

Investigating Functional Status and Healthcare Resource
Utilisation of Patients with Cognitive Impairment Associated with
Schizophrenia: Findings from a Real-World Non-Interventional Study

SA58

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Introduction

- 1

CONTEXT

CI in patients with schizophrenia is associated with greater disease severity, functional impairment and HCRU than in patients without CIAS¹⁻³
- 2

UNMET NEED

Although previously considered for inclusion in diagnosis reference manuals (e.g. DSM-5),⁴ there remains no standardised diagnostic code for CIAS
- 3

NLP AND UNSTRUCTURED DATA

An NLP approach has been developed to identify descriptions of CI in medical records of patients with schizophrenia.⁵ Since cognitive observations are often captured in unstructured medical records, NLP models have the potential to identify and characterise patients with CIAS using real-world healthcare data

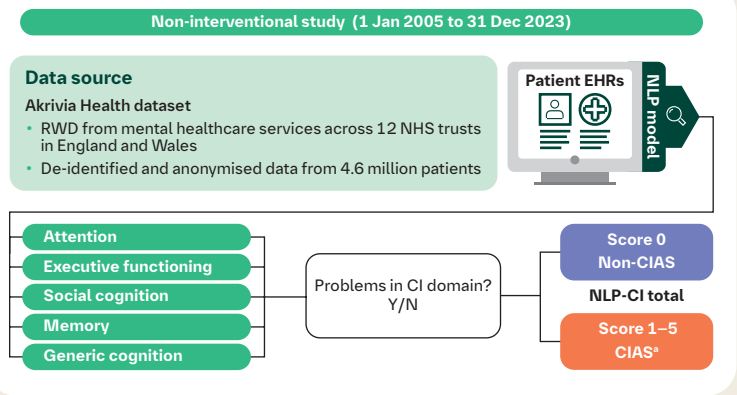
Aims

To identify patients with CIAS using NLP, and to investigate the functional status and HCRU of patients with schizophrenia with and without CIAS

Methods

Study design

Figure 1. Study design



*Higher NLP-CI score denotes impairments in a greater number of CIAS domains.

- Key inclusion criteria

 - ≥18 years of age at schizophrenia diagnosis
 - First schizophrenia diagnosis (according to ICD-10 code F20) within the study period
 - First mention of CIAS within 3 months of schizophrenia (CIAS cohort only)
 - Clinical notes within the study period
- Key exclusion criteria

 - Presence of dementia, mild CI or intellectual disability
 - Non-binary gender or gender information missing
 - First diagnosis of schizophrenia outside the study period
 - First mention of CIAS >3 months after schizophrenia diagnosis

Outcomes

- 1

Baseline demographic characteristics
- 2

Functional status was assessed using HoNOS, a clinician-rated instrument used to measure the health and social functioning of adults with mental illness

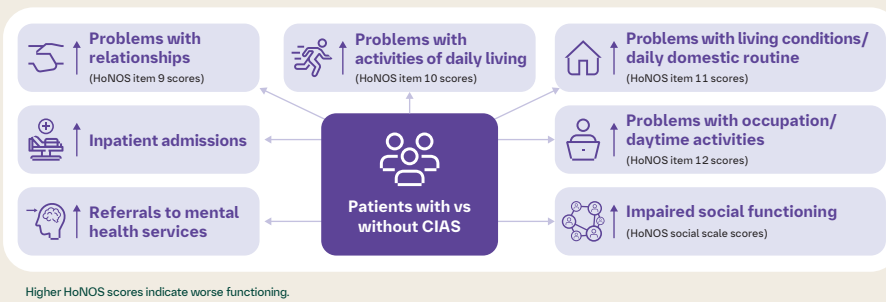
 - The following items were assessed:
 - HoNOS item 9: Measures problems with relationships
 - HoNOS item 10: Measures problems with activities of daily living
 - HoNOS item 11: Measures problems with living conditions and daily domestic routine
 - HoNOS item 12: Measures problems with occupation and activities in daytime living
 - HoNOS social scale score was also calculated (cumulative score based on HoNOS items 9–12)
 - Each item within the instrument was scored from 0 (no issues) to 4 (severe issues)
 - For the social scale, scores were calculated based on items recorded on the same day, and the highest score over the study period was taken
- 3

The number of referrals to mental health services and the number of inpatient admissions were identified from index date (earliest date of schizophrenia diagnosis) until the end of the study period
- Data analysis

 - All outcomes were reported descriptively and stratified by CIAS status and NLP-CI score
 - Binary analysis (Kruskal Wallis for continuous variables and Chi-squared test for categorical variables) assessed differences by CIAS status
 - Associations between CIAS status (binary analysis) and patient characteristics were analysed using multivariate logistic regression adjusting for demographic and clinical characteristics

Key Conclusions

- Patients with CIAS exhibit higher functional impairment and greater HCRU compared with those without CIAS, as indicated by the higher HoNOS scores, increased referrals to mental health services, and more frequent inpatient admissions.



Results

Study population

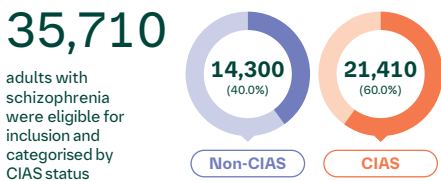


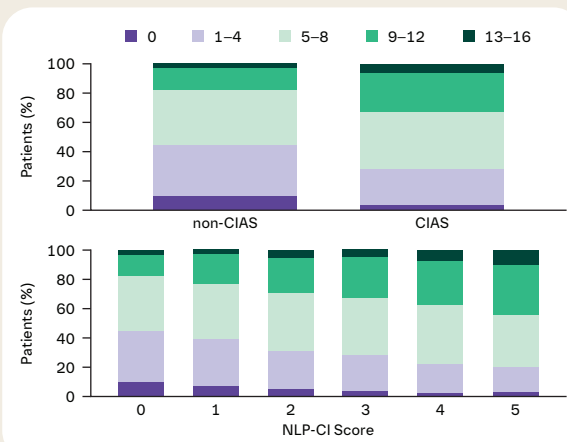
Table 1. Baseline demographics

Demographic characteristic		Non-CIAS (N=14,300)	CIAS (N=21,410)
Age at diagnosis, years	Median (IQR)	45.0 (34.0–56.0)	40.0 (30.0–51.0)
	Mean (SD)	46.0 (15.8)	41.8 (14.8)
Male, n (%)		9,234 (64.6)	13,277 (62.0)
Female, n (%)		5,066 (35.4)	8,133 (38.0)
Length of follow-up, years	Median (IQR)	6.1 (2.9–10.2)	6.5 (3.4–9.9)
	Mean (SD)	6.7 (4.6)	6.8 (4.0)
Proportion of patients with HoNOS data recorded			
HoNOS item 9, n (%)		4,755 (33.3)	8,867 (41.4)
HoNOS item 10, n (%)		4,765 (33.3)	8,878 (41.5)
HoNOS item 11, n (%)		4,751 (33.2)	8,869 (41.4)
HoNOS item 12, n (%)		4,746 (33.2)	8,870 (41.4)
HoNOS social scale, n (%)		4,696 (33.8)	8,808 (41.1)

HoNOS scale

- A higher proportion of patients with CIAS scored more severely on the HoNOS social scale (Figure 2) than those without CIAS

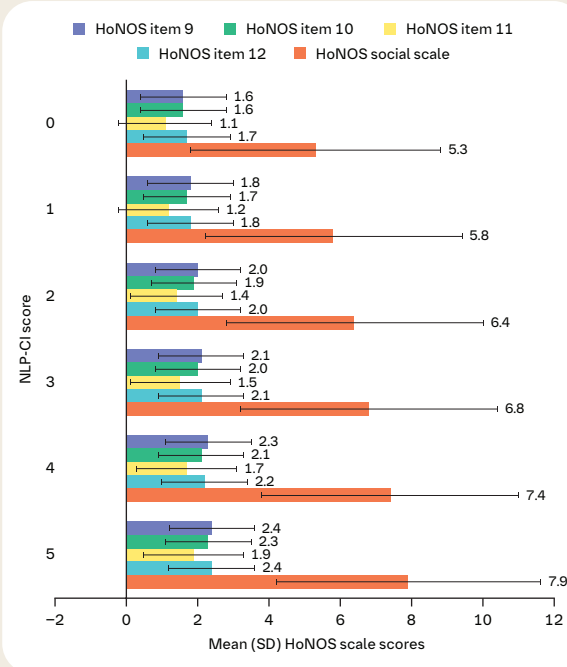
Figure 2. Proportion of patients scoring 0–16 on HoNOS social scale by CIAS status



Higher scores indicate greater problems with social functioning.

- Mean (SD) HoNOS scale scores increased slightly with increasing NLP-CI scores for HoNOS-items 9, 10, 11 and 12; this trend was more pronounced for the cumulative HoNOS social scale score (Figure 3)

Figure 3. Mean (SD) HoNOS scale scores

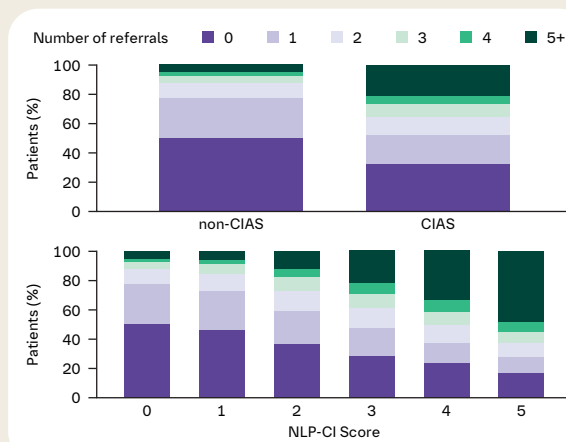


Higher scores indicate greater problems with social functioning.

Referrals

- The proportion of patients with ≥2 referrals was higher for patients with CI in all 5 domains vs patients without CIAS (71.8% vs 22.3%) (Figure 4)

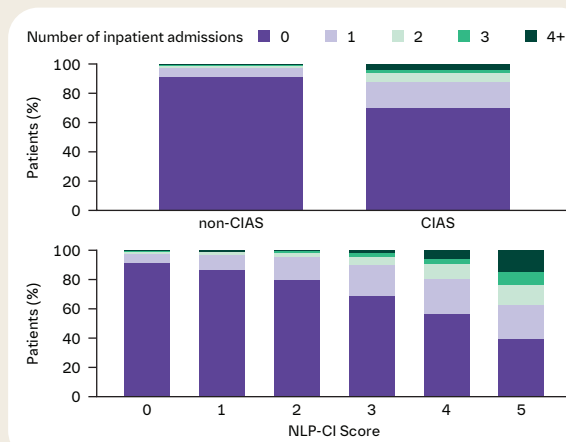
Figure 4. More referrals were recorded for patients with CIAS than those without CIAS



Inpatient admissions

- Patients with CIAS had more inpatient admissions compared with patients without CIAS (Figure 5)
- The proportion of patients with ≥1 inpatient admission was higher for patients with CI in all 5 domains (60.2%) vs patients without CIAS (8.4%) (Figure 5)

Figure 5. Inpatient admissions were higher for patients with CIAS than those without CIAS



Regression analysis

- Patients were more likely to have CI if they had more severe HoNOS social scale scores, more referrals to mental health services and more inpatient admissions after schizophrenia diagnosis, following adjustment for all functional and sociodemographic factors (see Supplementary Table 1 on the conference app)

Abbreviations

CI, cognitive impairment; CIAS, cognitive impairment associated with schizophrenia; DSM-5, Diagnostic and Statistical Manual of Mental Disorders, 5th edition; EHR, electronic health record; HCRU, healthcare resource utilisation; HoNOS, Health of the Nation Outcome Scale; ICD-10, International Classification of Diseases, 10th Revision; IQR, interquartile range; NHS, National Health Service; NLP, natural language processing; RWD, real-world data; SD, standard deviation.

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