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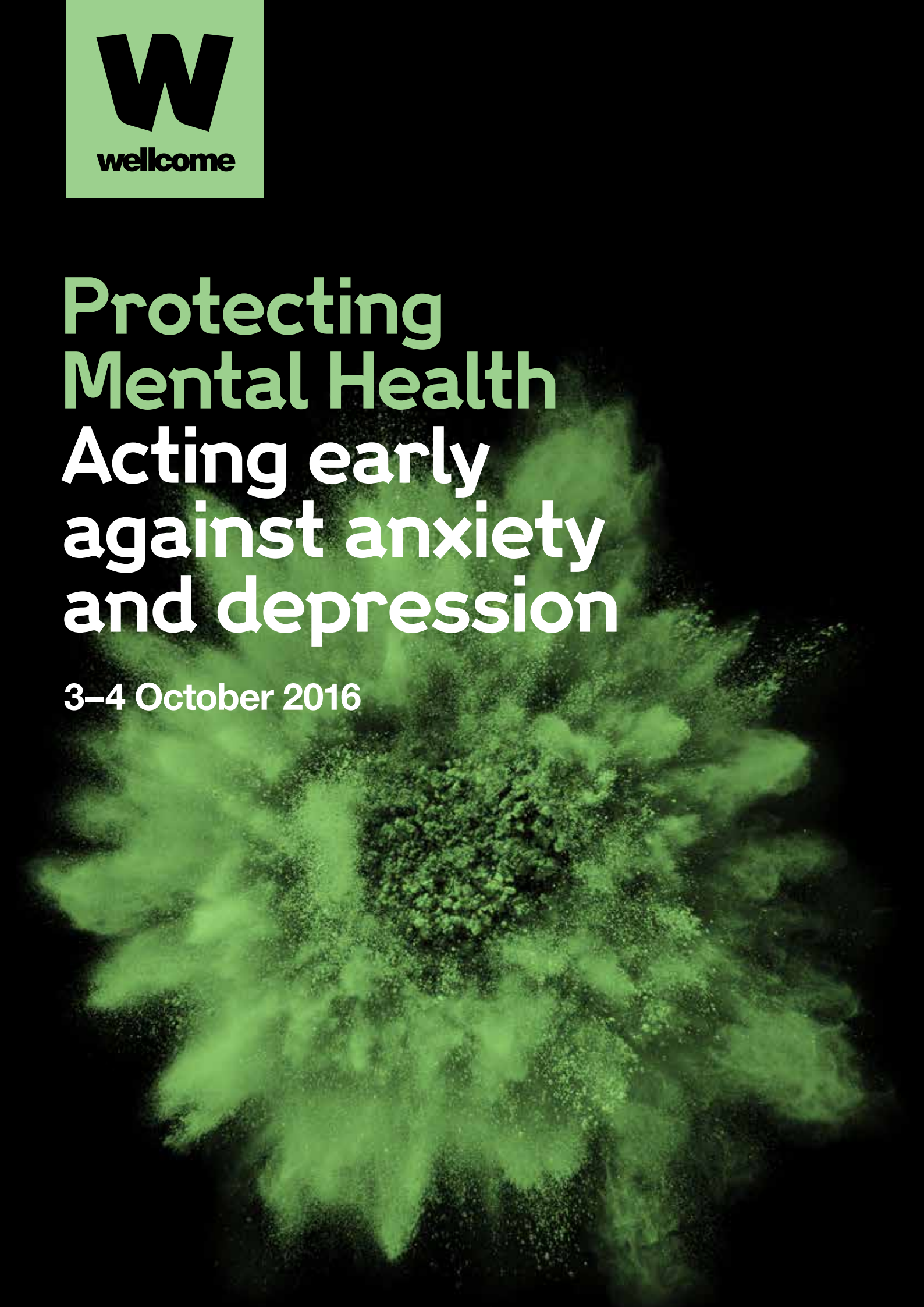
Protecting Mental Health

Acting early against anxiety and depression

3–4 October 2016



Mental health problems are among the largest contributors to the global burden of ill-health, and more than half of this burden is down to depression and anxiety, which between them account for 13% of all years lived with any disability.

How can we detect anxiety and depression earlier, and how can we better prevent them? The 'Protecting mental health: acting early against anxiety and depression' meeting discussed this, bringing together global experts from neuroscience, mental health, population health, digital technology, social science, education and policy. It explored what research and support is needed to stimulate progress and to facilitate the implementation of this research into policy and practice that can improve people's lives. This report captures the key points raised during the meeting.

The Context

There is some evidence that anxiety and depression can be prevented – for example, through school-based cognitive behavioural therapy or mental health literacy programmes; however, research on early detection, screening and preventative interventions for anxiety and depression is still limited.

Established risk factors for anxiety and depression range from individual to social and environmental factors, including genetics and innate temperament, parental mental health and parental behaviours, and childhood neglect or trauma. How these risk factors can be used to inform prevention and early detection is likewise an underdeveloped area of research.

Policy makers, globally, are requesting evidence-based interventions to improve mental health, with a keen interest in prevention and early detection and a cross-sector approach to facilitate this, covering health, education, employment, housing and welfare. However, the gap between knowing what works and implementing it is significant; the available evidence is too often not being validated and translated into policy and practice that can improve people's lives.

Despite the limitations in the available evidence and in implementation, there are benefits in prioritising prevention and early detection over treatment: acting before problems occur can reduce the number of new cases that later need treatment and can help young people build protective factors to enhance performance in later life.

[1] Whiteford H, Degenhardt L, Rehm J et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. Lancet 2013;382:1575-86.

[2] Depression. World Health Organization; 2016. who.int/mediacentre/factsheets/fs369/en/

[3] Stallard P, Skyrabina E, Taylor G et al. Classroom-based cognitive behaviour therapy (FRIENDS): a cluster randomised controlled trial to Prevent Anxiety in Children through Education in Schools (PACES). Lancet Psychiatry 2014;1:185-92.

[4] Kutcher S, Wei Y, Costa S et al. Enhancing mental health literacy in young people. European Child and Adolescent Psychiatry 2016;25(6):567-9.

What is needed to drive progress over the next 5–10 years?

1. Motivating investment in research across sectors and communities

There are three significant barriers to investment in prevention research and the development of interventions. First, because early symptoms of anxiety and depression often appear at school age, and because the risk factors are so varied (individual, social and environmental), prevention research can fall between different funding remits (e.g. education and health). Furthermore, the length of time it can take to see the benefit of a preventative intervention on mental health outcomes can make it difficult to demonstrate success and return on investment. Finally, the sectors that financially benefit from prevention (e.g. health and justice) tend not to be those that pay for it (e.g. education), which reduces the incentive for funders in the different sectors to invest.

What is needed?

Leadership and a clear agenda for improving mental health in young people that is shared among funders, researchers, policy makers and the public, are needed. In particular, there should be a global coalition across different sectors (e.g. education, engagement, social science, innovation and mental health) with the goal of improving youth mental health. The coalition could:

- Use UN Sustainable Development Goal 3 ("Ensure healthy lives and promote well-being for all at all ages") as a way to galvanise a global community.
- Engage policy makers and implementers, and advocate for investment and action from the different sectors to increase the supply of innovative interventions that are developed and made ready for implementation;
- Produce a synthesis of what works across different sectors and countries, taking into account different motivations, requirements and objectives. This could guide and incentivise the necessary communities towards a shared agenda of improving youth mental health.

2. Supporting the development of effective interventions

Limited understanding of the multiplicity of risk factors involved in anxiety and depression and how they interact is a key bottleneck in the development of methods that can detect these risk factors and target them for intervention. The current diagnostic descriptions of anxiety and depression are overly broad and reliant on an individual's self-report. There is a real need for robust, meaningful measures, beyond diagnostic categories, that allow a more granular understanding of how the underlying mechanisms of anxiety and depression play out at an individual level, and that could be used to better support the development of targeted interventions. The ethical implications of a greater ability to predict the onset of anxiety and depression must also be acknowledged, with mechanisms in place to address the resulting imperative to treat.

The methods used for developing preventative interventions can also limit the robustness and usability of an intervention:

- Effect size is seen as a poor outcome measure for population-based studies given that a small but reliable effect can have a large impact at the population level.
- The multiplicity of risk factors involved in anxiety and depression creates the need for multiple outcome measures including educational, social and wellbeing, as well as biomedical and mental health measures.
- The length of time to show utility and effectiveness of an intervention can be significant (e.g. the need for up to 10 years' follow-up), which marries poorly with budget cycles (often 4–5 years) and the need to show impact for funders and policy makers.
- Mechanistic studies are rarely integrated alongside prevention trials to show how and why an intervention works.
- There are practical and ethical challenges with data access, linkage, storage and analysis when considering larger studies that capture multiple outcomes across settings.
- Low-level engagement of those expected to deliver (e.g. teachers and parents) and use (e.g. young people) an intervention during design and development can limit the take-up and effectiveness of an intervention.

What is needed?

Funders could support the design and development of studies for the prevention and early detection of anxiety and depression in a number of ways:

- Encourage researchers to incorporate and measure multiple, meaningful and standardised outcomes appropriate for the different sectors and communities involved during a trial and in follow-up.
- Support participatory research that aims to understand measures relevant for young people and appropriate means of measuring them.
- Encourage the co-design of interventions and trials with users (young people) and those expected to deliver the intervention (e.g. teachers and parents), to shape the research programme. This would ensure an intervention is usable, and help improve participation and retention in trials as well as sustained uptake.
- Support infrastructure and networks that enable working across sectors and academic disciplines, including improved data linkage (e.g. academic outcome data with individual's self-report or clinical data) and convening a research network modelled around the ecosystem surrounding young people (e.g. including schools, parents and peers) to develop a blueprint for best practice and advocate for new entrants from the different sectors.

- Provide flexible, long-term, large-scale support for coordinated work across disciplines and sectors to effectively study risk and resilience for anxiety and depression, to understand mechanisms, and to test interventions and prototype delivery at scale with a large enough population and a long enough time for follow-up. This work might be supported by building a cohort of adolescents, by enriching existing cohorts or initiatives in other settings with mental health outcomes, or by building an experimental medicine partnership platform (exemplified by Dementia Platform UK). Such cohorts/platforms should:
  - convene a diverse community of researchers across computer science, technology development, social science, ethics, neuroscience, psychiatry and psychology, along with those paying for and delivering the intervention, and young people, to ensure appropriate discovery, design, development, testing and accessibility of effective interventions for implementation
  - consider the significant potential for integrating digital technologies into studies to drive innovation, facilitate engagement of young people and deliver interventions, bearing in mind the capacity, technology and regulation development that this would need
  - consider developing standards, tools and infrastructure for big data analytics and conducting research across multiple settings and systems.

3. Harnessing innovation for public health benefit

Digital technologies present a huge opportunity to drive progress for the prevention and early detection of anxiety and depression, as they offer means of engaging young people, capturing data, and developing and delivering new interventions. But there are several barriers to overcome:

- Few funders invest in capacity building or provide the necessary, flexible support for this type of technology development.
- The private sector is developing many tools that could benefit mental health researchers and the public, but these lack visibility and validation in scientific and clinical settings.
- While it is common for the digital sector to work in agile, iterative, open ways, this can make it hard to collaborate with the mental health field, which needs to respect data privacy and fully understand the risks and benefits of new interventions.
- There are limited incentives for the private sector to invest in this field – partly because there is low public-sector demand for prevention technologies, and partly because local regulatory bodies (e.g. FDA, NICE) have yet to provide reassurance and clarity on the regulatory landscape for new non-pharmaceutical early detection and prevention tools (e.g. games and mobile apps). The result is a proliferation of unregulated digital products with potentially unintended effects on mental health.

What is needed?

Funders can help digital innovations to be better harnessed for the prevention and early detection of anxiety and depression by building closer links between academia and the digital sector. This will mean that public research tools can benefit from the same quality of user-focused development as products in the private sector, and create the necessary evidence base to use them for improving mental health. Three things could help to achieve this:

- A model of priority-setting inspired by venture capital or public–private partnerships could build cross-sector working, attract new participants to the field, and drive new ways of financing research, formulating research questions and conducting innovative research assessed on more diverse indicators.
- Engagement with regulatory bodies could encourage them not to inhibit progress in the field, and to adopt proportionate and appropriate ways of evidencing efficacy and safety. This would incentivise the private sector to enter this area and build partnerships with mental health researchers.
- An independent, neutral leader with credibility among the research community, the public sector and the private sector is needed to seize the current window of opportunity to shape the regulatory landscape for digitally delivered interventions that prevent or detect anxiety and depression, paving the way for more private-sector involvement, resource and innovation.

4. Making interventions adaptable at scale

For interventions to be effective, they must be informed by the practice and setting in which they would be implemented. This means they must be adapted to work across different life stages and in different countries and sectors, but this is difficult, especially when many funders provide little support for scaling up in this way.

Policy makers are also not very receptive to preventative interventions because the current evidence base is limited, outcome date is complex, hard to interpret and from disparate sources, and they tend to focus more on treatments. A further difficulty in developing preventative interventions to scale is that they frequently rely on face-to-face interactions for diagnosis and in delivery. Digital technologies are a promising means of overcoming this and other barriers of cost, uptake, distance and delivery; however, many digital technologies lack a robust scientific evidence base or evaluation, significantly hindering their uptake.

What is needed?

Funders can ensure that work they support has impact at scale by:

- Encouraging and supporting new models to promote and facilitate the involvement of participants, practitioners and payers in the evaluation, validation and adaptation of interventions for implementation. Collaborative methodologies, that bring together these communities from different disciplines, sectors and practices along with the developers, could be used to build a supply of appropriate interventions, adapt them for different settings, and make them accessible to the payers, policy makers and implementers.
- Providing bridge funding to support the scaling up of small trials in larger contexts and different settings.
- Supporting flexible trial designs and multiple arms of trials to enable iteration, adaptation and personalisation of interventions, which is particularly needed to support the evaluation of digital technologies.
- Supporting improved linkage of data sources (e.g. academic outcome data with individual self-reported or clinical data) to enable cross-sector working at scale.

5. Changing the narrative around mental health

Anxiety and depression are often not recognised as public health problems, and policy makers and the public often misunderstand the feasibility of prevention and the potential impact on public health. Medicalised language dominates this area, causing an over-focus on mental illness and clinical therapies, and an under-appreciation of prevention strategies (e.g. mental health literacy interventions). Moreover, the negative connotations that surround mental illness and the language used by professionals often do not align with how people perceive themselves and can deter people from seeking interventions that might benefit them. This is a particular problem for preventative interventions that are largely targeted at young people, because work to understand differences in language and attitudes generally takes place with adults.

These concerns also interact with cultural differences in the language used and in people's understanding of mental health, which can be a barrier to uptake of interventions, especially in low- and middle-income countries.

What is needed?

The adoption of preventative and early detection interventions will require a change in the language around mental health, for citizens, policy makers and regulators. This could involve:

- Developing a shared language for mental health that is understandable across sectors (academics, public, policy makers and health services) to help align research practice and priorities.
  - Engaging these communities in the development of a language framework is needed to ensure that the language is appropriate and accepted by them.
  - Consideration should be given to changing the language to a model of healthy development and to link to Sustainable Development Goal 3 (e.g. shifting the focus from mental illness, disease and deficits to language promoting mental wellness and healthy brain development) to help circumvent the stigma around mental illness and cultural differences.
- Supporting an engagement platform (including young people) and qualitative research that would provide an evidence-based, iterative way to probe attitudes, test messaging around mental health, and use these insights to refine the development and implementation of preventative interventions. Such a platform would also allow evaluation of how these factors influence the demand for preventative interventions among different audiences. This would require connecting research culture with public-facing campaigns, and engagement with policy makers.
- Engaging the public, practitioners and policy makers at every relevant stage of developing an intervention, so that it is framed in an acceptable, attractive and culturally appropriate manner. An organisation that can support both research and engagement in parallel is needed to drive this.
- Supporting development and testing of mental health literacy programmes to raise awareness and understanding of anxiety and depression, and to encourage help-seeking behaviours.

Conclusion

Mental health problems among young people are a huge block to achieving human potential; concerted effort is needed now to reduce the global burden of anxiety and depression by enabling the development and delivery of effective interventions that promote mental wellness in young people.

To drive progress in this area there needs to be a focus on:

- young people
- effective use of digital technologies
- a change in the language and narrative around mental health
- greater engagement in research of the people who would use the interventions
- adaptability of interventions between settings and at scale.

Achieving this will require new ways of working, involving multi-sector coalitions with a united global agenda that advocates for the development and adoption of effective interventions for prevention and early detection. Successfully building both supply and demand for these interventions could help reverse the current upward trend in mental health problems and produce a remarkable improvement in global health.

Appendix

Frontiers meeting participants

- Dr Shelli Avenevoli – Acting Deputy Director, National Institute of Mental Health.
- Sir Phil Campbell – Editor-in-chief, Nature; Chair, MQ.
- Professor Michelle Craske – Professor of Psychology, Psychiatry and Biobehavioral Sciences; Director, Anxiety and Depression Research Center; Associate Director, Staglin Family Music Center for Behavioral and Brain Health, University of California, Los Angeles.
- Professor Ray Dolan – Mary Kinross Professor of Neuropsychiatry and Director of the Max Planck Centre for Computational Psychiatry and Ageing, UCL.
- Professor Chris Fairburn – Professor of Psychiatry, University of Oxford; Honorary Consultant Psychiatrist, Oxford Health NHS Foundation Trust; Governor, MQ.
- Professor Tamsin Forde – Professor of Child and Adolescent Psychiatry, Medical School, University of Exeter.
- Professor Adam Gazzaley – Professor of Neurology, Physiology and Psychiatry, Kavli Institute for Fundamental Neuroscience; Director, Neuroscience Imaging Center, Neuroscape Lab & Gazzaley Lab, University of California, San Francisco; Cofounder and Chief Science Advisor, Akili Interactive.
- Professor John Geddes – Professor of Epidemiological Psychiatry; Director, NIHR Oxford Cognitive Health Clinical Research Facility; Director, Oxford Cognitive Health and Neuroscience Clinical Trial Unit, University of Oxford.
- Professor Mark Greenberg – Bennett Endowed Chair in Prevention Research, Penn State College of Health and Human Development; Founding Director, Prevention Research Center for the Promotion of Human Development.
- Gregor Henderson – National Lead for Wellbeing and Mental Health, Public Health England.
- Professor Matthew Hotopf – Professor of General Hospital Psychiatry, Institute of Psychiatry, KCL.
- Cynthia Joyce – Chief Executive, MQ.
- Professor Vikram Patel – Professor of International Mental Health and Wellcome Trust Senior Research Fellow in Clinical Science, London School of Hygiene & Tropical Medicine; Joint Director, Centre for Global Mental Health; Honorary Director, Centre for Chronic Conditions and Injuries, Public Health Foundation of India; joint leader, Mental Health Innovation Network.
- Vanessa Pinfold – Co-founder and Research Director, McPin Foundation.
- Dr Shekhar Saxena – Director, Department of Mental Health and Substance Abuse, WHO.
- Dr Karlee Silver – Vice President of Programs, Grand Challenges Canada.
- Professor Judit Simon – Professor of Health Economics and Head of the Department of Health Economics, Centre for Public Health, Medical University of Vienna; Visiting Professor of Cognitive Health Economics, Department of Psychiatry, University of Oxford; Senior Research Fellow, Oxford Health NHS Foundation Trust.
- Professor Ilina Singh – Professor of Neuroscience and Society, Department of Psychiatry, University of Oxford.
- Professor Paul Stallard – Professor of Child and Family Mental Health, University of Bath; Head of Psychological Therapies (CAMHS), Oxford Health NHS Foundation Trust.
- James Turner – Deputy Chief Executive Officer, Education Endowment Foundation.
- Dr Derek Yach – Chief Health Officer, Vitality Institute, New York; former Executive Director for Non Communicable Diseases and Mental Health, WHO.

Frontiers Innovators

Early-career researchers who applied to attend the meeting and share their ideas.

- Daisy Fancourt – Research Fellow, Centre for Performance Science, Faculty of Medicine, Imperial College London and Royal College of Music.
- Dr Janina Fariñas – Clinical Assistant Professor, Human Development and Family & Infant Studies, Colorado State University; Director of Clinical Services & Paediatric Clinical Psychologist, Arc Centre for Children & Families, Switzerland; MSR (Mindfulness self-regulation) Clinical Consultant, Erikson Institute, Chicago.
- Petra Gronholm – Postdoctoral Research Associate, IoPPN, KCL.
- Dr Christian Kieling – Assistant Professor, Department of Psychiatry, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; Head of the Child and Adolescent Mood Disorders Program.
- Dr Stephanie Lewis – Research Fellow, MRCS Social, Genetic, Developmental Psychiatry Centre, IoPPN, KCL.
- Laura Shields – Project Manager & Research Associate, Trimbos International Department, Utrecht.

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Wellcome Trust, 215 Euston Road, London NW1 2BE, UK

T +44 (0)20 7611 8888, F +44 (0)20 7611 8545, E contact@wellcome.ac.uk, wellcome.ac.uk