

such as repeated abuse. This type of trauma is hypothesized to lead to more severe psychopathology and poorer cognitive function than other non-complex traumas, such as road traffic accidents. However, empirical testing of this hypothesis has been limited to clinical or convenience samples and cross-sectional designs. To better understand this topic, we aimed to investigate psychopathology and cognitive function in young people exposed to complex, non-complex, or no trauma from a population-representative longitudinal cohort, and to consider the role of pre-existing vulnerabilities.

**Method.** Participants were from the Environmental Risk (E-Risk) Longitudinal Twin Study, a population-representative birth-cohort of 2,232 children born in England and Wales in 1994-95. At age 18 years (93% participation), we assessed lifetime exposure to complex and non-complex trauma. We also assessed past-year psychopathology including general psychopathology 'p' and several psychiatric disorders, as well as current cognitive function including IQ, executive function, and processing speed. Additionally, we prospectively assessed early childhood vulnerabilities including internalizing and externalizing symptoms at age 5, IQ at age 5, family history of mental illness, family socioeconomic status, and sex.

**Result.** We found that participants who had been exposed to complex trauma had more severe psychopathology and poorer cognitive function across wide-ranging measures at age 18, compared to both trauma-unexposed participants and those exposed to non-complex trauma. Early childhood vulnerabilities had an important role in these presentations, as they predicted risk of later complex trauma exposure, and largely explained associations of complex trauma with cognitive deficits, but not with psychopathology.

**Conclusion.** By conflating complex and non-complex traumas, current research and clinical practice under-estimate the severity of psychopathology and cognitive deficits linked with complex trauma, as well as the role of pre-existing vulnerabilities. A better understanding of the mental health needs of people exposed to complex trauma and underlying mechanisms could inform the development of new effective interventions.

### Training foundation doctors in mental health risk assessment as a tool in the fight against suicide

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**Aims.** To determine the perceptions of Junior Doctors on whether formal training in risk assessment could help to reduce the number of completed suicides following medical contact.

**Method.** Foundation trainees within the Great Western Trust were surveyed using a questionnaire. For those trainees that were not present on the acute hospital site, the same questionnaire was distributed by the postgraduate medical team to all trainees using survey monkey. The survey was left open for four weeks. The total response rate was 57/88 foundation trainees. Simple statistical analysis of the data was performed and outlined below.

**Result.** 87% of all the trainees have never done a rotation in psychiatry. 51% of foundation doctors have had between 1-5 patients with suicidal behaviour or ideations admitted under the care of a medical team on which they were the junior doctor and up to 26% have admitted to encountering greater than 10 such patients. Only 37% of foundation trainees who have

managed patients with suicidal behaviours admitted to having had any formal training in mental health risk assessment. Foundation trainees report being only somewhat confident in the identifying of factors that make a person high risk of completing suicide. 63% of all foundation trainees would refer any patient who expressed suicidal ideation for formal psychiatric assessment. Majority of the trainees were 'not so confident' in their ability to assess a patient's risk of suicide and in offering any help to mitigate this risk. None of the trainees have the intention to pursue psychiatry as a medical specialty and majority (60%) intend to pursue medical specialties. 56% of the trainees felt that training foundation doctors formally to assess patient mental health risk, could reduce the percentage of patients with completed suicide following being seen for non-psychiatric reason.

**Conclusion.** The UK Foundation Program is a bridge that occupies that gap between undergraduate medical education and specialty training. It therefore an ideal opportunity for training clinicians in mental health risk assessment as one strategy to help reduce completed suicide following non-psychiatric health contact.

### Beta-frequency electrophysiological bursts: BOLD correlates and relationships with psychotic illness

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**Aims.** To identify the BOLD (blood oxygenation level dependent) correlates of bursts of beta frequency band electrophysiological activity, and to compare BOLD responses between healthy controls and patients with psychotic illness.

The post movement beta rebound (PMBR) is a transient increase in power in the beta frequency band (13-30 Hz), recorded with methods such as electroencephalography (EEG), following the completion of a movement. PMBR size is reduced in patients with schizophrenia and inversely correlated with severity of illness. PMBR size is inversely correlated with measures of schizotypy in non-clinical groups. Therefore, beta-band activity may reflect a fundamental neural process whose disruption plays an important role in the pathophysiology of schizophrenia. Recent work has found that changes in beta power reflect changes in the probability-of-occurrence of transient bursts of beta-frequency activity. Understanding the generators of beta bursts could help unravel the pathophysiology of psychotic illness and thus identify novel treatment targets.

**Method.** EEG data were recorded simultaneously with BOLD data measured with 3T functional magnetic resonance imaging (fMRI), whilst participants performed an n-back working memory task. We included seventy-eight participants – 32 patients with schizophrenia, 16 with bipolar disorder and 30 healthy controls. Beta bursts were identified in the EEG data using a thresholding method and burst timings were used as markers in an event-related fMRI design convolved with a conventional haemodynamic response function. A region of interest analysis compared beta-event-related BOLD activity between patients and controls.

**Result.** Beta bursts phasically activated brain regions implicated in coding task-relevant content (specifically, regions involved in the phonological representation of letter stimuli, as well as areas representing motor responses). Further, bursts were associated with suppression of tonically-active regions. In the EEG, PMBR was greater in controls than patients, and, in patients, PMBR size was positively correlated with Global Assessment of Functioning scores, and negatively correlated with persisting symptoms of disorganisation and performance on a digit symbol substitution test. Despite this, patients showed greater, more extensive, burst-related BOLD activation than controls.

**Conclusion.** Our findings are consistent with a recent model in which beta bursts serve to reactivate latently-maintained, task-relevant, sensorimotor information. The increased BOLD response associated with bursts in patients, despite reduced PMBR, could reflect inefficiency of burst-mediated cortical synchrony, or it may suggest that the sensorimotor information reactivated by beta bursts is less precisely specified in psychosis. We propose that dysfunction of the mechanisms by which beta bursts reactivate task-relevant content can manifest as disorganisation and working memory deficits, and may contribute to persisting symptoms and impairment in psychosis.

### Evaluating service user & carer experience of videoconferencing software during COVID-19 pandemic

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**Aims.** To evaluate service user and carer experience of use of videoconferencing software (Microsoft Teams) during MDT meetings.

To identify specific areas for improvement

To make changes based on these recommendations

**Method.** 2 surveys were distributed to inpatients and their carers on a functional Older Adults inpatient ward (n = 21), including quantitative and qualitative questions. The results from these were compiled, and on review, multiple recommendations for improvement were made.

**Result.** 90% of service users find it helpful to have family present over videoconferencing software during their MDT meetings, and 91% of carers feel involved and able to contribute when they do join in this way

81% of carers have the technology available at home to use such software, but only 55% of them feel confident using it. 73% need more information on its use.

60% of carers referenced poor staff skills with software as a barrier to its use, and 60% referenced poor organisation of meetings

2 service users raised issue with the size of a small laptop screen not allowing them to see who was actually present over MS Teams, although none were concerned with issues around confidentiality and the use of such software

Several service users, carers and members of community teams identified poor sound quality as an issue, both when joining over the software, and when present in the room.

**Conclusion.** Widespread use of videoconferencing software such as MS Teams is likely to continue beyond the end of the COVID-19 pandemic. Through discussion with the ward team, the IT department, the training department, and the local council, multiple changes were made to the service, as below. These form a recommended list of areas for improvement in other services.

Availability of videoconferencing equipment (in addition to laptop)

Dedicated videoconferencing microphone/speaker to improve sound quality

Display screen

Webcam

Organisation of meetings

Designating a chairperson to admit and introduce all participants

Designating a meeting organiser to invite all necessary participants

Staff skills

Local audit of staff familiarity with software

Introduction of mandatory training for staff on use of software

Carer skills & access to equipment

Information and support available from well-trained staff

Liaison with other organisations including council and third sector about availability of equipment loans and training for carers

### Using quality improvement to standardise and enhance the use of the national early warning score (NEWS) in an old age psychiatry inpatient setting

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**Aims.** Within an inpatient old-age psychiatry setting, there is an increased risk of acute physical deterioration secondary to age, comorbidities and reduced physiological reserve. Numerous recent clinical incidents highlighted late recognition of physical deterioration within this population. We assessed the use of the NEWS, a system for scoring physiological measurements, in an old-age psychiatry ward and subsequently attempted to improve performance of obtaining physical health observations in this cohort of patients.

**Method.** Retrospective pre- and post- quality improvement study in a twenty bed Old Age Psychiatry Ward in East Lothian Community Hospital, Haddington, Scotland. Data were collected from 12th October – 16th November, 2020 (pre- period) and from 16th November 2020 to 15th February, 2021 (post- period). The primary process measure was ensuring all patients had at least one full set of physical observations at least once a week, or more frequent as deemed clinically appropriate. Secondary measures included ensuring NEWS scores were accurately calculated and improved documentation. This was tracked using a run chart. Improvement activities focused on increased awareness, effective training, key stakeholder buy-in and reviewing trust policy.

**Result.** The percentage of NEWS documented for all patients at least once a week improved from a mean of 28.7% (31/108) in the 6 weeks prior to intervention, to a mean of 71.4% (125/175) in the following 13 weeks. The minimum required physical