

South London and Maudsley **NHS**  
NHS Foundation Trust

**Lishman Brain Injury Unit**  
Maudsley Hospital,  
Denmark Hill  
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# What are we?

- A national unit for adults (aged 16+) with acquired brain injuries (TBI, anoxia, stroke, Korsakoff's, encephalitis etc.)
  - Offering specialist assessment and treatment for cognitive, behavioural and neuropsychiatric problems
- 7 in-patient beds on a locked ward at the Maudsley Hospital, and an out-patient service
  - Individual rooms with male and female corridors; access to secure garden
  - Shared space with Neuropsychiatry team (who see other individuals with epilepsy, progressive neurological disorders, non-epileptic seizures, conversion disorders etc.)
- Length of admission typically 3 to 6 months
  - Shorter admissions sometimes for medication review or focussed assessment




## Who are we?

- Multidisciplinary team including:
  - Consultant neuropsychiatrist + SpR & SHO
  - Clinical neuropsychology (1.6 wte)
  - SALT (0.6 wte)
  - OT
  - Physio input
  - Nursing staff (RMN's) & assistants



## Why do we see our in-patients?

- Individuals with complex neuropsychiatric issues either before or after injury (e.g. psychosis, drug / alcohol misuse)
  - Although not those requiring acute medical / surgical care.
- Confusion/wandering or challenging behaviour (e.g. aggression, impulsivity) in the context of ABI requiring either locked unit or specialist nursing to manage
  - Both early (e.g. PTA) and later after ABI
- Detained (or detainable) under MHA
- Often issues around risk management, or otherwise complicated discharge planning to e.g. home, supported accommodation or ongoing rehabilitation
- Issues that may limit engagement with local rehabilitation services or require a specialist brain injury team



## Where do our patients come from?

- Acute hospital care
- Other neuro-rehabilitation units
- Their own home or another community placement that is breaking down or is unsustainable
- Via neuropsychiatry out-patient clinic
- Sometimes for second opinions



# In-patient services

- Pre-admission (outreach) assessment
- Goals of admission set in first week
- Weekly inter-disciplinary case management meetings
- Weekly risk assessment
- Case reviews at ~6 weekly intervals involving patient and family
- Use of IMCA's for patients without capacity to consent to treatment
- Regular behaviour management review with IDT
- Discharge planning and aftercare programme
  - Starting week after admission
  - Follow-up in out-patient clinic
  - Complex discharge planning involving multi-agency liaison



## In-patient case vignette:

- 35 year old man, TBI x 2 in April 2007
- Initial GCS 14/15, decreasing to 7
  - Haemorrhagic frontal lobe contusions were noted on imaging, more so on the left hemisphere than on the right; 2 weeks on ITU
- History of childhood aggression; expelled from school, recreational drug use
  - Working as building contractor; lives alone (separated from wife)
- Upon admission to the Lishman Unit 2 months post-injury
  - Disorientated; akathic, highly aroused; slurred speech; agitated requiring 2:1 nursing
  - MMSE 21/30; 17/20 on Barthel; 17 on HoNOS-ABI; 13/15 on Rehabilitation Complexity Scale
  - High level of sedatives (both scheduled & PRN) & olanzapine



## In-patient case vignette:

- Initial management:
  - Continued 2:1 nursing; leave with three persons in hospital grounds
  - Episodes of physical violence: attempted to abscond; placed on S.2 of MHA
  - Medication: olanzapine changed to haloperidol.
- Gradual decrease in medication and level of nursing observation; reality orientation
  - On intermittent observations and out of PTA by 3.5 months post-injury; unescorted leave by 4.5 months post-injury
  - All medications stopped by 4.5 months post-injury
- Now 5 months post-injury: ready for assessment and neuro-rehabilitation (transitional living)



## Overview of patients' needs

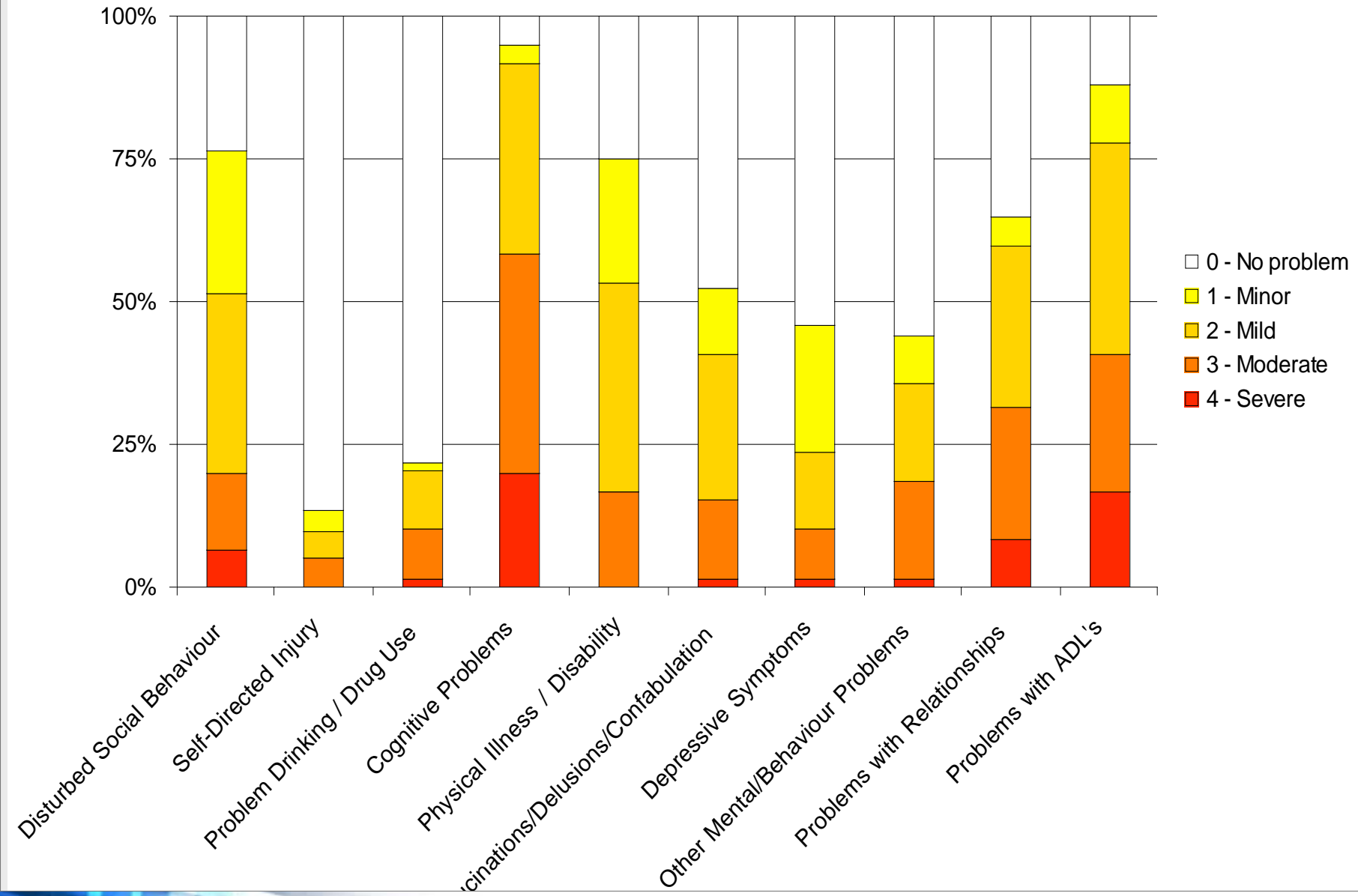
- Health of the Nation Outcome Scale: a measure of (social) disability and outcome in severe mental illness (Wing et al, 1996)
  - Clinician-rated questionnaire with 12 items covering a number of domains (including disturbed social behaviour, cognitive problems, depressive symptoms, difficulties with ADL's)
  - Each domain rated on a 0-4 scale (corresponding to no, minor, mild, moderate and severe problems)
- Modified version of the HoNOS for individuals with acquired brain injuries
  - 2 out of the 12 items examine community-related items and are therefore unsuitable for an in-patient unit; item rating problems associated with alcohol and drug use, which can be difficult to assess among in-patients
  - inter-rater reliability is fair (Fleminger et al, 2005)
  - total score correlates with other outcome measures, including return-to-work (Coetzer & Du Toit, 2001)



## HoNOS-ABI

- Database of 64 admissions to the Brain Injury Team between October 2000 to the present
- At admission the mean total HoNOS score was 13.2 (range from 4 to 22), falling to 11.0 at discharge.
- At admission, 82% of individuals were rated as having one or more problems in the moderate or severe categories.
- At discharge, this figure drops to 58%.

**Distribution of HoNOS scores upon admission**





# Outpatient services

- Neuropsychiatric clinic:
  - assessment, treatment and follow-up
- Clinical psychology input:
  - Neuropsychological assessment
  - Cognitive behavioural therapy
  - Cognitive rehabilitation
  - Post-concussion clinic [ongoing RCT for CBT]
- SALT assessment and treatment
  - Including specialist assessment of cognitive communication disorders and “functional” disorders affecting levels of independence and educational/vocational functioning



## Out-patient case vignette:

- Mrs. C
- Retired 60 year-old teacher, referred to the postconcussion clinic eight months after she was knocked over by a cyclist.
- Sustained a head injury: initial GCS of 14, PTA estimated to be in order of 4 days, suggesting mild-moderate TBI.
  - No CT abnormalities
  - No marked impairments on neuropsychological assessment
  - No medicolegal claim
- Ongoing subjective difficulties with:
  - memory, attention and multi-tasking;
  - irritability, low mood and anxiety (especially in social interactions);
  - reduced energy levels and some early-morning wakening.



## Out-patient case vignette:

- 12 sessions of CBT over 6 months
- Focus on tackling cognitive behavioural cycles of avoidance and rumination, exacerbating low mood and anxiety and contributing towards persisting postconcussional symptoms
  - Psychoeducation for persistent PCS; explored links between mood and cognitive abilities
  - Behavioural activation
  - Identifying, challenging and testing negative automatic thoughts, especially around “mind-reading” and black-and-white thinking
  - Positive data log for daily achievements to help rebuild confidence in cognitive abilities
- Self-report of improvements in symptoms
  - described feeling more confident in her abilities, especially around initiating activities herself and acting more independently.

	Assessment #1	Assessment #2	Pre-CBT	Post-CBT	Review
Time after injury	8 months	9 months	12 months	18 months	24 months
Rivermead PCS Questionnaire	29 (moderate)	36.5 (severe)	28 (moderate)	0 (minimal)	2 (minimal)
HADS: Anxiety	10 (borderline)	12.5 (in case range)	8 (borderline)	3 (below cut-off)	2 (below cut-off)
HADS: Depression	6.5 (below cut-off)	7.5 (below cut-off)	6 (below cut-off)	1 (below cut-off)	1 (below cut-off)
Revised Impact of Event (PTSD)	-	19 (below cut-off)	10 (below cut-off)	0.5 (below cut-off)	0 (below cut-off)
QOLAS	-	38	34	8	7