

# Is there a research-practice dosage gap in aphasia rehabilitation?

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## Introduction

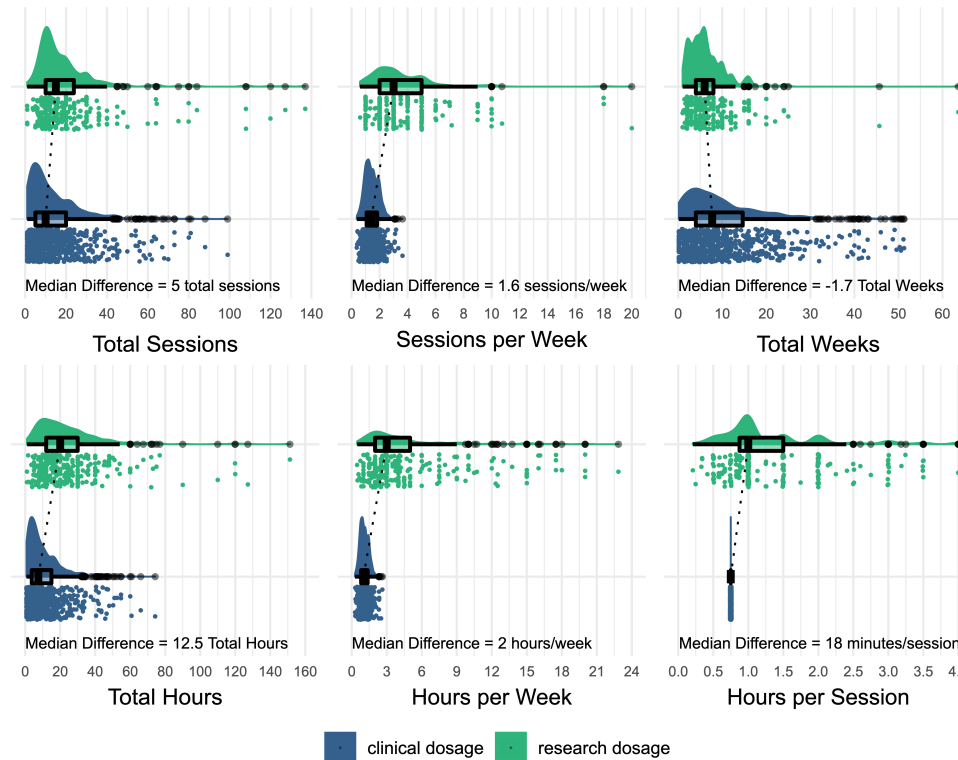
### Motivation

- Few studies have evaluated the translation and implementation of evidence-based aphasia interventions to clinical practice<sup>1</sup>
- Dosage may be challenging to translate from research to clinical practice settings due to pragmatic clinical barriers such as insurance or transportation
- Anecdotes suggest limited dosage in practice but few comparisons to research
- A dosage mismatch between research and clinical practice threatens the external validity of treatment research & risks attenuating intervention effectiveness.

### Research Questions

- What is the typical treatment dose in an episode of care in outpatient clinical practice?
- What is the typical treatment dose administered in contemporary clinical aphasia research?
- To what extent is the dosage in treatment research aligned with clinical practice?

## Differences in dosage between aphasia treatment research and clinical practice



## Discussion

### Take-aways

- Clinical dosage is frequently less than typical research dosage, except for total treatment duration.
- Total treatment hours and weekly intensity is particularly disparate between settings.
- Comparison does not include differences in priorities between research & clinical settings. Research settings focus on (a single) treatment program, clinicians incorporate multiple approaches, counseling, education, content with paperwork.
- Home practice appears more common in clinical practice,<sup>2</sup> could reduce disparity in dosage.
- Importance of treatment dosage does not supersede treatment efficacy and therapeutic value

### Recommendations

- Select dosage thoughtfully in clinical research, considering clinical practice constraints.
- More research establishing dose-form & evaluating effects of different dosages.<sup>3</sup>
- Take steps to facilitate home practice for higher-dose interventions (apps and low-tech materials).<sup>4</sup>
- Pragmatic trials to evaluate implementation of aphasia treatments in clinical practice.
- More advocacy needed for access to services, including intensive, comprehensive programs.

## Methods

**Clinical treatment dosage** estimated via billing data from the Centers for Rehabilitation Services (CRS), primarily in Western Pennsylvania.

- Inclusion: Patients receiving an evaluation (CPT: 92523, 96105) and treatment (92507) from an SLP from 2014-2019 with ICD 9/10 diagnoses of aphasia and stroke.

**Research dosage** estimated via scoping review of prospective, aphasia treatment studies from 2009-2019

- Extracted dosage variables and estimated additional non-reported variables if possible
- Reliability (% agreement) for article inclusion/exclusion and data extraction >90%

**Analysis:** Non-parametric permutation tests<sup>5</sup>

## Results

Variable	Clinical Dosage				Research Dosage			
	Mean	Median	Min	Max	Mean	Median	Min	Max
Total sessions*	14.50	10.00	5.00	20.00	20.10	15.00	10.00	23.80
Total hours*	10.90	7.50	3.80	15.00	25.10	20.00	12.00	30.00
Hours/session*	0.75	0.75	0.75	0.75	1.30	1.00	0.90	1.50
Hours/week*	1.10	1.10	0.80	1.40	4.70	3.00	2.00	5.00
Sessions/week*	1.50	1.40	1.10	1.80	3.60	3.00	2.00	5.00
Total weeks*	10.60	7.70	4.00	14.60	7.00	6.00	4.00	8.00

Notes: 683 episodes of care included in CRS dataset. Standard treatment session is 45 minutes. Frequency calculated for episodes of care with  $\geq 4$  sessions. 303 Treatment studies included in review. > 82.5% reported sufficient details to calculate all dosage variables. \*denotes difference in medians:  $p < 0.001$

## References & Acknowledgements

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