

suicide among children and young people, they need to be complemented by age-specific suicide prevention interventions. Given that most children attend school, this is an ideal setting for such interventions. In a multicentre cluster-randomised controlled trial,¹⁰ a Youth Aware of Mental Health Programme intervention significantly reduced the incidence of suicide attempts and suicidal ideation at 12 month follow-up compared with the control group. The reported reduction was more than 50% compared with the control group. Similar reductions were not associated with a manualised gatekeeper programme or screening for high risk individuals by professionals, suggesting that changes in suicidal behaviour are more likely to occur when pupils are personally engaged in the intervention.

One of the major challenges in the prevention of suicide is that risk factors identified from studies of groups of individuals who have died from suicide are often misleading when applied to individual patients. The study by Rodway and colleagues highlights various important factors and opportunities for intervention. However, effective intervention in the prevention of suicide in children and young people is likely to require an emphasis on psychological wellbeing in advance of the emergence of suicidality such that those who are susceptible to the effects of psychosocial stressors are better equipped to deal with them.

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Bringing together pharmacological and psychological approaches to mental health research

Pharmacotherapy and psychotherapy are crucial and often complementary tools in mental health care. However, efficacy studies have been heavily dominated by pharmacotherapy. Given that both approaches are comparably effective for treating a range of disorders,¹ there is an urgent need to promote investment in psychotherapy research. Furthermore, combining these two approaches typically outperforms either treatment alone, but these studies are rarely conducted.¹ Since combined approaches have the potential to be optimal, we make recommendations for promoting this largely neglected area of research, including study methodology, funding, and training.

Good study methodology is crucial for developing effective and acceptable combined treatments. A key advantage of such treatments is that drugs can be used sparingly and in a targeted context. For example, several pilot studies have reignited interest in psilocybin and 3,4-methylenedioxymethamphetamine (MDMA) to assist psychotherapy for anxiety disorders and drug addiction.² In these studies, MDMA was used acutely to enhance psychotherapy sessions and was thus given at the same time, whereas with psilocybin, talking therapy was conducted before or after acute drug effects. These adjunctive or sequential designs could be applied to other novel combined approaches. The antidepressant effects of ketamine have so far been researched within a



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purely pharmacological treatment model. However, since the benefits of a single dose are rapid and subside after 1 week, psychotherapy such as cognitive behavioural therapy (CBT) could be a viable strategy for prolonging the antidepressant effects of acute ketamine treatment.³

Another methodological issue is that multiple treatment groups are necessary to demonstrate additive or synergistic effects of combined treatments, which can reduce the feasibility of randomised clinical trials. Experimental medicine provides an ideal platform to investigate these effects before randomised trials. Putative interactions between drug and psychological interventions can be tested in highly controlled conditions among healthy volunteers.⁴ This approach has several benefits, including scope for innovation, cost-effectiveness and time-effectiveness, and a better validity than that of animal models. A key assumption is that the assessments used in healthy volunteers predict treatment response in a clinical setting. For example, biases in the processing of affective stimuli are sensitive to drug and psychological interventions in healthy and depressed individuals^{4,5} and they have been widely investigated as a candidate mechanism.

Translational research guided by neurobiological insights and psychological theory has the potential to transform mental health treatment, by informing from the bottom up. For example, a range of disorders including post-traumatic stress disorder, specific phobia, and drug addiction are characterised by maladaptive memory processes. Preclinical research suggests that psychological procedures for destabilising these memories (through reactivation) can be combined with certain classes of drug to prevent them from restabilising.⁶ This effect means these memories are less likely to influence subsequent behaviour. There is currently little evidence of this reconsolidation approach translating to the clinic. However, a pilot study⁷ of arachnophobia that combined spider-memory reactivation with a single dose of propranolol achieved dramatic reductions in subjective fear and behavioural avoidance.⁷ These effects were not seen in separate groups receiving either memory reactivation or propranolol alone. Interestingly, some treatment effects emerged during follow-up (ie, reduced self-declared arachnophobia at 3 months) and benefits were completely sustained 1 year after treatment.

The National Institute for Mental Health's Research Domain Criteria (RDoC) aims to re-classify mental

disorders according to their underlying biological mechanisms. This initiative seeks to integrate multiple levels of analysis—from genetic and cellular mechanisms to subjective reports and social context—to develop a more reliable and valid approach to understanding psychopathology. Within this framework, psychological treatment approaches have been encouraged (both alone and in combination with pharmacotherapy) as a form of precision medicine.⁸ For example, anterior cingulate cortex activation to stimuli with negative valence might predict whether an individual will respond better to CBT or an antidepressant drug.⁵ It is a promising sign that novel psychological treatment approaches have emerged from the RDoC framework.⁹ However, critics have argued that its strong biological focus could overshadow psychotherapy and the broader nuances that characterise mental health problems.¹⁰ Nevertheless, a greater focus on the mechanisms of psychological treatments could foster interdisciplinary collaboration and increase the limited amount of funding such projects currently receive.¹¹

As mental health research becomes increasingly focused on neural circuitry, broader training will be needed to create the next generation of scientist-practitioners.¹⁰ In particular, coverage of related biological sciences (including psychopharmacology and neuroscience) is currently sparse in most clinical psychology training courses. Two UK institutions (University College London and King's College London, London) are piloting joint clinical seminars between psychology and psychiatry trainees in which specific cases are considered from different theoretical approaches. Shared training events have also been promoted at academic workshops and conferences, such as a neuroscience and psychotherapy initiative at the European Congress for Neuropsychopharmacology due to take place in September, 2016.

Novel psychiatric approaches, experimental medicine, and translational neuroscience are producing important advances in mental health science. Combining psychological and pharmacological approaches can improve treatment efficacy and foster shared training and funding for clinicians and researchers. Given their strong evidence-base and the preferences of people receiving treatment,¹² it will be crucial to incorporate psychological approaches into the next generation of mental health treatments.

For more on the European Congress for Neuropsychopharmacology see <http://www.ecnp-congress.eu>

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Integrating mental health simulation into routine health-care education



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Mental health simulation has an important role as an effective and engaging training modality in bridging the gap between education and clinical practice to improve mental health care.^{1,2} It is the educational practice of recreating clinical scenarios in safe environments using trained actors and technology, followed by debriefing to reinforce learning. Although simulation training has a rich history in medical education, its use in psychiatry and mental health disciplines remains in its infancy. Mental health simulation focuses on human factors and core skills required by health-care professionals, with the ultimate goal of improving quality of care for individuals with mental health needs. Professional actors are used rather than mannequins or equipment, and are given training in mental health conditions from service users and other experts. This allows for creation of carefully constructed, high-fidelity scenarios, and a focus on human factors and non-technical skills in subsequent debriefs supported by trained facilitators. Debriefs address skills such as interprofessional and multi-disciplinary collaboration, communication, and reflection, because mental health simulation strives to replicate the realities of clinical care, including the involvement of a range of health-care professions. It allows health-care professionals to develop skills that

are typically developed “on the job” by creating realistic scenarios involving real people, in a safe learning environment, with the time and expertise of facilitators to debrief these experiences.

The use of trained actors to play patients, service users, and families or carers encourages participants to enhance health-care skills such as communication and collaborative working.^{3,4} This is in contrast to training methods lacking human interaction; it gives the trainee the opportunity to practise and reflect on the development of a therapeutic alliance in contrast to learning about therapeutic models and techniques. What use in clinical practice is the latter without the former?

Mental health simulation provides an opportunity to develop skills such as teamwork and interprofessional collaboration by maintaining the flexibility to include interprofessional, multidisciplinary groups.^{3,5} Clinical scenarios allow participants to improve competencies in teamwork and interprofessional practice, such as interprofessional understanding, attitudes, and communication. These skills are essential in providing care for mental health needs, with issues around fragmented healthcare systems and poor collaborative practice highlighted in the literature.^{6–9} Mental health simulation meets the need for increased interprofessional,