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Dietz and Boyle ask if we have reached a tipping point in regard to systematizing discourse measurement in aphasia research. We agree that research into aphasia and discourse has reached a tipping point where a more systematic approach is necessary. A simple search for "aphasia" and "discourse" in *Aphasiology* returns 635 results. A meta-analysis conducted by Byrant, Ferguson, and Spencer (2016a) found 165 studies that employed discourse analysis methods to assess the language of individuals with aphasia (IWA). Of these 165 studies, 536 different techniques for analyzing discourse were found within the literature. This is a dizzying array of outcome measures for clinicians and researchers inside just *Aphasiology*, let alone outside the field. Byrant, Spencer, and Ferguson (2016b) conducted a survey of clinicians in five English-speaking countries. Of the 123 returned surveys, 86% of clinicians ($N = 106$) reported analyzing discourse within a clinical setting. Discourse analysis is becoming an important part of aphasia assessment within clinical and research settings. A more systematic approach to discourse outcomes may elucidate some of the best practices to improve communication.

Wallace, Worrall, Rose, and Le Dorze (2014, 2016)), along with the Core Outcome Measures in Effectiveness Trials (COMET, 2016), provide a detailed methodology for advancing a core set of outcomes for aphasia. If we are serious about a core set of outcomes for discourse, the next step requires a series of systematic reviews, à laByrant et al. (2016a), with a focus on reliability and validity of outcome measures, as well as surveying the relevant clinicians, researchers, and IWA for their ideas on the most important outcome measures for discourse (Wallace, Worrall, Rose, & Le Dorze, 2016). The meta-analysis will provide us with a better understanding of the most common, reliable, and valid discourse outcomes currently used. The survey will accomplish the same goal, but it may help eliminate some publishing bias from the outcome measures since clinicians and researchers will be able to report commonly used outcome measures that might not have been published (Greco, Zangrillo, Biondi-Zoccai, & Landoni, 2013). However, we have a few concerns when it comes to a core set of outcome measures for discourse. First, how will a core outcome set (COS) handle data reporting? Second, how will transcription data be handled?

In regard to reporting outcome measures, aphasiology as a field is often afflicted with small sample sizes. Beeson and Robey (2006) found 600 articles over 50 years that employed some type of treatment for aphasia. Of the 600 papers, 332 were single-subject design. According to Greco et al. (2013), treatment studies with small sample sizes typically reported larger treatment effects than treatment studies with larger

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samples. While the reasons for this are debated, the fact remains that a meta-analysis using studies with smaller sample sizes may overstate treatment benefits. A COS for discourse would suffer from similar problems if the studies continue to be small group designs or single-case studies. Moreover, Robey, Schultz, Crawford, and Sinner (1999) conducted a meta-analysis on group studies in aphasia. Out of the 63 studies meeting the criteria for inclusion, only 12 provided enough information to conduct a meta-analysis. The field is improving in reporting statistical data and outcome measures; however, to gain the most benefit from a COS, the COS will need to define how to report the data and also with information that might not be important to the individual study, but allow for more transparency while conducting meta-analyses.

Another note of concern is how transcription is handled. Dietz and Boyle only briefly mention transcription. This may be because transcription is not necessary for all discourse outcome measures. Yet, Byrant et al. (2016b) found that only 38% of clinicians claimed to audio or video record discourse for later transcription and processing, and nearly half of the clinicians surveyed reported implementing no specific system to analyze an individual's discourse. Over half the clinicians cited time, training, and expertise as reasons limiting their use of discourse within a clinical setting. A COS for discourse would alleviate some of the difficulty for clinicians, but the expertise and training will be limited unless the COS comes with typical guidelines for handling discourse data. How the data are processed and handled is as important as the variable under examination. This is especially true for macrolinguistic data.

For example, our lab uses a multi-level error analysis based on Marini, Boewe, Caltagirone, and Carlomagno (2005) and Marini, Andreetta, Del Tin, and Carlomagno (2011). The analysis examines both microlinguistic (par aphasias, fillers, etc.) and macrolinguistic errors (tangential, filler, and conceptually incongruent utterances). The approach has proven more sensitive than standardized assessment methods (Henderson, Kim, Kintz, & Wright, in press), such as the Western Aphasia Battery-Revised (Kertesz, 2007). It also has been successfully used in aphasia assessment with both Italian-speaking IWA (Marini et al., 2011) and English-speaking IWA (Henderson et al., in press). The macrolinguistic analysis is sensitive to utterance structure. While our lab typically uses c-units (Loban, 1976) to organize the discourse sample, Marini's lab does not. Marini's lab started new utterances after repetitions and rephrases. This small change is enough to change the outcome measures. Similar to informational units, there are numerous ways to organize a discourse sample, such c-units (Loban, 1976) or into national units (Chafe, 1994). Utterance structure does not affect lexical diversity, but transcript length does. Therefore, the way we decide to elicit and organize the discourse samples will matter to many of the outcome measures. More importantly, different manners of eliciting and organizing transcripts will remove some of the interpretability across studies that a core set of outcome measures are meant to correct.

There are other concerns as well. A COS will need to consider time, effort, and cost. For example, the multilevel analysis based on Marini et al. (2005) is labor- and time-intensive to complete. This may prevent researchers from analyzing other factors within treatment studies if it is accepted as a COS. Also, researchers and clinicians are complaining about expertise in discourse analysis, which may require

more than a set of guidelines and more of a push to educate researchers and clinicians about discourse. However, the only way to solve these problems and develop a core set of outcome measures for discourse is to begin the necessary first steps outlined by Wallace et al. (2014, 2016)).

Disclosure statement

No potential conflict of interest was reported by the authors.

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