# Eligibility Review Using the Mini International Neuropsychiatric Interview for Acute Schizophrenia Trials: Usability & Common Issues

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## Introduction

- The Mini International Neuropsychiatric Interview (MINI) for Psychotic Disorders Studies is a widely used diagnostic screening assessment for schizophrenia trials.
- It is a structured clinical interview incorporating clinical judgment scoring mostly binary (yes/no) questions over approximately 20 minutes with the participant.
- The MINI has been studied in various populations[1,2,3,4]. However, less is published on use in acutely psychotic inpatient trial populations hallmarked by high levels of disorganization and reality distortion.
- Notably, MINI licensing now requires rater training via Harm Research Institute to standardize the training materials.

## Methods

- 100% of screening MINI and Positive and Negative Syndrome Scale (PANSS) assessments at screening and baseline were audio/video recorded by site raters and reviewed by blinded Independent Raters (IRs).
- The MINI for Psychotic Disorder Studies was licensed, and the Adult Standard MINI training was provided via Harm Research Institute as required.
- MINI scale adherence and scoring accuracy were assessed as Fail or Pass based upon Modules A (Major Depressive Episode), C (Manic and Hypomanic Episodes), I (Alcohol Use Disorder), J (Substance Use Disorder), and K (Psychotic Disorders) to align with study inclusion and exclusion criteria.
- PANSS were assessed using the Rater Applied Performance Scale (RAPS) and proprietary pass/failure algorithms.
- MINI fail reasons were qualitatively coded by IRs (e.g., adherence, follow-up, unclear clinical judgement, participant presentation); a senior unblinded reviewer followed up with site/sponsor when there were eligibility questions.
- Resolution actions (e.g., clarification using additional information, re-recording missed items) were also qualitatively coded.
- Univariate ANOVA, independent samples t-test and $\chi^2$ investigated the relation between MINI review status and MINI and PANSS duration, total PANSS score, and study completion. Pearson correlation coefficient was used to evaluate the relation between MINI and PANSS duration.

## Results

- 131 mostly Male (80%) and Black (75%) participants had MINI and PANSS screening/baseline assessments reviewed; 24% of MINIs (n=32) were Fails.
- Fifty three percent (n=17) were single issue Fails. Alone or combined, 72% (n=23) of Fails were due to MINI adherence, 44% (n=14) participant presentation, 28% (n=9) unclear clinical judgment; 3% (n=1) met exclusion criteria. (Figures 1,3,4)
- Nearly all participant presentation Fails were due to multiple reasons, mostly disorganization (n=9), often combined with reduced insight endorsing primary Mood or Schizoaffective Disorders (n=9). (Figure 2; Table 3)
- All Fails due to participant presentation and adherence were resolved with more information (records, drug testing labs), rater remediation/re-recording. (Table 3)
- MINI and PANSS durations were significantly correlated [$r(122) = .46$, $p<0.001$, $r(122) = .41$, $p<0.001$] and longer for participant presentation Fails. (Tables 1,3)
- MINI duration, PANSS duration, and MINI review status were not associated with PANSS total score, PANSS screening or baseline RAPS Pass/Failure, screen failure status, or study completion.

## Results (cont.)

**Table 1.** Descriptive Statistics for MINI and PANSS Durations (in Minutes), PANSS Total Score

| | Mean | Median | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| **MINI Duration (N=124)** | 28 | 23 | 16 | 12 | 88 |
| **PANSS Duration - Participant (N=130)** | 37 | 35 | 13 | 18 | 84 |
| **PANSS Duration - Informant (N=127)** | 13 | 11 | 7 | 2 | 42 |
| **PANSS Duration - Total (N=130)** | 50 | 47 | 15 | 26 | 98 |
| **PANSS Total Score (N=129)** | 97 | 95 | 12 | 71 | 133 |

**Table 2.** Comparisons of MINI Pass/Fail Status for MINI and PANSS Durations (in Minutes)

| | MINI Status | | | |
|---|---|---|---|---|
| | **Participant Presentation Fails (Mean, SD, N)** | **Other MINI Fails (Mean, SD, N)** | **MINI Pass (Mean, SD, N)** | **Significance** |
| **MINI Duration** | 52 (25)*<br>N = 14 | 31 (16)<br>N = 17 | 24 (9)<br>N = 93 | F(2,121) = 30.43,<br>**p < 0.001** |
| **PANSS Duration - Participant** | 47 (14)*<br>N = 14 | 40 (12)<br>N = 17 | 35 (11)<br>N = 99 | F(2,127) = 6.72,<br>**p = 0.002** |
| **PANSS Duration - Informant** | 13 (6)<br>N = 14 | 11 (4)<br>(N = 15) | 13 (7)<br>(N = 98) | F(2,124) = 0.83,<br>p = 0.44 |
| **PANSS Duration - Total** | 60 (14)*<br>N = 14 | 49 (15)<br>(N = 17) | 48 (14)<br>N = 99 | F(2,127) = 4.10,<br>**p = 0.02** |

*Significant Scheffe post-hoc test differences compared to the Pass condition.

**Table 3.** MINI Fail Resolution Action Frequencies Used to Confirm Eligibility

| | | Eligibility Confirmed By:* | | | | | |
|---|---|---|---|---|---|---|---|
| | **MINI Fail Reason(s)** | **Medical Records (n=2)** | **Rater Consult (n=5)** | **Other MINI Information (n=13)** | **Records + Consult (n=6)** | **Records + Consult + UDS (n=2)** | **Redid Missed Questions (n=12)** |
| **Participant Presentation Fails** | Disorganization* | 1 | 1 | 3 | 4 | 1 | 4 |
| | Denial/Defensive | - | - | 1 | - | - | - |
| | Mood/Schizoaff. | 1 | 1 | 2 | 3 | - | 3 |
| | Over-Endorsed SUD | - | - | 2 | - | 2 | 1 |
| | **Presentation Intervention Totals** | **2** | **2** | **8** | **7** | **3** | **8** |
| **Other MINI Fails** | Adherence* | 1 | 5 | 9 | 3 | - | 12 |
| | Clinical Judgment* | 1 | 2 | 3 | 1 | - | 2 |
| | Exclusion Criteria | - | - | - | - | - | 1 |
| | **Other Intervention Totals** | **2** | **7** | **12** | **4** | **0** | **15** |

*Includes single issue MINI Fails and Fails for multiple reasons. Some reviews required multiple resolution actions.

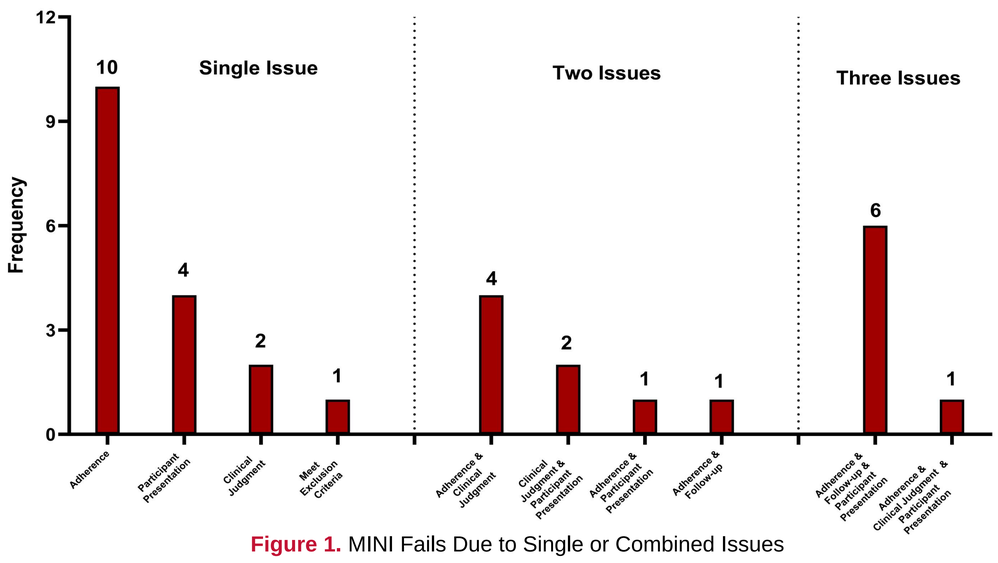


**Figure 1.** MINI Fails Due to Single or Combined Issues

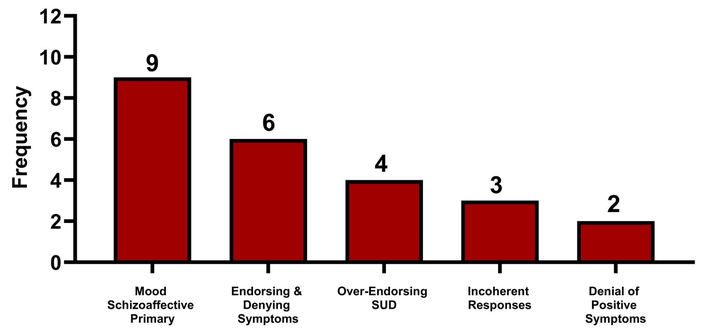


**Figure 2.** Participant Presentation Fails (Single and Combined)

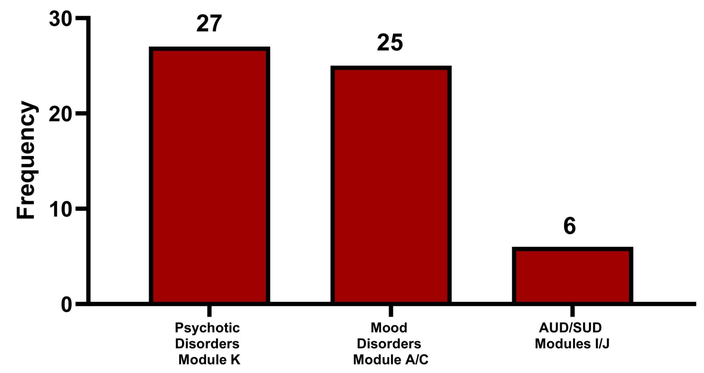


**Figure 3.** MINI Fail Reasons by Module (Single and Combined)

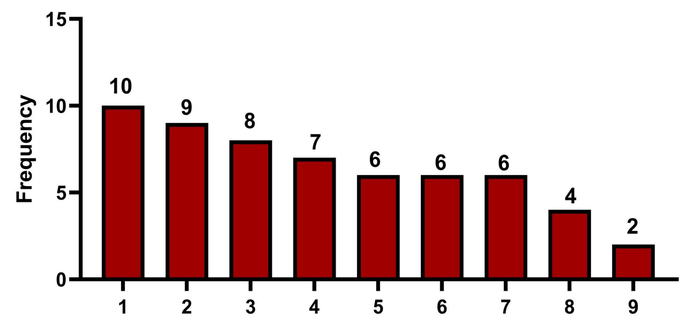


**Figure 4.** Specific MINI Fail Reasons

## Conclusions

- Findings support the use of independent eligibility review *in conjunction with* objective information to verify diagnostic and trial eligibility in this population and improve screen failure rates.
- Despite requiring gold-standard, author-defined training for the MINI, experienced site raters still made mistakes during MINI administration; however, eligibility review *combined* with objective additional information ensured all trial participants received a comprehensive standardized diagnostic interview to confirm they met trial eligibility criteria.
- Eligibility review was feasible in opinion of sponsor due to rapid turnaround (24-72 hours total) by IRs and senior reviewer's ability to gather additional clinical information quickly via email or phone from the sponsor and site raters.
- Given nearly 20% of the sample had industry-standard diagnostic assessments performed incorrectly that impacted trial eligibility, rater adherence issues may be improved with training tailored for the MINI for Psychotic Disorders Studies, as opposed to the "Adult MINI Standard Training" currently offered through Harm Research.
- Despite frequent practice and rater experience requirements, rater oversight and intervention on the MINI may be warranted to ensure adherence and appropriate assessment conduct. Future work using a more standardized method for MINI reviews (e.g., RAPS) should be explored.
- The relationships between MINI and PANSS duration findings and failure rates may inform risk-based data monitoring (RBDM)

## References

1. Sheehan D.V., et al. (1997). Reliability and Validity of the MINI International Neuropsychiatric Interview (MINI): According to the SCID-P. *European Psychiatry,* 12:232-241.

2. Lecrubier Y., et al. (1997). The MINI International Neuropsychiatric Interview (MINI) A Short Diagnostic Structured Interview: Reliability and Validity According to the CIDI. *European Psychiatry,* 12: 224-231.

3. Amorim P., Lecrubier Y., Weiller E., Hergueta T., Sheehan D. (1998). DSM-III-R Psychotic Disorders: procedural validity of the Mini International Neuropsychiatric Interview (MINI). Concordance and causes for discordance with the CIDI. *European Psychiatry,* 13:26-34.

4. Sheehan DV, et al. (1998) The Mini International Neuropsychiatric Interview (M.I.N.I.): The Development and Validation of a Structured Diagnostic Psychiatric Interview. *J. Clin Psychiatry*, 59(suppl 20): 22-33.

The authors report no conflicts of interest for this work; all are current employees of Cronos Clinical Consulting Services, Inc., an IQVIA Business, or Neurocrine Biosciences, Inc.

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