

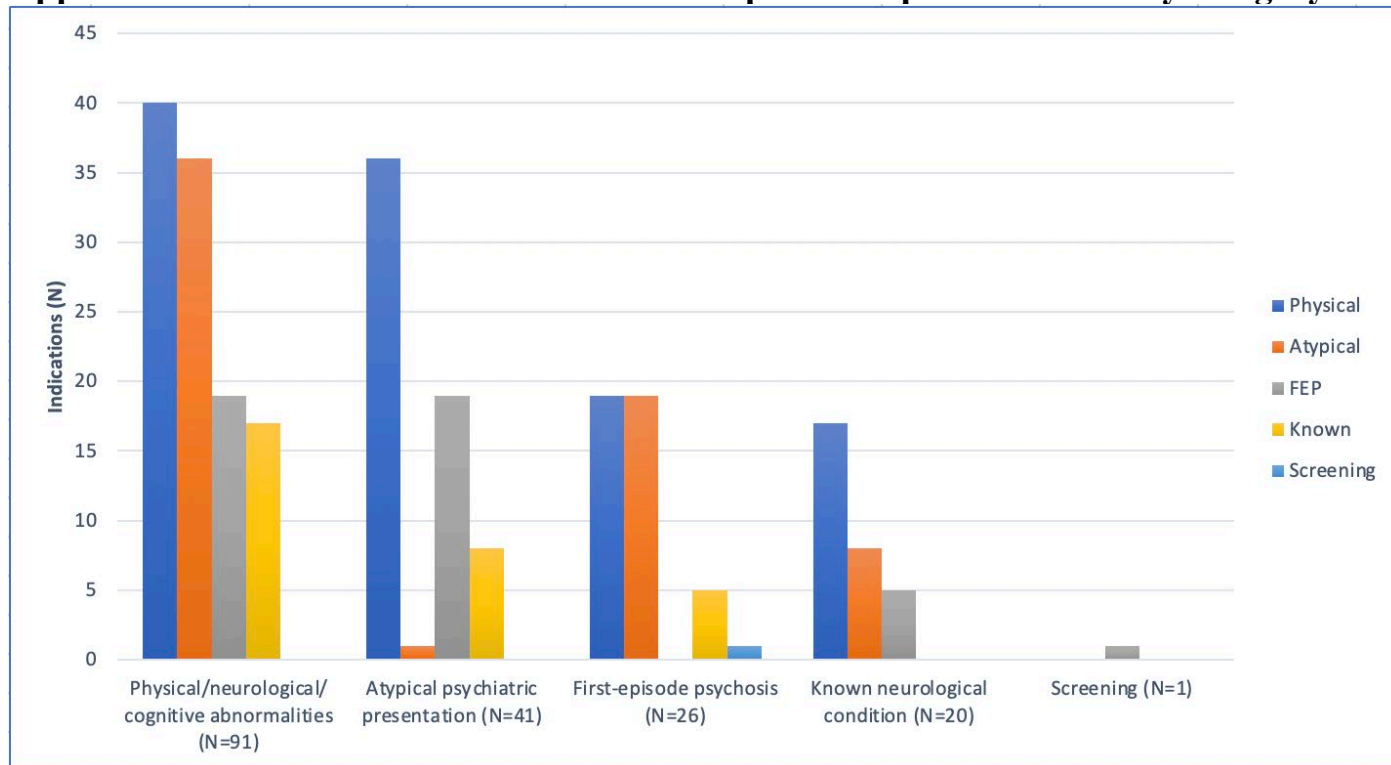
Supplemental Data

Appendix S1: Abnormal neurological examination findings among adult psychiatric inpatients who underwent brain MRI

| Known neurological/intracranial condition (N=17) and associated examination findings | |
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| Alcoholic peripheral neuropathy; previous chronic traumatic subdural haematoma | Bilateral reduced sensation below knee; left eye corneal opacity |
| Arteriovenous malformation (right occipital lobe) | Bradykinesia; hypometric saccades; mild parkinsonism |
| Cerebral palsy; epilepsy; mild learning difficulty | Mild gait abnormalities; limited movement of right arm; wrist drop |
| Chronic obstructive hydrocephalus (severe) | Unable to perform alternating movements rapidly |
| Epilepsy; intellectual disability | Upper limb hyperreflexia |
| Head trauma with intracranial haemorrhage | Slurred speech; upper limb stiffness |
| Huntington's disease | Difficulty with rapid repetitive finger movements; bradykinesia; restlessness |
| Intracranial cyst overdue for follow up | Ataxia |
| Meniere's disease | Apraxia |
| Multiple sclerosis | Significant myoclonus of left arm and leg; antalgic gait |
| Multiple sclerosis | Facial twitching/ spasm |
| Subdural haemorrhage | Latency of horizontal and vertical eye movements; dyspraxia; purposeless movements |
| Temporal lobe epilepsy | Right eye lateral nystagmus; bilateral intention tremor; constructional apraxia |
| Tic disorder; HIV | Motor tics in neck |
| Vascular dementia | Poor luria; impaired set shifting; failed trail making test |
| Vertigo (chronic) | Left lateral nystagmus |
| Vestibulopathy (bilateral) | Wide based shuffling gait; dysarthria; dysphonia; upbeat nystagmus; subtle dysdiadochokinesia |
| No known condition (N=24) | |
| Brisk reflexes globally; slow speech; diminished and slow movements globally; slow gait; significant psychomotor retardation | |
| Brisk reflexes left upper and lower limbs; area of sensory change over the left ankle, worse in the heat; left hand dysmetria; diplopia on left gaze | |
| Cervical and lumbar radiculopathy | |
| Difficulty initiating saccades; slow alternating movements; reduced arm swing; poor visuospatial awareness; retropulsion on Romberg's test | |
| Dyscoordination; mildly ataxic gait; nystagmus | |
| Dyscoordination; past pointing | |
| Dyscoordination | |
| Dysdiadochokinesia (mild) | |
| Failed tandem gait | |

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|---|
| Fine tremor of bilateral upper limbs; tardive dyskinesic lip pouting; slow gait |
| Horizontal gaze palsy of bilateral abduction; tardive dyskinesic lip movements; bilateral fine postural tremor of upper limbs; bilateral dysdiadochokinesis; Parkinsonism with cogwheel rigidity, stooped posture, shuffling gait |
| Left blepharospasm; left partial ptosis; reduced abduction of left eye with blurring of vision; slow vertical saccades; reduced power in left upper limb |
| Mildly slow horizontal saccades; mild past pointing on finger-nose-finger test for left upper limb |
| Nystagmus; ataxic gait; failed tandem gait; dyscoordination |
| Nystagmus; ataxic gait; dyscoordination |
| Ocular hypometria; upper limb hyperreflexia; sacchadic intrusions; finger jerks positive; positive Hoffman's sign; mildly increased tone; oppositional paratonia (gegenhalten) |
| Optic apraxia; severely impaired luria |
| Reduced lower limb reflexes and sensation; failed tandem gait; reduced vibration sensation |
| Right facial droop; nystagmus on right gaze; muscle wasting; fasciculations; peripheral neuropathy |
| Right hand weakness |
| Right-sided weakness; bilateral upper limb intention tremor |
| Slow coordination; difficulty following commands |
| Slowed vertical saccades; reduced arm swing; retropulsion on Romberg's test; mild extrapyramidal features and eye movement disorder |
| Tardive dystonia; Parkinsonian tremor; neck stiffness; dizziness |
| Tremor; horizontal nystagmus; dysdiadochokinesis on heel-shin test |
| Medication-related abnormal neurological examination findings (N=4) |
| Bilateral upper limb cogwheel rigidity |
| Orobuccal tardive dyskinesia; akathisia |
| Parkinsonism with stooped posture, shuffling gait, tremor, cogwheel rigidity |
| Upper limb stiffness; slurred speech |

Appendix S2: Indications for MRI with overlap of multiple indications by category



Overlap of multiple indications by category. For example, there were 26 patients who had FEP as an indication for scanning; of those, 19 also had physical abnormalities, 19 had an atypical psychiatric presentation, none were referred exclusively for FEP, five had a known condition, and one was referred for screening. Note that the total number of indications exceeds 100 due to multiple indications per patient: 37 patients had two indications, 18 had three indications, and two had four indications.

Appendix S3: Types of MRI abnormalities according to urgency of follow up

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| No abnormality (N=21) | |
| No referral necessary (N=22) | Cavum septum pellucidum Developmental abnormalities (structural, venous) Ependymitis granularis (normal variant) Haemangioma Microhemorrhage Prominent sulci/gyri for age (pt95) White matter hyperintensities |
| Routine referral (N=43) | Alcohol-related dementia Generalised atrophy Possible demyelinating disease Prominent calcification of cortex and deep grey matter for age Prominent chronic small vessel ischemia for age/vascular disease Prominent white matter hyperintensities for age Regional atrophy (frontal/parietal/temporal/hippocampus/cerebellar) Regional hypoperfusion (parietal, temporal, occipital) Stable known disorder (Huntington's disease, multiple sclerosis, tuberous sclerosis, ocular abnormalities) Traumatic changes Treated neurocysticercosis |
| Urgent referral (N=14) | Arachnoid cyst Cholesteatoma Intracranial hypertension/possible normal pressure hydrocephalus Possible frontotemporal dementia Possible Lewy body dementia Possible toxic disorder Progressive global atrophy Severe chronic obstructive hydrocephalus Vascular lesion (arteriovenous malformation, cavernoma, aneurism) |
| Immediate referral (N=0) | |