is an important part of PAP-S, the goal being to develop a supportive environment to help the individual to both increase and maintain his or her activity level. Potential collaborators could be municipal facilities, sports, pensioners, patients associations as well as private businesses, such as gyms and fitness centres.

### Evidence for PAP-S

In randomized controlled studies, PAP-S has been shown to be an effective method for increasing physical activity level (Onerup et al., 2019), and in primary healthcare studies, the effects have been seen for up to 24 months (Rödger et al., 2016). In a 6-month follow-up in primary healthcare, 76% reported increased physical activity and 42% moved from insufficient physical activity to fulfilling the physical activity recommendations of at least 150 minutes/week

of physical activity of moderate intensity (Lundqvist, 2020). Another study showed that PAP-S, compared to control treatment, increased physical activity of at least moderate intensity by more than 150 minutes per week after six months (Kallings L, 2008). Several studies have shown that adherence to PAP-S is as good as other long-term treatment for up to two years. Treatment with PAP-S has improved both mental and physical health-related quality of life, cardiometabolic risk factors as well as fitness in patients. Even though studies indicate a high disease burden in patients receiving PAP-S, long-term positive health effects have been demonstrated in primary healthcare.

### PAP-S in clinical practice

PAP-S can be prescribed by all licensed personnel (e.g., physicians, physiotherapists, nurses and psychologists) with sufficient knowledge of the PAP-S model and local routines, counselling, the current patient’s health and illness status as well as how physical activity can be used in the prevention or treatment of disease.

The healthcare professional prescribing PAP-S is responsible for treatment, motivational support and follow-up. However, there are various local and regional solutions concerning how to organize the support offered to patients with PAP-S. In some regions, motivational support to

increase physical activity level can be organized within the healthcare system, via special PAP-S coordinators in the region or unit. Extra support can also be given outside the healthcare sector, for example by a “health educator”. Then there is motivational support and follow-up of the physical activity outside the healthcare system, but with feedback to the healthcare professional who prescribed the PAP-S.

PAP-S is most widespread in primary health-care. However, the method is also increasingly used in specialist care, including psychiatric clinics and in hospitals. There are no national statistics available on the total number of PAP-S prescriptions, but approximately 100,000 PAP-S are prescribed annually. However, this is still a small number compared to its potential, and there is great variation in the extent of implementation across regions. For this reason, there is a need to further implement use of the PAP-S model widely in Sweden as well as in other countries.

### Implementation of PAP-S

To properly apply the evidence-based method PAP-S, all of the five core components (individualized counselling, written prescription and follow-up together with evidence-based physical activity recommendations and supporting environment) must be used, and physical activity should be conducted outside the healthcare sector. However, experiences from national and regional work in Sweden emphasize the importance of adjusting the PAP-S model to different contexts.

When implementing PAP-S in other countries, adaptations are needed to specific conditions and contexts, such as the organization of the healthcare system, who might prescribe the physical activity, to which patients, how to support prescribers and patients, as well as suitable collaborators. The PAP-S method has been developed over several years. To aid in implementation of PAP-S, some identified facilitators, at both the national and the regional level, will be discussed in the workshop.

### References/ Suggested reading

- Blom, V., Lönn, A., Ekblom, B., et al. 2021. Lifestyle Habits and Mental Health in Light of the Two COVID-19 Pandemic Waves in Sweden, 2020. *Int J Environ Res Public Health*, 18.
- Bull, F. C., Al-Ansari, S. S., Biddle, S., et al. 2020. World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *Br J Sports Med*, 54, 1451-1462.
- Kallings L. 2008. *Physical Activity on Prescription – Studies on physical activity level, adherence and cardiovascular risk factors* [Ph.D. Thesis]. Karolinska Institutet.
- Kallings LV 2016. The Swedish approach on physical activity on prescription. Supplement 2 (“Implementation of physical activity in health care - facilitators and barriers” Supplement by the HPH Task Force on Health Enhancing Physical Activity in Hospitals and Health Services). *Clinical Health Promotion*, 6, 31–3.
- Lundqvist, S. 2020. *Physical activity on prescription in primary care, Impact on physical activity level, metabolic health and health-related quality of life, and its cost-effectiveness – a short- and long-term perspective*. [Ph.D. Thesis]. University of Gothenburg.
- Onerup, A., Arvidsson, D., Blomqvist, Å., et al. 2019. Physical activity on prescription in accordance with the Swedish model increases physical activity: a systematic review. *Br J Sports Med*, 53, 383-388.
- Professional Associations for Physical Activity (Sweden) 2021. *Physical Activity in the Prevention and Treatment of Disease, FYSS 2021* (in Swedish: *Fysisk aktivitet i sjukdomsprevention och sjukdomsbehandling, FYSS 2021*), Stockholm: Läkartidningen förlag AB AB; 2021.
- Rödger, L., I, H. J. & Börjesson, M. 2016. Physical activity on prescription (PAP): self-reported physical activity and quality of life in a Swedish primary care population, 2-year follow-up. *Scand J Prim Health Care*, 34, 443-452.
- Stanton, R., To, Q. G., Khalesi, S., et al. 2020. Depression, Anxiety and Stress during COVID-19: Associations with Changes in Physical Activity, Sleep, Tobacco and Alcohol Use in Australian Adults. *Int J Environ Res Public Health*, 17.
- Stubbs, B., Vancampfort, D., Hallgren, M., et al. 2018. EPA guidance on physical activity as a treatment for severe mental illness: a meta-review of the evidence and Position Statement from the European Psychiatric Association (EPA), supported by the International Organization of Physical Therapists in Mental Health (IOPTMH). *Eur Psychiatry*, 54, 124-144.

## Workshop B

# Psychological Flexibility, Mental Health, COVID-19 and Beyond

**Lance McCracken\***, Department of Psychology, Uppsala University

**Karin Brocki**, Department of Psychology, Uppsala University

**Monica Buhrman**, Department of Psychology, Uppsala University

---

\* lance.mccracken@psyk.uu.se

Protecting and improving world health, including mental health, is challenging, even during the best of times. During a pandemic, the need to effectively meet these challenges is made even more dramatically apparent. Examples here include the rise in rates of common mental health conditions around the world during COVID-19. Worth highlighting is that those whose mental health is most affected include people with a history of mental health difficulties or other vulnerable people, such as those with chronic physical health conditions. Other challenges lie in the lingering or chronic health effects following infection with the virus – known as long COVID. Results such as these call for increased knowledge, better models of health and wellbeing, and practical methods to mitigate the effects of such events. Part of the knowledge needed is to understand psychological capacities that afford people resilience against these impacts and that can serve as malleable public health targets during the ongoing pandemic and in similar contexts in the future.

### **Aim of Workshop**

This workshop will focus on the following questions:

- What have we learned about mental health problems during the pandemic?
- Are there psychological resilience factors in the pandemic context?
- Are there currently available psychological treatment methods that could be effectively applied in the context of the pandemic and what are the challenges that lie ahead in doing so?
- In what ways might we disseminate relevant knowledge, develop scalable approaches to world mental health, and effectively implement these?



PHOTO BY SCOTT WEBB/UNSPLASH

## Background

There are many lessons to learn during a pandemic that so deeply impacts so many aspects of daily life for so many people. One of these lessons is how important it is to improve our understanding of and ability to manage or change human behavior. Whether it is how we sneeze, wash our hands, keep our distance, or learn and follow changing guidelines altogether; how people adapt to changing routines and in some way keep families, businesses, and the economy in operation; how people respond to the loss, stress, threats, uncertainty, and frustration; or how they behave after being seriously ill, and how they regain lost health and functioning again; not to mention how our essential services staff persist, sustain their key roles, and recover when needed. It sounds like an exaggeration, but it is not. Each of these issues requires an understanding of human behavior and performance.

## Mental Health, Persisting Symptoms, and COVID-19

The impacts of the COVID-19 pandemic on mental health in Sweden and around the world are becoming increasingly clear. We (McCracken, Badinlou, Buhrman & Brocki, 2020; 2021) conducted a survey in Sweden in the early

phase of the pandemic that showed that people experienced significant anxiety, depression, and sleeping problems. Generally speaking, each of the mental problems examined here appeared most often in those who are most vulnerable regarding their health and socioeconomic circumstances. We also found that certain psychological capacities functioned as resilience factors against mental ill health in this pandemic context. These capacities are referred to as psychological flexibility (PF), roughly defined as the ability to face up to life's difficulties, to be aware of situations around us, and to act on and persist in seeking what we want in life. While numerous studies have shown significant benefits from treatments focused on PF, these have never aimed to address the mental and physical problems arising in circumstances like the ones we now face. At present, there is an urgent need for sustainable public health treatments to mitigate the negative effects on mental health of COVID-19. One group of individuals in particular need of intervention are those with lingering symptoms post-COVID, defined as long COVID (i.e., symptoms persist  $\geq 6$  weeks post-COVID; SBU, 2020), who are at high risk of reduced life quality, work ability and wellbeing.

At present, there is no collective knowledge about risk factors for, or treatment of, long COVID, and the need to gain more knowledge is acute. Symptoms of long COVID vary, but common symptoms include fatigue, shortness of breath, cough, palpitations, impaired sense of smell, chest pain, muscle and joint pain, gastrointestinal problems and skin changes, but importantly also impaired mental health and quality of life. It is well established that long-term physical pain is associated with impaired mental health and other risk factors (e.g., alcohol abuse, obesity, and difficulty sleeping), which contribute to further decreased daily life functioning and work ability (Mills, Nicholson & Smith, 2019). There is currently no knowledge about the long-term health effects of COVID-19, but a comparison can be made with the coronavirus diseases SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome). Survey studies have shown long-term effects (> 6 months after SARS or MERS) on both physical and mental health, with impaired lung function, impaired physical capacity, depression, anxiety and post-traumatic stress (SBU, 2020). These results once again emphasize the urgent need to study long-term effects on mental health in relation to the pandemic and to develop accessible interventions.

### **Psychological Treatment**

From a psychological perspective, an important step in the development of treatment efforts is to identify treatable psychological capacities that have a protective function against impaired wellbeing and health-related interference with daily functioning. An evidence-based model that includes a set of resilience factors is the psychological flexibility (PF) model. PF means acting in accordance with personal goals and values, despite the presence of any hindering thoughts and feelings, and being present in and appreciating the current situation (Hayes et al., 2012; 1999; McCracken, 2013). The increased levels of perceived threat and anxiety that a pandemic entails make PF a suitable theoretical model in the development of treatment for COVID-19-related ill health (Presti et al., 2020). The PF model has been studied in relation to COVID-19-related mental and physical illness in several empirical studies. One study found that high PF had a mitigating effect on mental illness, defined

as COVID-19 “peri-traumatic distress,” anxiety and depression, while low PF amplified the effect on these negative outcomes (Pakenham et al., 2020). Other studies conducted during the pandemic have shown a positive association between PF and levels of wellbeing and a negative association between PF and anxiety, depression and perceived stress (Dawson & Golijani-Moghaddam, 2020). In light of these findings from Italy, England and the US, we examined PF as a potential protective factor against mental illness in Sweden (McCracken et al., 2021). We also found a potential protective role of PF in relation to depression, anxiety and difficulty sleeping. The importance of PF as a protective function is relevant from a treatment perspective, as there is strong evidence that psychological treatments focused on improving PF have robust positive effects on increased functioning in daily life and mental wellbeing in clinical and non-clinical groups with different types of mental and physical ill health (Stenhoff et al., 2020).

Acceptance and Commitment Therapy (ACT), a specialization in cognitive behavioral therapy (CBT), is a psychological treatment that focuses on helping individuals to overcome difficulties and to achieve meaning in life. The primary defining feature of ACT is that it is focused on enhancing PF as a way to improve performance, wellbeing, and goal achievement.

An additional positive aspect of ACT is that the intervention can be delivered via the internet or as a smartphone app. Internet-based treatments have been shown to be successful in ameliorating several problems such as fatigue, anxiety, depression and long-term pain (Andersson et al., 2014; Buhrman et al., 2016). Internet-based treatments can overcome certain difficulties that may exist with conventional psychological treatment and are more readily available because the treatment does not depend on time and place. Furthermore, internet treatments can also involve some anonymity and possibly an opportunity to reach individuals at an earlier stage as well as reach those who otherwise would not seek help.

At present, there is an urgent need for accessible and sustainable public health measures to mitigate the negative effects on mental health of COVID-19, especially for those with long

COVID who are at risk of long-term sick leave and mental ill health. We believe that internet-based ACT has the potential to be a sustainable and relatively easily accessible form of treatment, which in the long run can be applied by various healthcare institutions to meet vulnerable groups that risk developing impaired mental and physical health as well as experiencing long-term sick leave in a pandemic context like COVID-19.

## The Workshop

The workshop will include several parts. We will review the mental health challenges highlighted by COVID-19 and look at related evidence from studies addressing these challenges. We will also describe and demonstrate aspects of the PF model and ACT-based methods, our goal being to give participants direct experience of the psychological processes in this model and how they work. Finally, we will facilitate a discussion of how to create progress regarding dissemination, new treatment design, and wide-scale implementation.

## References

- Andersson, G. et al. (2014). Guided Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: A systematic review and metaanalysis. *World Psychiatry*, 13, 288–295. <http://dx.doi.org/10.1002/wps.20151>.
- Andersson G, Titov N. (2014). Advantages and limitations of Internetbased interventions for common mental disorders. *World Psychiatry*, 13:4-11. <https://doi.org/10.1002/wps.20083>.
- Buhrman, M. et al. (2016). Internet interventions for chronic pain including headache: A systematic review, *Internet Interventions*, 4 (1), 17-34, <https://doi.org/10.1016/j.invent.2015.12.001>.
- Coronavirus Resource Center, COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE), Johns Hopkins University, <https://coronavirus.jhu.edu/map.html>/ Accessed 25 February 2021.
- Dawson, D. (2020). COVID-19: Psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. *Journal of Contextual Behavioral Science*, 17, 126-134. <https://doi.org/10.1016/j.jcbs.2020.07.010>.
- Hayes, S. C., et al. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. Guilford Press, New York, NY.
- Hayes, S. C., et al. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.), Guilford Press, New York, NY.
- Mazza, C. et al. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: Immediate psychological responses and associated features. *International Journal of Environmental Research and Public Health*, 17, 3165. <https://doi.org/10.3390/ijerph17093165>.
- McCracken, L. M. (2013). Committed action: an application of the psychological flexibility model to activity patterns in chronic pain. *The Journal of Pain*, 14, 828 – 835. <https://doi.org/10.1016/j.jpain.2013.02.009>.
- McCracken, L., Badinlou, F., Buhrman, M., & Brocki, K. (2020). Psychological impact of COVID-19 in the Swedish population: Depression, anxiety, and insomnia and their associations to risk and vulnerability factors. *European Psychiatry*, 63(1), E81. <https://doi.org/10.1192/j.eurpsy.2020.81>.
- McCracken, L., Badinlou, F., Buhrman, M., & Brocki, K. (2021). The Role of Psychological Flexibility in the Context of COVID-19: Associations with Depression, Anxiety, and Insomnia, *Journal of Contextual Behavioral Science*. <https://doi.org/10.1016/j.jcbs.2020.11.003>.
- Pakenham, K. I., et al., (2020). The moderating roles of psychological flexibility and inflexibility on the mental health impacts of COVID-19 pandemic and lockdown in Italy. *Journal of Contextual Behavioral Science*, 17, 109-118. <https://doi.org/10.1016/j.jcbs.2020.07.003>.
- Presti, G. et al (2020). The dynamics of fear at the time of COVID-19: A contextual behavioral science perspective. *Clinical Neuropsychiatry*, 17, 65-71. <https://doi.org/10.36131/CN20200206>.
- Statens Beredning för Medicinsk och Social Utvärdering (SBU), Långvariga symtom vid covid-19, <https://www.sbu.se/sv/publikationer/sbu-bereder/langvariga-symtom-vid-covid-19/>, Accessed 25 February 2021.
- Stenhoff, A. et al. (2020). Acceptance and commitment therapy and subjective wellbeing: A systematic review and meta-analyses of randomised controlled trials in adults, *Journal of Contextual Behavioral Science*, 18, 256-272, <https://doi.org/10.1016/j.jcbs.2020.08.008>.

# Public Mental Health: Discussions of Semantic and Taxonomic Problems Regarding Mental Health and Illness

This workshop is coordinated by the Swedish Medical Products Agency, in collaboration with the National Board of Health and Welfare, and The Public Health Agency of Sweden. **Charlotte Asker-Hagelberg\***, Swedish Medical Products Agency, Uppsala

\* [charlotte.asker-hagelberg@mpa.se](mailto:charlotte.asker-hagelberg@mpa.se)

## Background

According to the World Health Organization (WHO) Constitution<sup>1</sup> health is a state of "complete physical, mental and social wellbeing and not merely the absence of disease or infirmity". This suggests that the concept of mental health, as well, is broader than simply the absence of mental disorders or disabilities.

Psychiatric disorders, on the other hand, cause human suffering that has important implications at several levels, even beyond the affected individual: the family, the health care system and society at large.

The WHO cautions that the COVID-19 pandemic and the resulting isolation and disruption of regular daily life may impact population mental health, especially in vulnerable groups. Moreover, the OECD recently published a report<sup>2</sup> on the global mental health status, concluding that psychiatric illness, such as depression, has increased substantially during the COVID-19 pandemic. In Sweden, as in many other countries, politicians and decision-makers have intensified the work to prevent such mental ill health and illness, including cases already identified or incipient prior to the pandemic.

To support policy decisions and development of effective preventive mental health measures, there is a need for harmonization of the definitions of terminology. Therefore, discussions on the definitions of mental wellbeing and existential health, versus mental ill health and diagnosable psychiatric conditions, would seem to be warranted. Ideally, this should lead to identification and proper use of representative and robust data to monitor public mental health.<sup>3,4</sup>

Making comparisons across nations using similar indicators demands rigour at collection and a presumption that sampling, attrition, adjustments to and management of data are quite similar. More digital techniques are likely to affect the field.<sup>5,6</sup> Obviously, local, regional and national determinants of mental health are influenced by the political climate, social infrastructure and cultural factors. The question is: Is it possible to identify some generic and generalizable common domains and denominators of mental health?





PHOTO BY E-DIOP/UNSPLASH

## The Workshop

This workshop will attempt to provide scientific discussions on how to define, capture and follow population mental health using current and future data, nationally and globally. Specifically, the aim is to share views and make suggestions regarding:

- Boundaries between, e.g., mental health and mental illness
- Examples of potentially useful domains for the above and examples of data sources and sub-clusters within them
- Examples of the current and future place for Big Data and AI in new data generation and analyses in this field

## References and suggestions for further reading

1. <https://www.who.int/news/item/31-05-2021-world-health-assembly-recommends-reinforcement-of-measures-to-protect-mental-health-during-public-health-emergencies>
2. <https://www.oecd.org/coronavirus/policy-responses/tackling-the-mental-health-impact-of-the-covid-19-crisis-an-integrated-whole-of-society-response-0cfa0b/>
3. Orpana H, Vachon J, Dykxhoorn J, McRae L, Jayaraman G. Monitoring positive mental health and its determinants in Canada: the development of the Positive Mental Health Surveillance Indicator Framework. *Health Promot Chronic Dis Prev Can.* 2016 Jan;36(1):1-10. doi: 10.24095/hpcdp.36.1.01. PMID: 26789022; PMCID: PMC4939463.
4. Vik MH, Carlquist E. Measuring subjective wellbeing for policy purposes: The example of wellbeing indicators in the WHO "Health 2020" framework. *Scand J Public Health.* 2018 Mar;46(2):279-286. doi: 10.1177/1403494817724952. Epub 2017 Aug 23. PMID: 28830297.
5. Ressler, K.J., Williams, L.M. Big data in psychiatry: multiomics, neuroimaging, computational modeling, and digital phenotyping. *Neuropsychopharmacol.* 46, 1–2 (2021). <https://doi.org/10.1038/s41386-020-00862-x>
6. Rutledge RB, Chekroud AM, Huys QJ. Machine learning and big data in psychiatry: toward clinical applications. *Curr Opin Neurobiol.* 2019 Apr;55:152-159. doi: 10.1016/j.conb.2019.02.006. Epub 2019 Apr 15. PMID: 30999271.



PHOTO BY DERICK ANIES/UNSPLASH



PHOTO BY E DIOP/UNSPLASH

# Hormones and Mood

**Erika Comasco\***, Science for Life Laboratory, Department of Neuroscience, Uppsala University  
**Alkistis Skalkidou**, Department of Women's and Children's Health, Uppsala University  
**Inger Sundström Poromaa**, Department of Women's and Children's Health, Uppsala University

---

\* [erika.comasco@neuro.uu.se](mailto:erika.comasco@neuro.uu.se)

Mental health is understood by the World Health Organization as a precondition for, and mutually connected with, both the individual's and society's wellbeing. Evidence of sex differences in the way men and women think, feel, and behave in the presence of environmental stimuli is recognized, but not well understood. To question the neurobiological underpinnings of these sex differences has great significance for understanding the foundations of sex differences in behaviour as well as in the prevalence, severity, progression, and/or treatment of many common psychiatric disorders, such as anxiety, depression and addiction. Organizational and functional effects of gonadal hormones represent candidate mechanistic underpinnings of these sex differences. However, women have been understudied and the psychoneuroendocrine specifics are largely unknown, thus impeding

the development of sex-specific treatments. As clinicians and researchers, we constantly meet female patients, women, journalists, and opinion leaders who are flabbergasted at the knowledge gaps surrounding women's mental health, especially at some of the most valuable and treasured time points of their life. Women of the coming generations will not be content with the scarce resources that, thus far, have been allocated to research concerning their physical and psychological health. Women's specific psychoneuroendocrinology will be discussed, with the aim to foster awareness of the challenges that the reproductive lifespan brings along, as well as to support the development of targeted research and care for those women who maladaptively react to hormonal fluctuations experienced in association with the menstrual cycle, pregnancy, the postpartum period, and menopause.



ILLUSTRATION BY GETTY IMAGES

Women of reproductive age represent approximately 50% of the worldwide female population and 25% of the total population. Among these women, about 58% are naturally cycling and undergo the ovarian hormone (oestradiol and progesterone) fluctuations that define the menstrual cycle. Worldwide, billions of women are prescribed hormone therapy to regulate their menstrual cycle and to control their fertility; these are the most used contraceptive methods worldwide. However, the impacts on the woman's physiology and gynaecological functions – including stress, mental health, quality of life, sexual functioning, and effects on brain and behaviour – are poorly described.

Hormonal transition phases, such as pregnancy, menopause as well as the menstrual cycle, are putative windows of vulnerability for mental disorders in women. Notably, menstrual-cycle-related hormonal fluctuations are (mal) experienced by ~1.7 billion women of reproductive age in the world. Maladaptive brain sensitivity to these changes likely leads to the severe psychological, cognitive, and physical symptoms repeatedly experienced by women with Premenstrual Dysphoric Disorder (PMDD) during the late luteal phase of the menstrual cycle. Indeed, 5–8% of menstruating women

suffer from PMDD. PMDD is distinguished by symptoms such as depressed mood, anxiety, emotional lability and irritability, which occur during the premenstrual days. Patients suffering from PMDD experience these symptoms to such an extent that the disorder often interferes with social, work and home activities. Importantly, many more women experience sub-clinical forms of PMDD that impair their functioning, often described as premenstrual syndrome (PMS). Despite the prevalence and the fact that this burden may affect the women for several years up to decades during their fertile age, knowledge and treatment of PMDD and PMS are rather limited.

Another challenging time in a woman's life is pregnancy and the postpartum period, representing not only a physiologically but also a psychologically extraordinary event. Major depressive disorder at the time of childbirth, or peripartum depression (PPD), affects about 10% of all newly delivered women and has implications for the mother, the family, and not the least, the child's neurodevelopment. Likely triggered by hormonal sensitivity in interaction with psychosocial factors, PPD is rarely spoken of, possibly because it is considered particularly shameful to develop a depressive disorder at this

stage of life, and afflicted women reluctantly seek medical care for their symptoms. Moreover, to protect the foetus, treatment options are limited, therefore posing a dual challenge for its treatment. From a clinical perspective, peripartum depression is thus an under-diagnosed and under-treated disorder with sometimes devastating consequences. Despite several plausible pathophysiological pathways for disease development, due to extreme hormonal and immune system fluctuations during and after childbirth, to date there are no clinically applicable biomarkers of any kind available for PPD.

Later in life, the menopausal transition, which can last for several years, is the most influential biological and health-related event for most middle-age women. Indeed, the peri- and post-menopausal periods are marked not only by vasomotor symptoms, but also by cognitive and mood complaints that affect women's quality of life and overall functioning. Additionally, the decision to use or not use hormonal replacement therapy represents a major concern for afflicted women and their clinicians.

#### **Suggestions for further reading**

Association of levonorgestrel intrauterine devices with stress reactivity, mental health, quality of life and sexual functioning: a systematic review. Bürger Z, Magdalena Bucher A, Comasco E, Henes M, Hübner S, Kogler L, Derntl B. *Front Neuroendocrinol.* 2021 Aug 20;100943. doi: 10.1016/j.yfrne.2021.100943. Online ahead of print. PMID: 34425187

Halbreich, U., Borenstein, J., Pearlstein, T., Kahn, L.S., 2003. The prevalence, impairment, impact, and burden of premenstrual dysphoric disorder (PMS/PMDD). *Psychoneuroendocrinology* 28 Suppl 3, 1–23.

Neuroimaging the Menstrual Cycle and Premenstrual Dysphoric Disorder. Comasco E, Sundström-Poromaa I. *Curr Psychiatry Rep.* 2015 Oct;17(10):77. doi: 10.1007/s11920-015-0619-4. PMID: 26272540

In conclusion, “*sex/gender equality*” in everyday life and in health care can be achieved through understanding sex-specific differences in mental health and illness. Women's health, particularly women's mental health, is an extremely under-researched area that has suffered for years from lack of systematic biological approaches. At the same time, depression (and peripartum depression) affects large fractions of the female population during their reproductive (and most productive) years, at a societal cost that exceeds that of Alzheimer's disease, cardiovascular disease, diabetes, and cancer. From this perspective, joint efforts between academia, the social and health care sector, and policymakers are needed to advance women's wellbeing.

In this workshop, we will hear presentations about (1) The role of hormonal contraception, (2) Premenstrual Dysphoric Disorder, (3) The perinatal period, (4) The menopausal transition. We will also discuss: Are all women affected in a similar way? By which means could we increase the knowledge gap on women's mental health? What strategies could be implemented to support the wellbeing of women sensitive to hormone fluctuations? How could we improve awareness on this topic among women, social care staff and policy makers?

Sex differences in depression during pregnancy and the postpartum period. Sundström Poromaa I, Comasco E, Georgakis MK, Skalkidou A. *J Neurosci Res.* 2017 Jan 2;95(1-2):719-730. doi: 10.1002/jnr.23859. PMID: 27870443 Free PMC article. Review.

Biological aspects of postpartum depression. Skalkidou A, Hellgren C, Comasco E, Sylvén S, Sundström Poromaa I. *Womens Health (Lond).* 2012 Nov;8(6):659-72. doi: 10.2217/whe.12.55. PMID: 23181531 Free article. Review.

Henderson, V.W., et al, 2013. Cognition, mood, and physiological concentrations of sex hormones in the early and late postmenopause. *Proceedings of the National Academy of Sciences of the United States of America* 110, 20290–20295.



# Addressing Peripartum Depression

**Alkistis Skalkidou\***, Department of Women's and Children's Health, Uppsala University  
**Emma Fransson**, Department of Women's and Children's Health, Uppsala University,  
and Centre for Translational Microbiome Research, Department of Microbiology, Tumor  
and Cell Biology, Karolinska Institute, Sweden  
**Erica Lindahl**, Institute for Evaluation of Labour Market and Education Policy, Uppsala

---

\* alkistis.skalkidou@kbh.uu.se

## Introduction

Peripartum depression (PPD) affects more than 16,000 women yearly in Sweden, with substantial and long-lasting consequences for the women themselves, their partners, their children and society as a whole. Still, addressing it has not been a priority in research or clinical settings.

There are several potential risk factors associated with PPD, though our understanding of the biological mechanisms of the disease is still poor. Major risk factors include previous episodes of depression, lower socioeconomic and inadequate partner support.

Early detection of PPD is suboptimal, and many barriers exist. Women affected by depression for the first time cannot easily differentiate between the normal postpartum period and a pathological condition and are often ashamed of their feelings and unwilling to open up. Fighting the stigma associated with depression around childbirth is critical if we are to identify and treat young mothers as well as prevent long-lasting consequences.

Long-term consequences include higher risk for mental and somatic disorders. Studies have also shown a clear increase in the need for sick leave among young women after the birth of their first child, something not noted for young fathers. Costs for the consequences of often unidentified and untreated PPD are as high as 850,000 SEK per untreated mother-infant pair.

It is now time to address depression around childbirth.

The focus areas of the workshop are:

- How can we improve early identification of women at risk, so that we can offer preventive interventions?
- What underlies the continued stigma associated with peripartum depression and what concrete actions should we take to fight it?
- Do women become sick from becoming mothers? Why is it important to start addressing depression around childbirth and its consequences?





PHOTO BY DOMINIQUE BLIGNAULT/UNSPLASH

### **Background**

Depression is one of the world's most common psychiatric conditions, and depressive disorders rank among the leading causes of years lived with disability worldwide. Primarily before menopause, women are typically at greater risk of depression than men are. During pregnancy and the postpartum period, also called the peripartum period, the overall pooled prevalence of peripartum depression is estimated to 12% of all women giving birth, and depression is just as common during pregnancy as in the postpartum period. The prevalence is even higher in low-income countries, and globally, the prevalence of postpartum depression is about 17%.

### **Risk factors for peripartum depression**

Risk factors for peripartum depression include a history of depressive episodes, low socioeconomic status, and inadequate partner support. Further, some biological risk factors have been established, including substantial changes in the hormonal milieu, such as the abrupt fall of estrogen and progesterone levels after childbirth, as well as differential gene expression and DNA methylation related to the estrogen signaling pathway. Later research has even proposed different sub-groups of peripartum depressed women, categorized by time of disease onset. The different sub-groups are characterized by different risk factors, where women

with depression during pregnancy more often present with younger age, lower education, and higher unemployment rates, while women with depression after childbirth are characterized by a higher degree of infant-related stressors, lack of sleep, low partner support, and bonding difficulties. Women with depression throughout the peripartum period were more likely to have smoked prior to pregnancy, to have migraine and premenstrual mood symptoms, and to have experienced intimate partner violence, interpersonal trauma, negative delivery expectations, pregnancy nausea, and pregnancy-related pain.

### **Barriers to identification and treatment**

Validated questionnaires for depression (e.g., the Edinburgh Postnatal Depression Scale [EPDS], Cox et al., 1987) are used to improve detection rates. However, only a small proportion of women with symptoms (as small as 6% in some cases) are identified and adequately treated in routine healthcare. Novel methods for early identification of at-risk individuals and cost-effective interventions are therefore urgently needed (SBU, 2014).

### **The importance of prediction and prevention**

New drug preparations based on allopregnanolone action as well as promising preliminary results from transcranial magnetic stimulation treatment are emerging as more effective treatment options for women with peripartum depression. However, because prevention should always be considered superior to treatment, efforts in this field are strongly encouraged.

There are efficient psychological and psychosocial methods for preventing PPD, i.e., cognitive behavioral therapy (CBT), interpersonal psychotherapy (IPT) and peer support. However, such preventions are cost-effective only among high-risk women. Our current ability to predict the development of peripartum depression, especially among first-time mothers, is lacking. To achieve good prediction, high quality data from population-representative samples, collected using modern methodologies, are needed.

The use of mobile applications to capture moment-by-moment, objective data on the user's experiences and functions in the real world is

gaining momentum in the research. Data from, for example, surveys and questionnaires, voice recordings, accelerometry, GPS, smartphone usage patterns and application activity logs can easily be collected over long periods. This allows for large-scale, objective, temporally sensitive, ecologically valid data that are less susceptible to recall bias.

Prediction methods are also evolving, with new artificial intelligence methods emerging. These methods enable algorithms to identify and learn patterns in the data to detect complex, high-dimensional interactions and structured information to predict events. Deep Neural Networks (DNN) can handle more complex, big datasets and consist of a series of interconnected nodes resembling neurons.

### **Discarding the stigma**

Apart from the practical difficulties of identifying depression due to the overlap of cardinal symptoms of depression and normal experiences of early postpartum period, there is generally poor knowledge about mental illness among expectant and new parents, and there is still a taboo around the problem. This causes many to suffer in secret.

The feeling among many parents is that they are alone, thinking often that “all other parents are so happy and have such a good time with their babies.” Many feel that they are not living up to the expectations of parenthood and/or fear being forced to be separated from the newborn in order to get treatment. Few know that it is common to suffer from mental illness in connection with pregnancy and during the first year after childbirth.

Mamma till Mamma (Mother to Mother) is a religiously independent, non-profit, non-governmental and non-political organization that was recently established in Sweden. The organization's overall goal is to promote recovery among parents suffering from mental health issues during pregnancy or soon after giving birth. It offers an opportunity to anonymously, via email, open up about one's thoughts and feelings, and to get in contact with a so-called “medmamma” – a woman who previously suffered from perinatal mental health issues, but has since recovered.

The organization also works closely with experts in the field to disseminate evidence-based information, bust related myths and lift the associated stigma.

### **Consequences of peripartum mood disorders**

Mood disorder episodes during pregnancy and in the postpartum period are associated with suffering for the whole family. Untreated depression during pregnancy is associated with higher risks of both preterm birth and low birth weight. In addition, peripartum depression may have long-term effects on maternal bonding, child development and the mother's future mental and even somatic health. Every year in Sweden, approximately four women take their lives around the time of childbirth due to PPD, further highlighting the importance of early detection.

It is well documented that family formation has a negative impact on women's position on the labor market: Mothers suffer from impaired income trajectories and higher long-run illness absence rates after the arrival of the first child. Diagnoses for mental and behavioral disorders become increasingly important with time after family formation and could hence be one important explanatory factor underlying the documented negative labor market outcomes among mothers after giving birth.

Addressing depression around childbirth would not only benefit the individual, but would also have a great impact on society as a whole.

#### **References**

COX, J. L., HOLDEN, J. M. & SAGOVSKY, R. 1987. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry*, 150, 782-6.

SBU 2014. Förebyggande av postpartumdepression. Psykosocial och psykologisk profylax mot depression efter förlossningen. *SBU kommentar*. [https://www.sbu.se/contentassets/73818752dfbf4323b03373505b066269/forebyggande\\_postpartumdepression\\_2014\\_06.pdf](https://www.sbu.se/contentassets/73818752dfbf4323b03373505b066269/forebyggande_postpartumdepression_2014_06.pdf) Statens beredning för medicinsk utvärdering.

# Public Mental Health Promotion

## As an integral part of clinical and community care programs through the lifecycle

**Valerie DeMarinis\***, Department of Public Health and Clinical Sciences, Umeå University, Department of Theology, Uppsala University, Innlandet Hospital Trust, Norway

**Lars Lien**, Innlandet Hospital Trust, Norway, Sapmi Klinikka, Karasjok, Norway, Arctic University and University of Tromsø, President, Norwegian Psychiatry Association

---

\* valerie.demarinis@umu.se

For the workshop picture we have chosen a bridge. The bridge is a metaphor for making connections. In this workshop, we will work together to make connections between concepts, contexts, and cultures for a closer examination of public mental health and health promotion in clinical and community care contexts. The workshop focuses on theoretical, applied, policy, and multisectoral processes involved in best practice examples of building a public mental health promotion foundation for clinical and community care programs at national, municipal, and local levels. The base of this foundation is a two-dimensional mental health orientation for public health that includes an exploration of both individual and social problem areas as well as an exploration of both individual and social resilience. Both risk and protective factors are understood through a framework of social determinants of health. Important distinctions between health promotion and health prevention are explored. Integration of a health promotion orientation to health intervention efforts is also presented. Specific illustrations are drawn upon from actual clinical and community program examples across the lifecycle from both settled and emergency contexts.

### **Main focus of the workshop**

The workshop is focused on examining the following questions:

- Why is the mental health promotion classification so often interpreted as the mental ill-health prevention classification, and what consequences does that have?
- What difference does a two-dimensional model make for understanding and implementing public mental health promotion?
- What is the link between person-centered care and public mental health promotion?
- What are best practice findings related to enabling clinical and community care methods for public mental health promotion?

Those working at the clinical, community program, policy, and organizational levels of healthcare, as well as researchers and students in the healthcare, medical, community service fields and any other interested parties, are most welcome to this workshop.

### **Background to the workshop topic**

The workshop topic has a background related to international and Scandinavian work in public mental health, in both clinical and community care contexts. Though the current pandemic situation has certainly raised awareness about the urgency of integrating public mental health into public health, the need for such integration is not new.



PHOTO BY ANNIE SPRATT/UNSPLASH

### **Public Mental Health as an Integral Base of Public Health**

According to the World Health Organization (WHO): ‘Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the ecological system and not only the eradication of a particular disease.’ (WHO, 2016a, 2016b)

An approach to public health that includes public mental health with a health promotion focus recognizes protective factors for mental health and wellbeing as well as broader determinants, including the lifelong impact of mental ill health and other risk factors. Good mental health, as the World Health Organization has noted (WHO, 2004), is the basis of all health. Positive mental health results in health, psychosocial, and economic benefits, which are not due simply to the absence of mental disorder. Moreover, promotion of mental wellbeing can both prevent mental and somatic disorders as well as assist in

the recovery from these disorders: Promotion and prevention are important to sustainable reduction of the burden of mental disorder, because once it has arisen, treatment can only reduce a relatively small proportion of such a burden due to lack of treatment facilities and the fact that many years often pass between the first symptoms and treatment-seeking behavior (partly due to stigmatization) (Boyd-MacMillan & DeMarinis, 2020). The challenge is to incorporate such interventions into non-clinical and clinical practice as well as to engage with a range of other service providers, including public health and primary care physicians (Campion et al., 2012, p. 68).

DeMarinis (2018) argued that this orientation has not played a central role, due to various factors, including but not exclusive to training focused primarily on diagnosing and managing mental disorders; insufficient resources; the lack of coordinating strategies between ministries, institutions, agencies, and sectors; and the lack of operative models that can assist in coordination of the prevention and promotion foci. Public mental health therefore needs to incorporate various strategies, ranging from the promotion

of mental wellbeing to primary prevention and other forms of prevention and intervention. Planned strategies need to focus on individual, societal, and environmental aspects. Targeted interventions in relation to individuals will also need to focus on and assess the levels of function in the entire population. Kalra et al. (2012) proposed that a nested approach with the individual at the center, surrounded by family, carer providers and significant others, and educational and other local networks, surrounded by society at large, is the most suitable.

Adequate interventions are required for those at risk of developing psychiatric disorders, as well as for those who have already developed illness. Simply put, a public mental health-wellbeing orientation focuses on both challenges (e.g., psychosocial impairment, distress) and strengths (e.g., wellbeing, resilience), no matter when or where one enters the process (DeMarinis & Boyd-MacMillan, 2019). In the research on displaced populations, mental health, wellbeing, daily functioning, family cohesion and community members' interaction in general appear to benefit from integrated models of clinical and community care programs, yet evidence regarding their implementation among displaced populations remains limited (Tol et al., 2011). When considering the implementation of care services that foster local agency, an ecological approach may promote culturally appropriate care (Ager et al., 2005). This kind of approach fits well with the Bronfenbrenner (1979) model that has become a standard reference.

It can be argued that although humanitarian organizations routinely conduct psychosocial needs assessments (Wells et al., 2016), an ecological assessment goes further, in that it examines the context and culture for accessing services to address identified needs (Wells et al., 2018).

### **Public Mental Health Promotion and Resilience**

Public mental health promotion is coupled to the promotion of resilience throughout the lifecycle. A public mental health promotion approach focuses on protective and salutogenic factors that contribute to resilience (DeMarinis, 2014).

Resilience is a complex concept and continues to be both defined and approached in different ways in the research. Generally, it is accepted that resilience is inherently related to the resources that an individual can draw on to overcome adversity (e.g., Richardson, 2002). These protective or promotive factors come in a wide variety of forms that combine to make a person resilient. Three interacting levels are involved.

**Level 1 – Individual factors:** Focus is on psychological and neurobiological factors that can play a role in maintaining and recovering wellbeing after traumatic events or setbacks. This level of resilience typically involves investigations of personality and coping styles that mediate the relationship between adversity and wellbeing, but it can extend to include investigations of physical and cognitive abilities as well as neurocognitive structures and neural responses to stressors (Reinelt et al., 2015).

**Level 2 – Social factors:** Focus is on the social relationships one has and whether an individual can call on and expect support in times of crisis. Social support is widely construed to contain both affective (emotions and feelings) and instrumental components. This level of support is primarily in the form of either emotional support (e.g., listening and providing empathy) or instrumental support (e.g., tangible assistance aimed at solving a problem) (Adams et al., 1996).

**Level 3 – Community factors:** Focus here goes beyond individual capacities and considers economic, institutional, ecological, and infrastructure capacities when evaluating which communities are most likely to be resilient in the face of tragedies, either natural or human (Cutter et al., 2008).

A person's resilience is, however, not only an individual process, but also an interpersonal one, that is, a human resource that develops and thrives in a culturally defined group and community context (Kirmayer et al., 2011; Abraham et al., 2018).

In a recently published Swedish study related to minority group acculturation (Cetrez et al., 2021), it was found that assessing resilience only on an individual level with intrapersonal measures may not provide an adequate picture of the actual situation and level of resilience when interpersonal resources are also considered.

### **Mental Health Models Matter**

The model of mental health using only one continuum and featuring mental health and mental illness at opposite ends has been replaced by a model that frames mental health as two distinct yet interacting 'domains' (i.e., areas of experience, depicted as two separate continua): mental ill health and subjective wellbeing (Cetrez et al., 2021; DeMarinis & Boyd-MacMillan, 2019; Boyd-MacMillan & DeMarinis, 2020). Increasing evidence shows relatively weak correlations between mental ill health and subjective wellbeing, alongside findings showing that many experience high-functioning wellbeing in the presence of symptoms of mental ill health (Patalay & Fitzsimons, 2016; Kalra et al., 2012). Mental disorder/illness and mental health/wellbeing are distinct although related domains to the extent that the absence of either mental health or a mental disorder does not imply the presence of the other. Champion et al. (2012) found that prevention of mental disorder is closely related to and can occur as a result of the promotion of mental health and associated resilience. This finding supports a two-domain view of mental health, where mental ill health and subjective wellbeing are distinct constructs that are in some studies only moderately associated (Patalay & Fitzsimons, 2016).

The two-domain model permits a more complete understanding of mental health and focuses on numerous interacting factors that can affect actual daily function. The model is not static, but fluid, and reflects the growing evidence of interaction between the two domains (Patalay & Fitzsimons, 2016; DeMarinis & Boyd-MacMillan, 2019; Kalra et al., 2012). A two-domain model does not underestimate the important contributions to understanding risk factors for negative mental health consequences of, for example, war-related violence and other traumatic losses, while addressing the important critique that Betancourt and Khan (2008) raised: that the focus on trauma alone has resulted in inadequate attention to factors associated with resilient mental health outcomes.

### **Exploring person-centered clinical care and person-centered community care from a public mental health promotion perspective**

Person-centered orientations identify and incorporate a person's own goals, interests, and strengths in an attempt to support the person's own efforts to manage his or her condition or circumstances while pursuing a meaningful life in the community (Brekke et al., 2018). Two primary case examples will be used in the workshop to illustrate such orientations. These case examples build upon the mental health model and themes expressed above, starting from a public mental health promotion perspective.


*Clinical case example:* Norway case example of public mental health promotion and person-centered care into general treatment packages: Initiating the Cultural Formulation Interview (CFI) from DSM-5 (American Psychiatry Association, 2013).

*Community case example:* UNICEF/ Cambridge/ Umeå case example of public mental health promotion in displaced children's school programs in community settings: 'The Learning Passport', (Boyd and DeMarinis, 2020); and as the basis for upcoming pilot interventions, through the DRIVE EU project (2021), related to a deeper exploration of youth radicalization in Europe.

## References

- Abraham, R., Lien, L., Hanssen, I. (2018) Coping, resilience and posttraumatic growth among Eritrean female refugees living in Norwegian asylum reception centres: A qualitative study. *Int J Soc Psychiatry*. 2018 Jun;64(4): 359-366. doi: 10.1177/0020764018765237. Epub 2018 Mar 27. PMID: 29584520
- Adams, G. A., King, L. A., and King, D. W. (1996). Relationships of job and family involvement, family social support, and work-family conflict with job and life satisfaction. *Journal of Applied Psychology*, 81(4), 411-420. <https://doi.org/10.1037/0021-9010.81.4.411>
- Ager, A., Strang, A., and Abebe, B. (2005). Conceptualizing community development in war-affected populations: Illustrations from Tigray. *Community Development Journal*, 40(2), 158-168. <https://doi.org/10.1093/cdj/bsi024>
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edn. Washington, DC: American Psychiatric Association Press
- Betancourt, T. S., and Williams, T. (2008). Building an evidence base on mental health interventions for children affected by armed conflict. *Intervention*, 6(1), 39-56. <https://doi.org/10.1097/WTF.0b013e3282f761>
- Boyd-MacMillan, E. & DeMarinis, V. (2020). *Learning Passport: Curriculum Framework (IC-ADAPT SEL high level programme design)*. Cambridge, UK: Cambridge University Press & Cambridge Assessment. Retrieved from: [https://www.cambridge.org/files/6615/8465/3401/The\\_IC-ADAPT\\_for\\_SEL\\_Programme\\_Design.pdf](https://www.cambridge.org/files/6615/8465/3401/The_IC-ADAPT_for_SEL_Programme_Design.pdf)
- Brekke, E., Lien L., Nysveen, K., Biong, S. (2018) Dilemmas in recovery-oriented practice to support people with co-occurring mental health and substance use disorders: a qualitative study of staff experiences in Norway. *Int J Ment Health Syst*. 2018 Jun 7;12:30. doi: 10.1186/s13033-018-0211-5. eCollection 2018. PMID: 29930698
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design* (New Ed edition). Cambridge, Mass: Harvard University Press.
- Cambridge University Press & Cambridge Assessment. (2020). *The Learning Passport: Research and Recommendations Report*. Cambridge, UK: Cambridge University Press & Cambridge Assessment
- Campion, J., Bhui, K., and Bhugra, D. (2012). European Psychiatric Association (EPA) guidance on prevention of mental disorders. *European Psychiatry: The Journal of the Assoc*
- Çetrez, Ö, DeMarinis, V. Sundvall, M., Fernandez-Gonzalez, M., Borisova, L., Titelman, D. (2021) A Public Mental Health Study Among Iraqi Refugees in Sweden: Social Determinants, Resilience, Gender, and Cultural Context. *Front. Sociol.*, 26 April 2021 <https://doi.org/10.3389/fsoc.2021.551105>
- Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., and Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change*, 18(4), 598-606. <https://doi.org/10.1016/j.gloenvcha.2008.07.013>
- DeMarinis, V., and Boyd-MacMillan, E. (2019). A mental health approach to understanding violent extremism [EU Radical Awareness Network (RAN) Policy and Practice Report]. Retrieved from: [https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/radicalisation\\_awareness\\_network/about-ran/ran-h-and-sc/docs/ran\\_hsc\\_prac\\_mental\\_health\\_03062019\\_en.pdf](https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/radicalisation_awareness_network/about-ran/ran-h-and-sc/docs/ran_hsc_prac_mental_health_03062019_en.pdf)
- DeMarinis, V. (2018) Public mental health promotion in a public health paradigm as a framework for countering violent extremism. In: G. Øverland, G. and A. Arnfinn (Eds.) *Processes of violent radicalisation in the 21st century*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- DeMarinis, V. (2014). Public mental health promotion, meaning-making and existential meaning: Challenges for person-centered care of refugees in a secular, pluralistic context. In G. Overland, E. Guribye, and B. Lie (Eds.), *Nordic Work with Traumatized Refugees: Do We Really Care* (Unabridged edition). Newcastle upon Tyne: Cambridge Scholars Publishing.
- DRIVE (EU Horizon 2020 project) (2021): Far right and Islamist extremism in North-Western Europe, and the role of social inclusion Retrieved from: <https://www.universiteitleiden.nl/en/research/research-projects/governance-and-global-affairs/drive-far-right-and-islamist-extremism-in-north-western-europe-and-the-role-of-social-inclusion>
- Kalra, G., Christodoulou, G., Jenkins, R., Tsiapas, V., Christodoulou, N., Lecic-Tosevski, D., ... Bhugra, D. (2012). Mental health promotion: Guidance and strategies. *European Psychiatry: The Journal of the Association of European Psychiatrists*, 27(2), 81-86. <https://doi.org/10.1016/j.eurpsy.2011.10.001>
- Kirmayer, L. J., Dandeneau, S., Marshall, E., Phillips, M. K., and Williamson, K. J. (2011). Rethinking resilience from indigenous perspectives. *Canad. J. Psychiatry* 56, 84-91. doi: 10.1177/070674371105600203
- Patalay, P., and Fitzsimons, E. (2016). Correlates of Mental Illness and Wellbeing in Children: Are They the Same? Results From the UK Millennium Cohort Study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(9), 771-783. <https://doi.org/10.1016/j.jaac.2016.05.019>
- Reinelt, E., Barnow, S., Stopsack, M., Aldinger, M., Schmidt, C. O., John, U., and Grabe, H. J. (2015). Social support and the serotonin transporter genotype (5-HTTLPR) moderate levels of resilience, sense of coherence, and depression. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics: The Official Publication of the International Society of Psychiatric Genetics*, 168B(5), 383-391. <https://doi.org/10.1002/ajmg.b.32322>
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58(3), 307-321. <https://doi.org/10.1002/jclp.10020>
- Tol, W. A., Patel, V., Tomlinson, M., Baingana, F., Galappatti, A., Panter-Brick, C., ... van Ommeren, M. (2011). Research Priorities for Mental Health and Psychosocial Support in Humanitarian Settings. *PLoS Medicine*, 8(9). <https://doi.org/10.1371/journal.pmed.1001096>
- Wells, R., Lawsin, C., Hunt, C., Said Youssef, O., Abujado, F., and Steel, Z. (2018). An ecological model of adaptation to displacement: Individual, cultural and community factors affecting psychosocial adjustment among Syrian refugees in Jordan. *Global Mental Health*, 5. <https://doi.org/10.1017/gmh.2018.30>
- Wells, R., Steel, Z., Abo-Hilal, M., Hassan, A. H., and Lawsin, C. (2016). Psychosocial concerns reported by Syrian refugees living in Jordan: Systematic review of unpublished needs assessments. *The British Journal of Psychiatry: The Journal of Mental Science*, 209(2), 99-106. <https://doi.org/10.1192/bjp.bp.115.165084>
- WHO. (2004). *Promoting Mental Health: Concepts, Emerging Evidence, Practice* [Summary Report]. Retrieved from World Health Organization website: [https://www.who.int/mental\\_health/evidence/en/promoting\\_mhh.pdf](https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf)
- WHO. (2016a). *Mental health: Strengthening our response* [Fact sheet]. Retrieved from World Health Organization website: <http://www.who.int/mediacentre/factsheets/fs220/>
- WHO. (2016b). *Public health, trade, foreign policy, diplomacy and health*. Retrieved from World Health Organization website: <http://www.who.int/trade/glossary/story076/>



A photograph of a multi-story brick building facade. On the left side, there are several fire escapes with metal railings. The building has multiple windows, some with decorative lintels. A large white banner is attached to the brick wall, featuring the text "HOW ARE YOU, REALLY?" in a bold, black, sans-serif font. Below the banner, there is a small, dark logo with the text "OVERALL MURALS" and "EST. 2012" in white. The overall scene is captured in a slightly low-angle shot, emphasizing the height of the building.

HOW  
ARE  
YOU,  
REALLY?

OVERALL  
MURALS  
EST. 2012

# How to Improve Access to Evidence-based Psychological Interventions

**Paul Farrand**, Clinical Education, Research, and Development, College of Life and Environmental Sciences, University of Exeter, United Kingdom

**Joanne Woodford\***, Healthcare Sciences and e-Health, Department of Women's and Children's Health, Uppsala University

---

\* joanne.woodford@kbh.uu.se

## **What's hindering access to evidence-based psychological interventions for common mental health difficulties?**

A focus on addressing systemic level barriers.

Common mental health difficulties such as depression and anxiety are prevalent, chronic, recurrent, and place a significant burden on the individual, service providers, as well as wider society. However, access to evidence-based psychological treatments remains limited worldwide and in order to improve access, the implementation of a new organisation of mental health services and innovative delivery strategies is required.

## **Aim of the workshop**

In this workshop, we wish to bring together members of the public, health and social care professionals, educators, researchers, and policy makers, to discuss ways in which access to evidence-based psychological interventions could be improved further.

Specifically, we will explore:

- The **utilisation of digital advancements**, for example, the use of e-mental health interventions, such as smartphone applications, to deliver and support psychological interventions
- The potential for **new workforce developments** beyond the psychological practitioner role.
- Ways of **integrating service delivery beyond the traditional mental health sector**, for example, the employment sector, non-governmental organizations, and faith communities.



ILLUSTRATION BY ALAMY

## Background

Worldwide, access to evidence-based psychological interventions for common mental health difficulties such as depression and anxiety disorders remains limited. Barriers to access occur at the level of the individual (e.g., lack of time, guilt, stigma, symptom recognition), provider (e.g., lack of mental health knowledge, unwillingness to diagnose and treat, stigma) and related to the organisation of service delivery (e.g., limited availability of trained professionals, lack of training in the delivery of evidence-based treatment, poor integration of mental health services in primary care and other health and social care settings).<sup>1</sup>

To address these barriers, a revolution in the organisation of mental health service delivery alongside innovative strategies to deliver psychological interventions is required. The Improving Access to Psychological Therapies (IAPT) programme implemented across England represented this type of revolution, delivering the least restrictive type of evidence-based psychological therapies of the correct treatment intensity at different steps within a mental health

stepped care service delivery model.<sup>2</sup> Delivering psychological therapies to patients dependent on intensity facilitated the development of a new 'Practitioner' level psychological workforce that is now gaining interest across the world. This new workforce is trained in competencies to support people engage in low-intensity cognitive behavioural therapy (LICBT), with the specific intervention techniques delivered through a range of CBT 'self-help' print, e-mental health (e.g., internet-administered CBT), and m-mental health (e.g., smartphone app) formats.<sup>3</sup> However, despite the success of IAPT in improving the percentage of individuals with depression and anxiety accessing evidence-based psychological therapies per year, there are still significant improvements to service access that can be made.<sup>2,4</sup>

## Potential solutions

### Utilisation of digital advancements.

Digital technologies (e.g., technologies utilising the internet) are facilitating the delivery of healthcare worldwide.<sup>5</sup> E-mental health and m-mental health have been proposed as solutions to the global mental health crisis and to help overcome barriers to access.<sup>6</sup> Their promise

has been further amplified by the COVID-19 pandemic.<sup>7</sup> However, whilst the evidence base for some e-mental health interventions is well established<sup>8</sup>, there are difficulties with acceptability<sup>9</sup>, low rates of implementation in routine health care<sup>10</sup> and many publicly available interventions (for example smartphone apps) are not evidence-based.<sup>11</sup> We will explore barriers and facilitators to the use of e- and m-mental health interventions, and develop solutions to maximise their potential.

**Workforce developments.** A key contributing factor to the success of the IAPT programme in England was the establishment of a new psychological therapies Practitioner workforce, specifically trained to support LICBT interventions.<sup>12</sup> This workforce removes a reliance on high-intensity face-to-face psychological therapists to deliver the psychological therapy to people with mild-to-moderate common mental health difficulties. Dependent on severity, delivering the appropriate type of CBT intervention to people with depression and anxiety within a stepped care service delivery model reduces the optimal dose of therapist delivered CBT therapy in excess of 10 weekly, 60-minute treatment sessions to an average of 5 support sessions of around 30 minutes for LICBT interventions.<sup>12</sup> Evidence-based guidelines inform clinical decision-making regarding the least restrictive treatment step to promote recovery.

However, whilst gaining significant interest in countries such as the USA, Australia, and Norway few countries have a psychological therapies Practitioner workforce. For example, in Sweden, recent research found that the majority of primary care organisations implementing inter-

net-administered CBT had only 1 to 2 therapists working with both internet-administered CBT and high-intensity CBT.<sup>13</sup> This size of workforce is inadequate to support the implementation of internet-administered CBT solutions more widely and unnecessarily employs a high-intensity CBT workforce to deliver low-intensity CBT. We will explore the potential to develop and implement a new competency based psychological Practitioner workforce to work within a Stepped Care service delivery model where evidence-based guidelines inform treatment decision making, whilst ensuring the optimal use of scarce resources.<sup>14</sup>

**Integrating service delivery beyond the traditional mental health sector.** Typically, support for common mental health difficulties is delivered through primary care organisations. However, access may be improved by thinking “outside the box” and exploring ways of delivering mental health services within different sectors. For example, the employment sector, non-governmental organizations, locations commonly used by people with diversity or faith communities. A balanced care model has been posed as a way of increasing the coverage of mental health services.<sup>15</sup> This model utilises service delivery platforms tailored to the delivery context whilst considering innovative ways of integrating mental health service provision outside of the health-care sector.<sup>15</sup> Acceptability may be improved by reaching people within settings they already engage with and feel more comfortable in, thereby improving access. We will explore barriers and facilitators to the delivery of psychological interventions outside of the health-care sector.

## References

1. Collins KA, Westra HA, Dozois DJ, Burns DD. Gaps in accessing treatment for anxiety and depression: challenges for the delivery of care. *Clin Psychol Rev* 2004;24(5):583-616.
2. Clark DM. Realizing the mass public benefit of evidence-based psychological therapies: the IAPT program. *Annu Rev Clin Psychol* 2018;14:159-83.
3. Farrand P, editor. *Low-intensity CBT skills and interventions: a practitioner's manual*. London: SAGE; 2020. p. 5-20.
4. Layard R, Clark DM. *Thrive: The Power of Psychological Therapy*. London: Penguin Books; 2014.
5. Wilhelm S, Weingarden H, Ladis I, Braddick V, Shin J, Jacobson NC. Cognitive-behavioral therapy in the digital age: presidential address. *Behav Ther* 2020; 51(1):1-14.
6. Rebello TJ, Marques A, Gureje O, Pike KM. Innovative strategies for closing the mental health treatment gap globally. *Curr Opin Psychiatry* 2014;27(4):308-14.
7. Torous J, Jän Myrick K, Rauseo-Ricupero N, Firth J. Digital mental health and COVID-19: using technology today to accelerate the curve on access and quality tomorrow. *JMIR Ment Health* 2020;7(3):e18848.
8. Andersson G, Carlbring P, Rozental A. Response and remission rates in internet-based cognitive behavior therapy: an individual patient data meta-analysis. *Front Psychiatry* 2019;10:749.
9. Apolinário-Hagen J, Kemper J, Stürmer C. Public acceptability of e-mental health treatment services for psychological problems: a scoping review. *JMIR Ment Health* 2017;4:e1
10. Fleming T, Bavin L, Lucassen M, et al. Beyond the trial: systematic review of real-world uptake and engagement with digital self-help interventions for depression, low mood, or anxiety. *J Med Internet Res* 2018;20:e199.
11. Hwang WJ, Ha JS, Kim MJ. Research trends on mobile mental health application for general population: a scoping review. *Int J Environ Res Public Health* 2021;18(5):2459.
12. Farrand P. Low-intensity cognitive behavioural therapy: revolution not evolution. In: Farrand P, editor. *Low-intensity CBT skills and interventions: a practitioner's manual*. London: SAGE; 2020. p. 5-20.
13. Brantnell A, Woodford J, Baraldi E, van Achterberg T, von Essen L. Views of Implementers and Nonimplementers of Internet-Administered Cognitive Behavioral Therapy for Depression and Anxiety: Survey of Primary Care Decision Makers in Sweden. *J Med Internet Res* 2020;22(8):e18033.
14. van Straten A, Hill J, Richards DA, Cuijpers P. Stepped care treatment delivery for depression: a systematic review and meta-analysis. *Psychol Med*. 2015;45(2): 231-46.
15. Patel V, Saxena S, Lund C, et al. The Lancet Commission on global mental health and sustainable development. *Lancet* 2018;392(10157):1553-98.

# Animal-Assisted Intervention

## How it can improve wellbeing among children faced with mental health difficulties at school

**Lena Lidfors\***, Department of Animal Environment and Health, Swedish University of Agricultural Sciences

**Maria Andersson**, Department of Animal Environment and Health, Swedish University of Agricultural Sciences

**Laura Hartman**, Uppsala Municipality

---

\* lena.lidfors@slu.se

### Introduction

School absenteeism or complete school dropout is a growing problem that goes hand in hand with increasing mental health issues among young people. School dropout can result in higher rates of unemployment and poor health, which may clearly constitute a societal challenge (Rumberger & Lim, 2008). Changes in policies and practice are needed to facilitate alternative actions for improving the rate of return to school. One important aspect of such actions is to find both a way to provide a less stressful environment for pupils and good motivators to keep pupils in school. Practical experiences and international research have shown that contact with dogs, horses or farm animals can provide a motivating learning environment and thus be an effective way of increasing the return rate.

### Workshop aims

The workshop will discuss the following questions:

- What are the best methods/actions to get children back to school?
- Why would provision of Animal-Assisted Intervention (AAI) work – what do animals do with us?
- What international experiences are there of involving animals in school support to pupils with problematic school attendance? Are there any success stories?
- Which species of animals are most suitable for AAI for children, and does this differ across countries and cultures?
- What policy change is needed to implement AAI in schools?
- What practical issues arise in school environments concerning AAI and how are they solved?
- How can the wellbeing of animals be assured in AAI?



PHOTO BY SLU FUTURE ONE HEALTH/PATRIK SÖDERMAN

### **School absenteeism and the reasons behind it**

Sweden has compulsory schooling (Education Act, 2010: 800), which means that all children have the right to, and must complete, their schooling from preschool class through grade 9. However, problematic school absenteeism – i.e. pupils with high absenteeism or who completely stop attending school (dropouts) – is a growing problem in society. The Swedish National Agency for Education stated that more than 20,000 students had high school absenteeism in 2018. Chapter 7 of the Education Act, which regulates compulsory schooling and the right to education (SFS 2010: 800), was amended in 2018 to clarify the school's, the principal's and the home municipality's responsibility for noticing, investigating and acting on absence.

School absenteeism causes pupils to fall behind. In the short term, the consequences can be conflicts within the family and stress for both children, parents and the school (Bernstein et al., 2001). In the end, incomplete primary school education leads to challenges and difficulties in working life (Bernstein et al., 2001) and may involve costs for society and taxpayers (Reid, 2005). Forsell (2020) showed that longer school absence leads to problems such as anxiety, depression, reduced social contacts and falling behind in schoolwork, making it even more

difficult to return to school. Changes are needed in the school environment to help children return, such as teaching in an alternative learning environment, changing schools or making other people enter the pupil's life to create a manageable learning situation (Forsell, 2020). Animals, for example dogs, horses or farm animals, could constitute that alternative learning environment.

### **Dog-Assisted Education (DAE) in schools**

Dogs may help children with neurodevelopmental disorders (NDD) function better in school. Esteves & Stokes (2008) found that, with a dog present, children showed fewer negative behaviours than did those without a dog and that, overall, they had more positive attitudes towards the teacher at the end of the study. The children also had more positive verbal and non-verbal behaviours on the days the dog was in the classroom, for example, they smiled and laughed more and said words like 'happy' and 'funny'. In another study, adolescents with ADHD had improved impulse control and increased attention span resulting from dog-assisted therapy (Schuck et al., 2015). They compared two groups of adolescents diagnosed with ADHD, where one group had a therapy dog and the other did not. Although both groups had positive results after twelve weeks, the adolescents who had access to a therapy dog had experienced greater decrease in their ADHD symptoms. Beetz et al. (2012)

found that boys who had an insecure-avoidant attachment or an ambivalent attachment to humans found great support in having a therapy dog by their side when they were to perform two socially stressful tasks. Boys who had a real dog beside them during the tasks had lower saliva cortisol both during and after the tasks, whereas boys who had a toy dog or a friendly human by their side had increased cortisol levels during and after the tasks.

Having a social service dog present when pupils are to write stories, read or perform group activities can increase their motivation and participation (Esteves & Stokes, 2008). In addition, children who previously did not dare to participate in activities were significantly more social with their classmates when a therapy dog was introduced into the classroom (Kotschal & Ortbauers, 2003). In addition, all the children sat still more, were calmer and paid more attention to their teacher when the dog was in the room. A meta-analysis including 20 articles on DAE showed that lack of methodological rigor is the main obstacle to interpreting the available research results and being able to draw conclusions about the effects (Reilly et al., 2020).

### **Equine-Assisted Education (EAE) outside school**

EAE is a multimodal intervention where horse interactions and riding are incorporated into the learning of school subjects. Riding and interaction with horses can improve self-efficacy and self-esteem in students with negative school experiences (Kendall & Maujean, 2015). Through horses, pupils can learn to read social signals and control their own behaviour. EAE integrates movement, relationships and experiential learning to enhance knowledge attainment among pupils who may not thrive in a classroom. EAE typically takes place outdoors or in an indoor riding arena. Through EAE, school and horse sectors are brought together to enhance learning for pupils with NDD, including ASD and ADHD. A review paper on studies of the effect of equine therapy on children and young people with ASD found some improvements in functions related to core features of ASD, like social interaction, and decreased problematic

behaviour (Tan & Simmonds, 2019). Reviews of studies investigating equine therapy and activity for children with ADHD have reached the same conclusions (Perez-Gomez et al., 2020).

Reduced stress, increased alertness, increased concentration and positive impacts on working memory have been shown in people when riding (Hallberg, 2017). This means that the conditions for learning new things increase. Pupils who are absent from school and have been offered activities with horses are motivated to learn things they can benefit from at present. This involves their beginning to read, write, orient themselves in the function of society, etc. (Jeanette Kobilsek, Merja Repo, Anita Jacobsson, personal communication, 2020). Clinical experience indicates that it is easier to read when sitting on a horse moving in gait (Jennifer Dixon Clegg, personal communication, 2000), but this has not yet been studied scientifically.

### **Farm-based education**

By taking part in farm activities, pupils with exclusion problems can gradually build up their sense of belonging. On the farm, there are births and deaths, seeds are sown that turn into plants, and pupils follow the seasonal changes from sowing to harvest, all of which gives a context. This allows young people to develop a sense of their own life (Hassink et al., 2018). In the US, Green Chimneys in Brewster New York is a school placed on a large farm with about 200 different animals, such as horses, cows, sheep, pigs, camels, llamas, chickens, rabbits and smaller animal species. The school also rehabilitates injured injured birds of prey and re-homes dogs. The school accommodates up to 200 students aged 5–18 years. About 90% of the pupils are boys. The average length of stay in the program is 3 years to get enough support to complete their schooling. About half of the students live in the boarding school from Monday to Friday, while the rest commute daily. An evaluation of how students are affected by attending Green Chimneys showed that they gained increased competence, better self-confidence, improved character, more contact and care, and made improvements in problem behaviours (Brandes, 2019).



In Finland, the Kiipula Foundation runs state-funded vocational schools at the upper secondary level for students who have various physical or mental problems that make attending a regular school difficult. The students have short theory sessions because they have difficulty focusing for long periods of time. Then they work in the forest or in the greenhouses, or look after the animals at school or on surrounding farms. The students live in a boarding school from Monday to Friday, and they have many other activities. Two Swedish examples of schools at the upper secondary level are Lillerudsgymnasiet and Karolinaskolan. At Karolinaskolan, students live in the boarding school from Monday to Friday and do practical work in the greenhouses and gardens. There are also several private farms that take in dropouts, such as Humlamaden in Skåne and Stallyckan outside Borås, which has horses and therapy dogs on the farm, as well as several Green Arena farms. Teaching takes place on the farms, but the students still receive instruction in the regular school.

## The future

There are tremendous benefits of including animals in the school situation, and still we have not included references showing an increase in empathy among all children participating in AAI. In the future, we would like to see more resources allocated to AAI.

Although animals can assist dropouts in increasing their motivation and willingness to return to school, authorities are sceptical about involving animals in the school curriculum. This can be due to the risk of putting allergic pupils at risk, causing negative reactions in pupils who are afraid of animals, or not treating all pupils equally. However, doing nothing and letting pupils stay at home, sometimes for many years, may cause increased exclusion of these pupils and high future costs for society. The workshop should lead to suggestions for a future in which animals can be included in the school curriculum for pupils who need extra support, the goal being to decrease school dropouts.

## References

- Beetz, A., Julius, H., Turner, D. & Kotrschal, K. (2012). Effects of social support by a dog on stress modulation in male children with insecure attachment. *Frontiers in Psychology*. 3, 352.
- Bernstein, G.A., Hektner, J.M., Borchardt, C.M. & McMillan, M.H. (2001). Treatment of school refusal: one-year follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry*. 40, 206-213.
- Brandes, H. (2019). The potential of Green Care interventions to promote positive youth development with a One Health lens. *Proceedings from International Conference of the International Association of Human-Animal Interaction Organisations in Brewster, USA, April 12-14 2019*, p. 26.
- Esteves, S.W. & Stokes, T. (2008). Social effects of a dog's presence on children with disabilities. *Anthrozoös*. 21, 5-15.
- Forsell, T. (2020). *Man är ju typ elev, fast på avstånd – Problematisk skolfrånvaro ur elevers, föräldrars och skolpersonals perspektiv*. PhD thesis, Umeå Studies in the Educational Sciences, Umeå University. <http://umu.diva-portal.org/>
- Hallberg, L. (2017). *The clinical practice of equine-assisted therapy: Including horses in human healthcare*. Routledge.
- Hassink, J., Veen, E.J., Pijpker, R., De Bruin, S.R., van der Meulen, H.A. & Plug, L.B. (2020). The care farming sector in the Netherlands: A reflection on its developments and promising innovations. *Sustainability*. 12, 3811.
- Kendall, E. & Maujean, A. (2015). Horse Play: A Brief Psychological Intervention for Disengaged Youths. *Journal of Creativity in Mental Health*. 10, 46-61.
- Kotrschal, K. & Ortbauer, B. (2003). Behavioral effects of the presence of a dog in a classroom. *Anthrozoös*. 16, 147-159.
- Perez-Gomez, J., Amigo-Gamero, H., Collado-Mateo, D., Barrios-Fernandez, S., Munoz-Bermejo, L., Garcia-Gordillo, M.A., Carlos-Vivas, J. & Adsuar, J.C. (2020). Equine-assisted activities and therapies in children with attention-deficit/hyperactivity disorder: A systematic review. *Journal of Psychiatric and Mental Health Nursing*. <https://doi.org/10.1111/jpm.12710>
- Reid, K. (2005). The Causes, Views and Traits of School Absenteeism and Truancy: An Analytical Review. *Research in Education*. 74, 59-82.
- Reilly, K.M., Adesope, O.O. & Erdman, P. (2020). The effects of dogs on learning: A meta-analysis. *Anthrozoös*. 33, 339-360.
- Rumberger, R.W. & Lim, S.A. (2008). *Why students drop out of school: A review of 25 years of research*. California Dropout Research Project Report #15 October 2008. 130 pages.
- Schuck, S.E.B., Emmerson, N.A., Fine, A.H. & Lakes, K.D. (2015). Canine-Assisted Therapy for children with ADHD: Preliminary findings from the Positive Assertive Cooperative Kids Study. *Journal of Attention Disorders*. 19, 125-137.
- Tan, V.X.L. & Simmonds, J.G. (2019). Equine-Assisted Interventions for psychosocial functioning in children and adolescents with Autism Spectrum Disorder: a literature review. *Journal of Autism and Developmental Disorders* 6, 325-337.

# Governance

## Steering Committee

Chair: Professor Anders Hagfeldt  
Vice-Chancellor, Uppsala University

Dr Björn Eriksson  
Director General, Medical Products Agency

Professor Maria Knutson Wedel  
Vice Chancellor, Swedish University of Agricultural Sciences

Professor Hervé Le Louët  
CEO, Uppsala Monitoring Centre

Professor Ann Lindberg  
Director General, National Veterinary Institute, SVA

Charlotte Skott  
Director Business and Economic Development,  
City of Uppsala

Christer Svensson  
President, World Class Uppsala

Emilie Orring  
Chair: Uppsala County Council Executive Committee

## Advisory Board

Chair: Dr Anders Milton  
Former chairman of the Council of the World Medical Association; former CEO and Secretary General of the Swedish Medical Association, of the Swedish Red Cross and of the Swedish Confederation of Professional Associations

Dr. Elisabeth Björk  
VP, Head of Cardiovascular and Metabolic development unit (CVMD), AstraZeneca

Professor Florence Haseltine  
Medical Director of the North Texas Genome Center, founder Society for Women's Health Research; Former Director NIH Center for Population Research

Dr Bernadette Klapper  
Director of Health, Robert Bosch Foundation

Dr Ingrid Wüning Tschol  
Senior Vice President, Strategy, Robert Bosch Foundation

Maria Stella de Sabata  
International Diabetes Federation European Region, and Advisor, Fondo Elena Moroni per l'Oncologia

## Project management

Anna Ledin  
PhD Molecular Immunology, Project Manager and Senior Advisor, Uppsala University

Kerstin Stewart  
M.Sc. Public Health, M.Soc.Sci. Programme Coordinator, Uppsala University

Hang Nguyen  
M.Sc. International Administration and Global Governance, Administrator, Uppsala University

Monika Gutestam Hustus  
M.A. International Affairs, Communicator, Uppsala University

## Program Committee

Programme Committee Chair:  
Karin Brocki, Professor, Department of Psychology, Uppsala University

### Committee Members:

Maria Andersson  
Associate Professor, Department of Animal Environment and Health at the Swedish University of Agricultural Sciences (SLU)

Charlotte Asker-Hagelberg  
PhD, Director, Swedish Medical Product Agency

Monica Buhrman  
Senior Lecturer/Associate Professor, Dept. of Psychology, Uppsala University

Erika Comasco  
PhD, Assistant Professor in Molecular Psychiatry, Science for Life Laboratory, Department of Neuroscience, Uppsala University

Valerie de Marinis  
Professor Emerita, Psychology of Religion, Department of Theology, Uppsala University; Senior Professor, Public Mental Health, Department of Public Health and Clinical Sciences, Umeå University; Professor of Public Mental Health Promotion, Innlandet Hospital Trust, Norway.

Lisa Ekselius  
MD, PhD, Senior Professor in Psychiatry/Director, Women's Mental Health during the Reproductive Lifespan (Womher), Department of Neuroscience, Uppsala University

Laura Hartman  
PhD, Head of Sustainability, Uppsala  
Municipality

Peder Hoffman  
Advisor, The Swedish School of Sports and  
Health Sciences (GIH)

Lena Kallings  
Associate Professor, Department of Physical  
Activity and Health, The Swedish School of  
Sport and Health Sciences (GIH)

Lena Lidfors  
PhD, Professor of Ethology, Department  
of Animal Environment and Health, Swedish  
University of Agricultural Sciences, Skara,  
Sweden

Lance McCracken  
Professor in Psychology, Dept. of Psychology,  
Uppsala University

Alkistis Skalkidou  
MD, PhD, Professor, Department of Women's  
and Children's Health, Uppsala University;  
Senior consultant, Akademiska University  
Hospital, Uppsala

Joanne Woodford  
PhD, Healthcare Sciences and e-Health,  
Department of Women's and Children's  
Health, Uppsala University

# Uppsala HEALTH SUMMIT

## SPONSORS



## PARTNERS



[www.uppsalahealthsummit.se](http://www.uppsalahealthsummit.se)

Uppsala Health Summit  
c/o Uppsala University  
P.O. Box 256  
SE-751 05 Uppsala, Sweden  
info@upsalahealthsummit.se  
#UppsalaHealthSummit