

Optimizing Remote Cognitive Assessment In Clinical Trials: Best Practices For Supervised Neuropsychological Scale Administration

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Background

- As telehealth has become commonplace, the usability of remote methods for Alzheimer's disease (AD)-focused neuropsychological assessment has been brought into focus.
- Guidelines have been published (Bilder et al., 2020) outlining optimal practices for teleneuropsychological interviews. However, the need remains for determining the optimal methods for remote administration of psychometric cognitive scales, particularly in the context of clinical trials.
- Here, we developed best practices for delivering rater-administered verbally-facilitated cognitive assessments (ex: International Shopping List Test, MoCA verbal tasks, Category Fluency Test).
 - Thousands of remote assessments conducted by the authors provided qualitative data that was distilled into the most common challenges and optimal solutions for protecting scale validity.

Methods

- 3,700 remote clinical trial sessions were administered across two different research studies spanning five years.
 - Research participants were enrolled at local research sites and were provided standardized devices (tablet, keyboard, stylus) to participate in remote research sessions from their homes.
 - Video calls were utilized to administer designated cognitive scales.
 - Central raters conducted cognitive testing sessions utilizing the ISLT, MoCA, and CFT scales to assess memory, language, and attention domains.
 - Participants' tech literacy was assessed during a pre-visit practice assessment, with supplementary support being provided on an as-needed basis.
 - As cognition decline in participants progressed, remote-based issue troubleshooting was tested and implemented
- We recorded and evaluated the best methods for delivering performance-based cognitive outcome assessments to maximize validity and reliability of the data collected in a remote capacity.
 - Best methods were determined using rater-reported successes, reviewer-observed feedback, and consensus from expert neuropsychologists.



Common Challenge in Remote Sessions	Best Practice
Environmental distractions	Complete thorough environment evaluation
Poor internet	Connectivity checks + backup plan
Limited tech literacy	Pre-appointment training, conscientious bedside manner
Administration variability	Comprehensive rater training/selection
Participant disengagement	Rapport-building techniques

Results

- Several themes emerged as critical components for successful remote administration of performance-based clinical trial cognitive outcome assessments.
 - Comprehensive rater training programs** and **careful environmental review** are highly impactful in enhancing data validity.
- Challenges to testing may arise, such as poor technological literacy of subjects or technological volatility.
 - Utilizing these guidelines for best practices will minimize any potential data loss.
- Outlined in the chart below are common challenges that were observed in remote testing sessions, along with the best practices to address them determined by operational experience and expert consensus.

Conclusion

- Provided here is guidance on how to administer valid and reliable performance-based cognitive assessments where the assessor is remote from the participant.
- These guidelines consider the various aspects that go into conducting an assessment, including:
 - Technical details, data collection, and rapport building.
- Neuropsychology and clinical trials will continue to migrate to the digital space
 - Strong practices for remote psychometric assessments will greatly expand the reach of clinical trials **and** clinical care to individuals who otherwise would not have access.
- These guidelines should provide a solid foundation for developing testing guidelines for novel testing avenues.

References

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