**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.

**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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doi: 10.1192/bjo.2021.153

**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