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## How SLPs Assess, Treat, and Make Discharge Decisions for People with Mild Aphasia: A Survey of Current Practice in the U.S.

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How SLPs Assess, Treat, and Make Discharge Decisions for People with Mild Aphasia: A  
Survey of Current Practice in the U.S.

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B.S., University of Vermont, 2016

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How SLPs Assess, Treat, and Make Discharge Decisions for People with Mild  
Aphasia: A Survey of Current Practice in the U.S.

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**Note**

This thesis reflects all or a portion of a working manuscript completed with Dr. Mozeiko. The manuscript related to this project will be submitted following final data analysis and authorship will be shared.

## Abstract

The goal of the present study is to provide a comprehensive overview of how speech-language pathologists (SLP) are currently assessing, treating, and discharging patients with mild aphasia. In addition, the present study aims to learn which factors may be limiting SLP involvement with this population and how, as a field, we can better serve these patients. A 26-question survey, consisting of both open-ended and closed ended questions, was developed and distributed via email and social media to selected groups of speech-language pathologists. A total of 133 speech-language pathologists responded to the survey. Reports of assessment, treatment, and discharge procedures were diverse; however, a number of central themes were observed. Speech language pathologists are currently emphasizing greater use of informal measures in assessing people with mild aphasia as compared to people with more severe forms of aphasia. Discharge procedures and recommendations were found to involve primarily referrals to the next level of care, recommendations for continued social interaction, and maintenance programs to preserve treatment progress. Speech-language pathologists reported the need for additional assessment tools and resources in order to better serve people with mild aphasia. Information gathered in this survey can be used in making recommendations and changes to current practice in order to improve how speech-language pathologists are providing services to individuals with mild aphasia.

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## **Introduction**

### **Background**

Aphasia is an acquired communication disorder commonly the result of an ischemic stroke. Aphasia is common; affecting 28%-35% of those who have suffered from their first ischemic stroke (Engelter et. al., 2006) and is associated with increased mortality, decreased rates of functional recovery, and reduced probability to return to work compared with non-aphasic stroke patients (Laska et. al., 2001). Aphasia is known to impact the quality of life of individuals across severities.

Although a single definition of mild aphasia does not exist in the literature, many researchers tend to define people with mild aphasia (PWMA) as those individuals with 'high-level' aphasia, typically characterized by word-finding difficulties and decreased speed of processing (Graham, 2007). Hallmarks also include normal or near normal performance on standardized tests (Marshall 1993, Raymer & Lapointe 1986, Wertz 1998), compromised written expression (Raymer & Lapointe, 1986), reading comprehension deficits (Raymer & Lapointe, 1986), decreased verbal memory (Raymer & Lapointe, 1986), and dysfunction in the use of aspect and tense marking (Gober, 2013). In some cases, 'mild aphasia' is defined by an aphasia quotient of 75 or greater on the Western Aphasia Battery Revised (Mozeiko, 2018; Frankel, Penn, & Ormond-Brown, 2007; Cruice, Worrall, & Hickson, 2006; Milman, 2016; Armstrong, Fox, & Wilkinson, 2009) and in other cases 'mild' is defined by the least impaired participants relative to others individuals with aphasia (Ween, Verfaellie, & Alexander, 1996; Ithori & Kashiwagi, 2015). For the purposes of this study "mild" is characterized by one or more of the

following: >75 on the Western Aphasia Battery Aphasia Quotient (or equivalent on other standardized tests), someone who has generally functional oral-verbal communication, someone who's language is effortful, characterized by pauses, some errors in grammar, pronoun use, and word-finding, someone that demonstrates language that is generally fluent but is prone to circumlocution and strays from the topic at hand, someone who has some preserved reading and/or writing abilities, and/or an individual that is less impaired than most others with aphasia. This definition is consistent with ICF guidelines which defines a mild impairment as a problem present less than 25% of the time, with an intensity a person can tolerate, and has only rarely occurred in the last 30 days (World Health Organization, 2013).

Individuals with mild aphasia often report significant communication disruption described as a decreased ability to participate in activities that are social and dependent on language (playing scrabble, attending discussion groups) learning a new language, giving speeches, expression through writing, and difficulty in expression leading to misunderstandings (Cruice, Worrall, & Flickson, 2006; Elman & Bernstein-Ellis, 1995; Marshall, 1993). Many individuals with mild aphasia are forced to resign from their jobs that have high communication demands (Marshall, 1993). They often struggle to regain independence, and demand that other family members manage personal and family problems (Spaccavento et al., 2013). Difficulties that arise as a result of a mild aphasia are often manifested in naturalistic contexts, such as everyday conversations (Cruice, Worrall, & Hickson, 2006), which require individuals to use language in a complex manner. Functional communication is further reduced in conversational tasks that require an increased processing load on the individual with mild aphasia. For example, one would expect decreased performance in a group conversation or in a conversation that is



taking place in a noisy environment (Hicken et al., 2015). In addition, a breakdown in communication tends to occur under time pressure or when the individual becomes fatigued (Marshall, 1993). Despite these effects, there is a shortage of evidence-based treatment approaches that target language production in people with mild aphasia.

### **Assessment**

People with mild aphasia often report having difficulty with language tasks in their everyday life, despite scoring within normal limits on various language assessments such as the Western Aphasia Battery (Kertesz, 2007; Cruice, Worrall, & Hickson, 2006). For this reason, we hypothesize that people with mild aphasia are under-diagnosed and, as a result, may not receive needed language treatment. Important aspects of communication are commonly overlooked in traditional assessment batteries but are impacting individuals with mild aphasia in functional activities. For example, communication deficits may appear in argumentation; a common dialogue/script that we engage in frequently in our society (Armstrong, Fox, & Wilkinson, 2009). In a 2009 study, researchers analyzed the discourse dynamics and lexical-grammatical content and found significantly impacted ability to organize and develop a logical argument in the individuals with mild aphasia (Armstrong, Fox, & Wilkinson). In addition, Armstrong et al, noted difficulty with responding to the conversational partner's line of thought. Information gathered from this study highlights the higher-level language functions that are commonly affected in people with mild aphasia but that go undiagnosed.

Although there are a vast number of assessments designed to explore the deficits secondary to aphasia, the usefulness of these tests is limited when assessing a patient with mild aphasia (Raymer & Lapointe, 1986). Oftentimes, the ceiling score set by the test creators is too

low which results in PWMA doing well on the test only to struggle in other everyday circumstances (Raymer & Lapointe, 1986). A study by Ross and Wertz (2004) reveals that comprehensive language assessments, such as the Porch Index of Communication Ability (PICA, Porch, 1967) which assess various linguistic skills including content, fluency, auditory comprehension, repetition, naming, reading, writing, and functional communication, yield overall accurate scores. Yet, these scores did not prove to be useful confirming the presence or absence of mild aphasia. Without the ability to detect these deficits using a standardized assessment, speech-language pathologists must utilize various other methods to generate a true picture of the individual's language profile. Without the normative data associated with standardized assessments, making comparisons using the data collected from informal assessment may be more difficult and may not be an accurate reflection of the individual's functional communication status.

A survey conducted by Beele, Davies, & Muller, (1984) shows that when assessing high-level, mildly impaired individuals, speech-language pathologists preferred to utilize the Boston Diagnostic Aphasia Examination (BDAE) (Goodglass and Kaplan, 1983). However, in a study by Raymer and Lapointe (1986), when the BDAE was administered to an individual with mild aphasia, their scores were within normal limits across subtests with the exception of repeating low probability sentences and phrases and controlled naming of animals.

In addition to the scarcity of research regarding mild aphasia, there is also the issue of third-party reimbursement for rehabilitation services. Although PWMA are commonly voicing concerns about the functionality of their communication, they are being denied speech services due to varying ideas of what it means to be 'functional' (Elman & Bernstein-Ellis, 1995). Third-party payers that are authorizing speech-language services are frequently interpreting functional

goals to include only basic communicative skills (Elman & Bernstein-Ellis, 1995). In the case of PWMA, they often possess these basic language skills but can no longer maintain their role as a joke teller, debater, or group discussant in social situations (Elman & Bernstein-Ellis, 1995). Reimbursement for these services oftentimes depends on deficiencies falling within established guidelines, and for this reason, third-party payers will often deny services to an individual who scores within normal limits on standardized tests (Gobes, 2013). This is an instance where it is critical that the SLP advocates for their client by presenting sensitive assessment measures that justify speech-language services as well as providing well-constructed and functional therapy plans. Together these components could provide compelling evidence to warrant funding from third-party payers (Gobes, 2013).

### **Treatment**

Many published articles, especially those focusing on treatment techniques for PWMA, are case studies only. Information gathered from these studies is important but until replicated with larger samples, are not necessarily generalizable. When extrapolated on a case by case basis, current evidence tends to suggest a positive effect of treatment for PWMA. For example, Hickin et al. (2015) examine the success of an impairment-based treatment approach in an individual with mild aphasia demonstrating that the individual was in fact able to improve in the areas of complex sentence and discourse production. Additionally, in a review of four studies of Integrated Discourse Treatment for Aphasia (IDTA) (Milman, 2016) only 1 participant was determined as having mild aphasia, based on their Western Aphasia Battery Aphasia Quotient. Statistically significant treatment results were seen in this individual along with notable

generalization to discourse production. Studies of this nature provide valuable information, and through further exploration, can help to establish possible treatment frameworks.

### **Discharge**

In preparation for this project, the first author spoke with several experienced clinicians working in a variety of settings. Through these discussions, it became evident that individuals with mild aphasia may not be receiving the skilled speech services they need. One SLP in an acute care setting reported, “It feels like the people that are more severe are the ones that you make sure get referred. You make sure they have all of this support, but because they [PWMA] are so mild, they may not have gotten the education [in regard to aphasia treatment] or someone may not have even picked up on their deficits.” She went on to explain, “I don’t know that we do the greatest job planning for their discharge or saying this patient needs XYZ for follow-up. Discharge is not dependent on speech - If you can walk, you can go home whereas if you have aphasia you can go home and we might miss it” (Anonymous, 2018).

The current discharge practices, as they relate to PWMA, are also of interest in the present study. A thorough literature search reveals that there are currently no published works that examine the discharge process specifically for individuals who have mild aphasia. A number of studies, however, have examined approaches to discharge of individuals with aphasia in general. One such approach is the multidisciplinary approach (Bonta and Weber, 1998) which supports the idea of good after-care and psychosocial adaptation stemming from a range of disciplines. An article by Deborah Hersh highlights ways in which SLPs can “wean” patients with aphasia from speech therapy services utilizing various strategies such as wait-and-see, preparation, negotiation, separation, and replacement. Although these discharge principles and approaches may apply to individuals with mild aphasia, one can expect the need for a specific

approach to discharge for this population which may focus more heavily on preparing the individual for high-level language interactions. For some, this may include preparing to return to work which presents itself with a unique set of challenges.

In addition to research surrounding various discharge procedures, there have also been published works regarding patient reactions and feelings about discharge. Horton, Mudd, and Lane (1998) reported that their survey respondents with aphasia wanted more therapy than they received. In addition, an article by Deborah Hersh explored the experiences of rehabilitation by patients after stroke and found that despite individual responses to aphasia and its treatment, a common finding was uncertainty and confusion surrounding discharge (Hersh, 2009).

In the present study we seek to further explore the discharge practices associated with mild aphasia specifically. It is interesting to consider how discharge practices may differ for individuals with aphasia across severities. For example, one might expect to see a greater focus on occupation-based information during discharge for a PWMA (if applicable). One might also expect to see a more in-depth patient interview process in the discharge procedure as patients with mild aphasia will have the language capabilities that allow them to verbally express complex thoughts and ideas. Interviews may involve a discussion of the patient's current progress as well as their goals for the future. It is likely that commonalities among discharge procedures for various severity levels will arise as well. For example, psychosocial counseling may be appropriate no matter the severity of aphasia, as individuals work to adjust to daily life.

### **Aims of the Current Study**

Lack of published research is one indication that there may be gaps in assessment, treatment, and the discharge of PWMA. As a precursor to developing more specialized

procedures for providing services to PWMA, it would be beneficial to gather information regarding the current knowledge and practices of SLPs. One way to gather such information is through the use of survey research which has been utilized in the current study. The advantage of survey research is the ability to generalize about an entire population by drawing inferences based on data drawn from a small portion of that population (Rea & Parker, 2014). It aims to reveal the characteristics of institutions and communities by studying individuals in a relatively unbiased and scientifically rigorous manner (Rea & Parker, 2014). The present study was designed to acquire information from SLPs, using an online survey platform, on how they currently assess, treat, and discharge individuals with mild aphasia. Of interest are factors that may be limiting SLP involvement with this population and how, as a field, we can better serve these patients. This information can be used to guide the improvement of current methods while also paving the way for future research and education in the area of mild aphasia.

## **Methods**

### **Survey Construction**

A 24 Question web-based survey was developed using an online commercial survey distribution and collection site (Qualtrics). The content of the survey included six questions that targeted respondent demographics and information about respondent's current caseload. Four questions targeted information regarding assessment of PWMA, eight questions targeted information regarding treatment of PWMA, three questions targeted discharge of PWMA, and three questions targeted general information about the respondent's current practice. The survey consisted of both closed and open-ended questions. Close-ended questions included multiple choice format and rating scales, while open-ended questions allowed for free text-entry with no designated character limit. Couper, Traugott, and Lamias (2001) discovered that responses

provided for open-ended questions tended to have a higher degree of validity than responses provided for closed-ended questions. Reja, Lozar Manfreda, Hlebec, and Vehovar (2003) also found that although open-ended questions yield less data (fewer responses) than the same questions asked in a close-ended format, the responses that are obtained are more diverse. In developing the survey questions, special care was taken to avoid injudicious phrasing which can lead to results that are ambiguous and potentially biased (Rea & Parker, 2014). Ambiguous words and phrases, double-barreled questions, manipulative information, inappropriate emphasis, and emotional words or phrases were also avoided.

Prior to distribution, a version of the survey was piloted with a group of five individuals working in a University Clinic, each with 5-25 years of experience working with an adult neurogenic population. Feedback from the pilot survey was reviewed and subsequent changes were made to the survey design and to the questions themselves to improve clarity. As a result, eight questions were modified and one question was deleted.

Once the survey was finalized and prepared for distribution, a brief note was sent via electronic mail to selected professionals asking them to complete the survey to the best of their ability. The electronic mail correspondence included an anonymous link to the web address of the survey. Providing the anonymous link ensured that information about participants (i.e. name, email address, internet protocol (IP) address was not associated in any way with their survey responses. The electronic mail correspondence (refer to Appendix A) asked prospective participants to click the anonymous link in order to access the survey. After clicking the link, participants were brought to the survey web page where they were then asked to attest to reading a brief information page about the survey (refer to Appendix B). Participants were also provided with instructions on how to complete and submit the survey. Upon completing the survey, a

closing message thanked participants for their time and informed them that their responses had been recorded. Two weeks after the initial email message was sent, a follow-up email was sent to participants reminding them to complete the survey if they had not done so already.

### **Participants**

In order to gather information on assessment, treatment, and discharge of mild aphasia, speech-language pathologists across the United States were surveyed. A web-based survey was distributed to prospective participants across various settings. The target participants were speech-language pathologists working with people with aphasia. Selected groups of SLPs with publicly available email addresses were mined by the first author from the internet. These SLPs included members of professional affiliations, acute and outpatient SLPs listed on hospital, medical and professional web sites, and attendees of medical SLP conferences. A brief note, which included an anonymous link to the online survey, was sent via electronic mail to selected groups of SLPs and those who received the invitation e-mail were asked to forward it to their contacts if they wished to do so.



Table 1. Speech-language pathology based Facebook pages where the survey was posted

Facebook Page	Number of Followers	Web Address
American Speech-Language-Hearing Association	138000	<a href="https://www.facebook.com/asha.org/">https://www.facebook.com/asha.org/</a>
Medical SLP Forum	33717	<a href="https://www.facebook.com/groups/medicalslpforum/">https://www.facebook.com/groups/medicalslpforum/</a>
Texas Speech Language Hearing Association	6900	<a href="https://www.facebook.com/txsha/">https://www.facebook.com/txsha/</a> <a href="https://www.facebook.com/groups/1595213020713406/">https://www.facebook.com/groups/1595213020713406/</a>
SLP Medical Research Group	1852	
Illinois Speech Language Hearing Association	1503	<a href="https://www.facebook.com/ishail.org/">https://www.facebook.com/ishail.org/</a>
Ohio Speech Language Hearing Association	1400	<a href="https://www.facebook.com/ohioslha/">https://www.facebook.com/ohioslha/</a>
Arizona Speech Language Hearing Association	1012	<a href="https://www.facebook.com/ArizonaSpeechLanguageHearingAssociation/">https://www.facebook.com/ArizonaSpeechLanguageHearingAssociation/</a>
Georgia Speech Language Hearing Association	994	<a href="https://www.facebook.com/TheGeorgiaSpeechLanguageHearingAssociation/">https://www.facebook.com/TheGeorgiaSpeechLanguageHearingAssociation/</a>
Oregon Speech Language Hearing Association	993	<a href="https://www.facebook.com/OregonSpeechLanguageHearingAssociation/">https://www.facebook.com/OregonSpeechLanguageHearingAssociation/</a>
Nebraska Speech Language Hearing Association	890	<a href="https://www.facebook.com/nslha1/">https://www.facebook.com/nslha1/</a>
Speech Language Hearing Association of Virginia	888	<a href="https://www.facebook.com/Speech-Language-Hearing-Association-of-Virginia-54054658682/">https://www.facebook.com/Speech-Language-Hearing-Association-of-Virginia-54054658682/</a>
Massachusetts Speech Language Hearing Association	849	<a href="https://www.facebook.com/MSHAPage/">https://www.facebook.com/MSHAPage/</a>
Indiana Speech Language Hearing Association	788	<a href="https://www.facebook.com/ISHAINDIANA/">https://www.facebook.com/ISHAINDIANA/</a>
Iowa Speech Language Hearing Association	788	<a href="https://www.facebook.com/IowaSHA/">https://www.facebook.com/IowaSHA/</a>
Michigan Speech Language Hearing Association	647	<a href="https://www.facebook.com/michspeechhearing/">https://www.facebook.com/michspeechhearing/</a>
The Speech and Language Network	598	<a href="https://www.facebook.com/SpeechLanguageNetwork/">https://www.facebook.com/SpeechLanguageNetwork/</a>
Medical Speech Pathology Council of California	543	<a href="https://www.facebook.com/msccslpceus/">https://www.facebook.com/msccslpceus/</a>
Minnesota Speech Language Hearing Association	472	<a href="https://www.facebook.com/msha.net/">https://www.facebook.com/msha.net/</a>
Maine Speech Language Hearing Association	387	<a href="https://www.facebook.com/maineslha/">https://www.facebook.com/maineslha/</a> <a href="https://www.facebook.com/groups/443914878960352">https://www.facebook.com/groups/443914878960352</a>
Speech Language Pathologists	362	/

An anonymous link to the online survey was also posted in the American Speech Language and Hearing Association Special Interest Group 2, discussion board. This special interest group is comprised of SLPs whose interests lie in neurophysiology and neurogenic communication disorders. A link to the survey was also posted to speech-language pathology

based Facebook pages (see Table 1) chosen due to their high number of followers and the likelihood of reaching users that have experience working with people with aphasia.

A total of 134 participants completed the survey, however, one response was excluded due to the participant reporting that they do not work with individuals with aphasia. There were 133 remaining responses used in the analysis. Respondents were not required to answer every question so the number of responses to each question varied from 100 – 133. Because an anonymous link was utilized in distribution of the survey, we are unable to differentiate between those who responded to email or to social media.

### **Data Analysis**

Results from the survey were analyzed using descriptive statistics to determine the frequency of responses to objective questions (i.e. years of experience of respondents, current work setting(s)) or frequency of responses within descriptive categories (i.e. assessment measures used, types of goals established for treatment). Responses to open-ended questions were analyzed using qualitative methods in which the responses were categorized. A bottom-up, or inductive thematic analysis such as the one described by Boyatzis (1998), was completed for items that were open-ended and for which respondents provided comments. This method involved reducing the raw data and identifying common themes within the sample. Categories were generated inductively based on the data rather than prior to distribution, which made it possible to discover themes that accurately represent the practice patterns of those responding to the survey. Answers to open-ended questions that were reported by more than two respondents were grouped together and frequency totals were calculated. Responses that did not occur more than twice were grouped into the category “other”.

## Results

A total of 133 individuals responded to the survey, however, not all respondents answered every question on the survey. Survey methodologists suggest obtaining a sample size of between 30 and 500 with a non-probability sample such as the one represented in the current survey (Alreck & Settle, 1995; Hill, 1998). It is difficult to accurately calculate the response rate due to the survey distribution procedures. For example, the survey was posted to social media groups with anywhere between 500 and 6,000 members. Due to the nature of the social media platform through which the survey was posted (Facebook), it appeared that not all members were able to view the link to the survey unless they navigated to a specific ‘community’ tab within the group’s page. For this reason, it is not possible to calculate the total number of individuals who came across the survey invitation under the community tab. In addition, there is no way to determine how many of the individuals that subscribe to the aforementioned Facebook pages are “active” and check their accounts daily.

Due to the sampling method utilized, it is also difficult to calculate a response rate from the individuals that were emailed because individuals were asked to forward the survey to their colleagues and other SLPs who provide services to individuals with aphasia. The survey link was emailed directly to 827 potential respondents, however, it is difficult to know how many times the survey invitation was shared with others who were not a part of the initial sample.

### Respondent Demographics

Respondents were first asked to report the type of facility they are currently working in. The percent of respondents working in each type of facility are provided in Figure 1. The results

show that respondents are spread across a range of settings with no single predominant facility type identified. 18 respondents reported working in settings that were not provided as multiple-choice options. Responses to ‘other’ included: long-term acute care hospital, telepractice, rehabilitation floor of hospital, community (rehab without walls), per diem in all of the above, adult daycare, assisted living, special needs school, veterans affairs (VA), and aphasia research lab. Respondents were also asked to report on the number of years that they have been practicing as an SLP. A majority of respondents (67.7%) have been practicing for 10 or more years and just 3% have been practicing less than one year. Respondents were then asked in what state they are currently practicing speech-language pathology.

Respondents selected the state in which they are currently practicing from a drop down menu. Responses were then divided by the researchers, into four categories based upon region of the United States, displayed in Figure 2a, as defined by the census bureau (US Census Bureau, n.d.). Regions included the Northeastern United States, the Midwestern United States, the Western United States, and the Southern United States. A majority of respondents currently practice in the Northeast United States (45.3%). The characteristics of the survey respondents are summarized in Table 2 as well as in Figures 1, 2a, 2b, and 3.

Table 2. Respondent demographics

Facility Type	Choice Count
Acute Care Hospital	38
Outpatient Clinic	33
Rehabilitation Hospital	32
University Clinic	29
Other	18
Skilled Nursing Facility	18
Home Health	14

Location	Respondents, %
Northeast	45.3
South	31.7
Midwest	13.7
West	9.4

Experience	Respondents, %
>10 years	67.7
1-5 years	15.8
6-10 years	13.5
<1 year	3

Figure 1. Respondents current place of practice

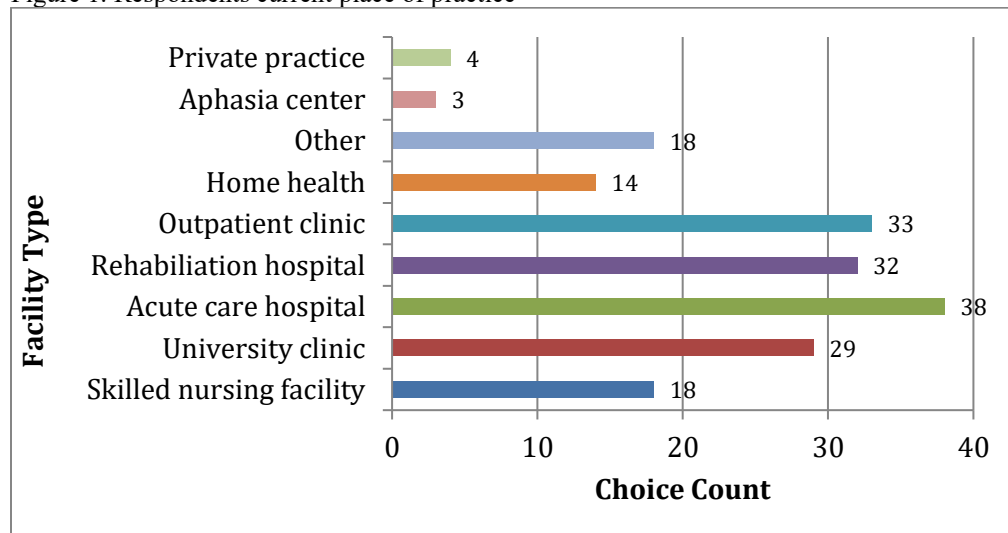


Figure 2a. United States Census Bureau current division of states according to region. Reprinted from [www.census.gov](http://www.census.gov), n.d. Retrieved from [https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us\\_regdiv.pdf](https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf)

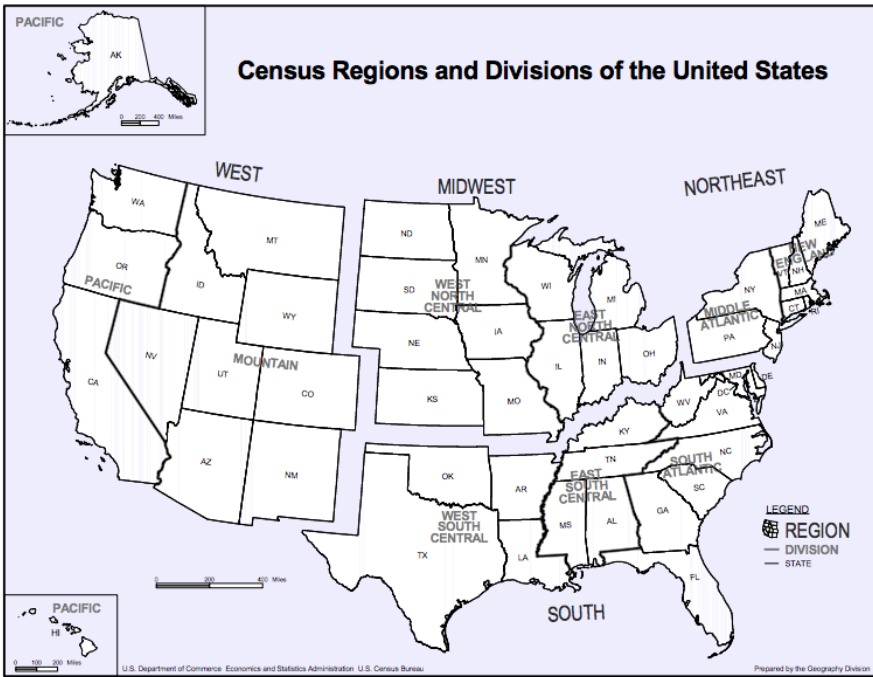


Figure 2b. Region in which respondents are practicing speech-language pathology

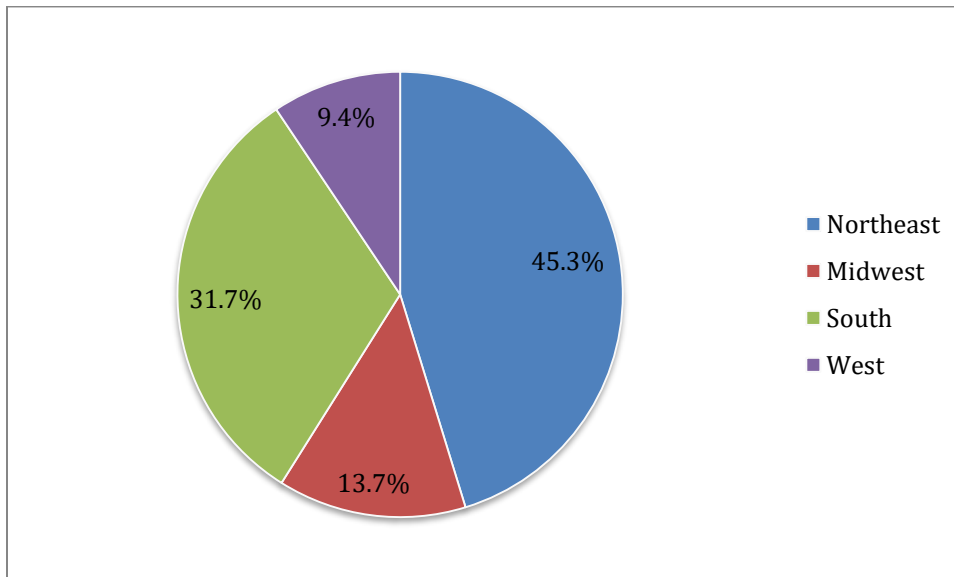
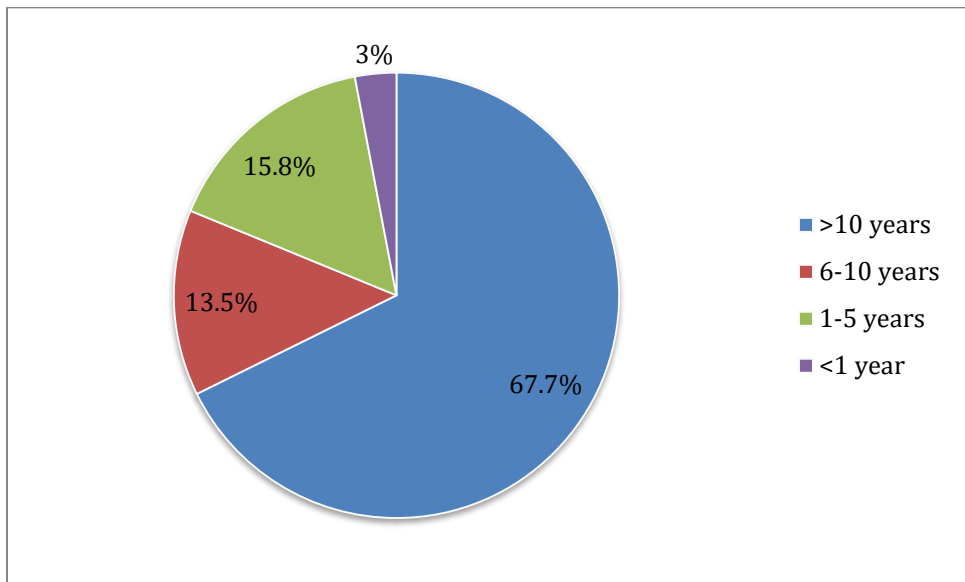


Figure 3. Number of years spent as a speech-language pathologist

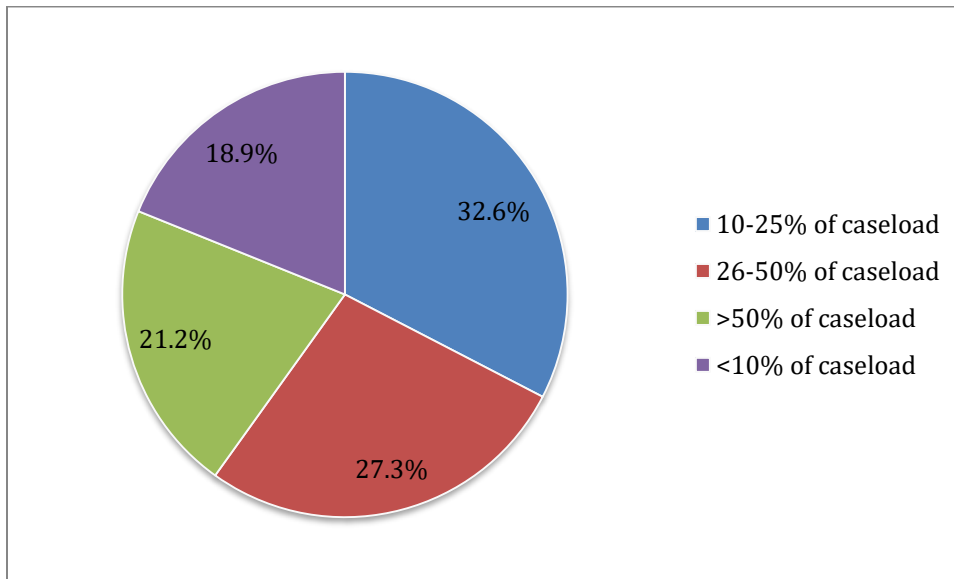


Respondents were asked to indicate what percentage of their caseload is comprised of individuals with aphasia. The largest portion of respondents (32.6%) said that PWA make up between 10-25%. The results from this question are summarized in Table 3 and Figure 4 below.

Table 3. Percentage of caseload comprised of individuals with aphasia

Percentage of PWA on Caseload	Respondents, %
10-25%	32.6
26%-50%	27.3
>50%	21.2
<10%	18.9

Figure 4. Percentage of caseload comprised of individuals with aphasia

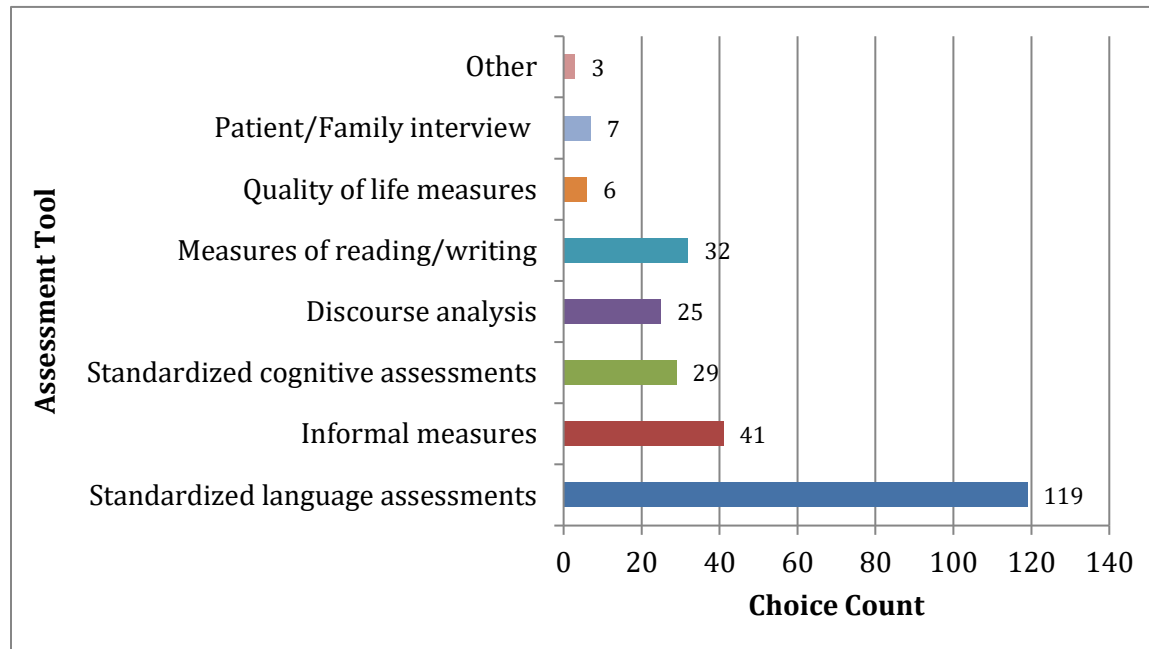


### Assessment

The first question regarding assessment was open ended and respondents were asked to list the standardized assessments and informal assessments that they typically use when assessing people with aphasia in general. The responses were categorized according to common themes among them and the percent of responses that included each type of assessment were calculated. The categories were as follows; standardized language assessments/batteries, standardized cognitive assessments, measures of reading and writing, informal measures, discourse analysis, quality of life measures, patient/family interview, and other. The most commonly used form of assessment was standardized language assessments/batteries indicated by 119 respondents. Use of informal measures was reported by 41 respondents and included various procedures such as picture description tasks, informal reading and writing, and self-designed probes. The 'Other' category, which comprised of 3 responses, included procedures such as patient/family interview and functional skills assessment. Figure 5 provides a summary of the results.



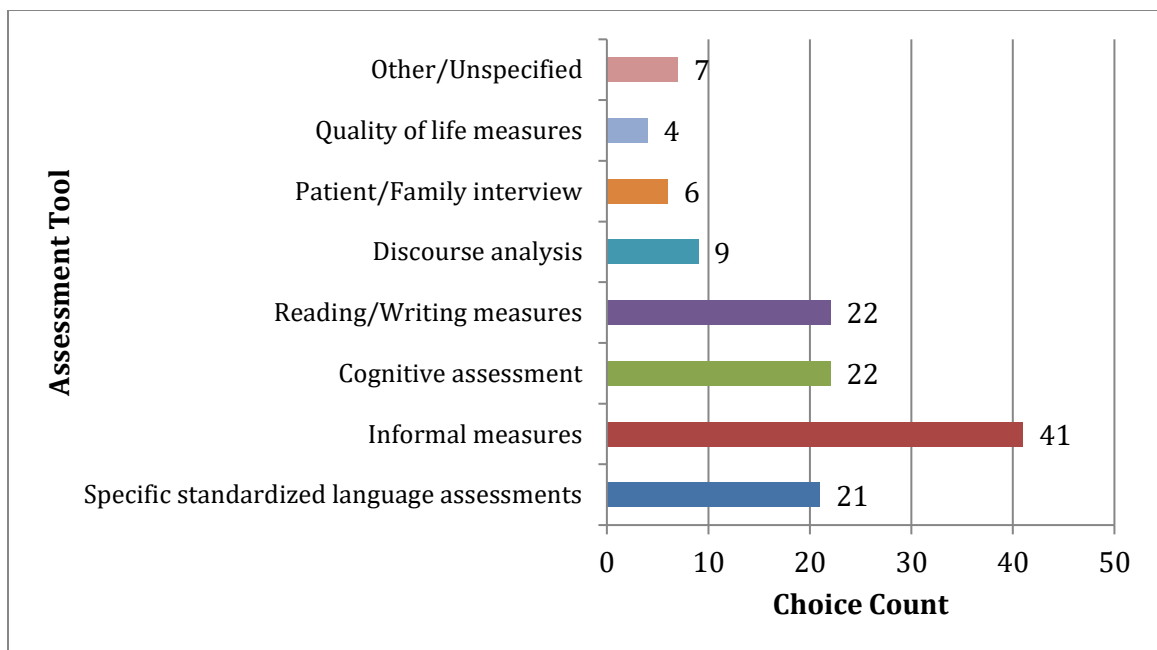
Figure 5. Types of measures used to assess people with aphasia



The following question asked respondents if they tend to use different assessments and activities when assessing individuals with *mild* aphasia. 90.1% of respondents reported using different means of assessment for PWMA. A qualitative content analysis of their responses revealed six major themes. The greatest number of respondents (41) reported a greater focus on informal measures such as informal sequencing tasks, synonym/antonym generation, complex yes or no questions, and email composition. A total of (21) respondents reported utilizing specific language batteries with more complex stimuli. Examples of such assessments included the Boston Naming Test (Kaplan et. al, 2001), the Test of Word Finding in Discourse (German, 1991), F-A-S Verbal Fluency Test (NCCEA; Spreen & Benton, 1977), the Token Test (Renzi & Vignolo, (1962), the Northwestern Naming Battery (Thompson & Weintraub, 2014), and the Northwestern Assessment of Verbs and Sentences (Cho-Reyes & Thompson, 2012). 22 respondents reported an overall greater focus on cognitive assessment. Responses to this

question also revealed a greater focus on self-assessment, such as quality of life measures completed by the patient (4), and patient interview (6), more extensive and diverse discourse sampling methods (9), and a greater amount of reading and writing assessment activities (22). 7 respondents indicated that there are in fact different assessments and activities that they use when assessing PWMA, but did not specify what these assessments and activities included.

Figure 6. Types of measures used to assess people with mild aphasia



Respondents were then asked if there are any factors that may preclude an individual with mild aphasia from being assessed. Common themes derived from the free-text responses included the presence of pre-morbid cognitive deficits; lack of insurance/funding; lack of referral from healthcare provider(s); patient/family denial of deficits; medical complications; patient “missed” by assessment, and ‘other’ which represented responses that did not meet the criteria for the aforementioned categories such as English not being the patient’s primary language. Precluding factors reported by respondents have been summarized in Table 4 and Figure 7. More

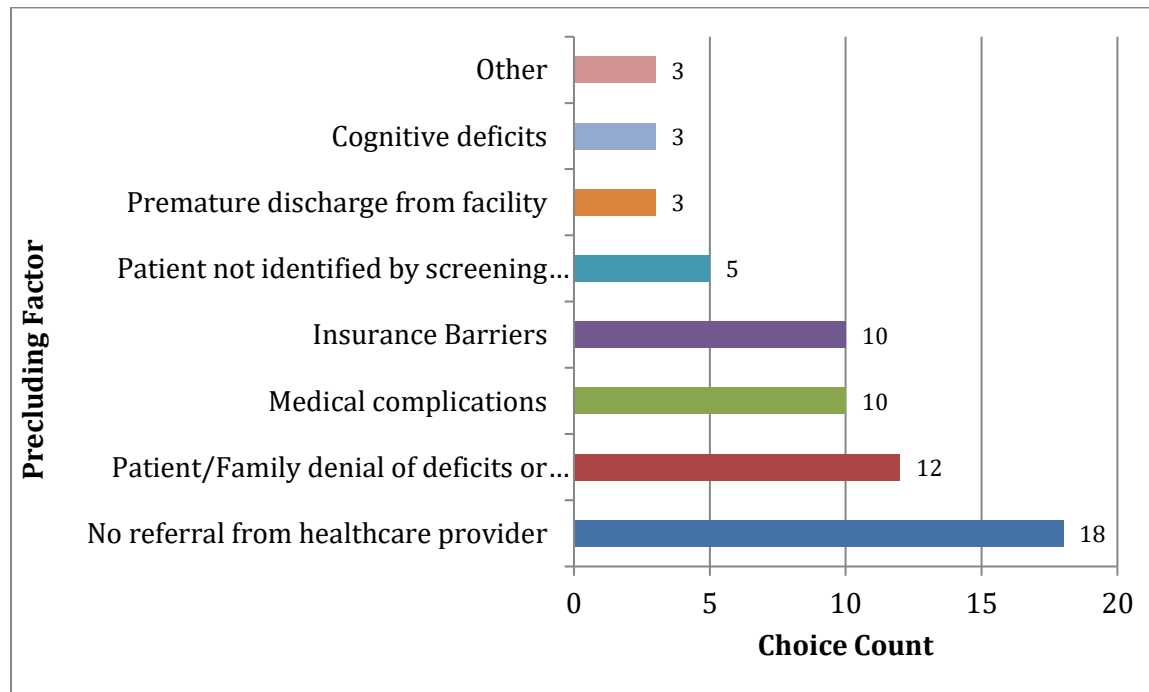
than half of respondents reported that there are no factors that may preclude an individual with mild aphasia from being assessed.

Table 4. Factors that may preclude an individual from being assessed

Precluding Factors	Choice Count
No Referral from Healthcare Provider	18
Patient/Family Denial of Deficits	12
Insurance Barriers	10
Medical Complications	10
Patient not Identified by Screening	5
Cognitive Deficits	3
Premature Discharge From Facility	3
Other	3

Note: 56.4% of respondents reported that there are no factors that may preclude an individual with mild aphasia from being assessed.

Figure 7. Factors that may preclude PWMA from being assessed

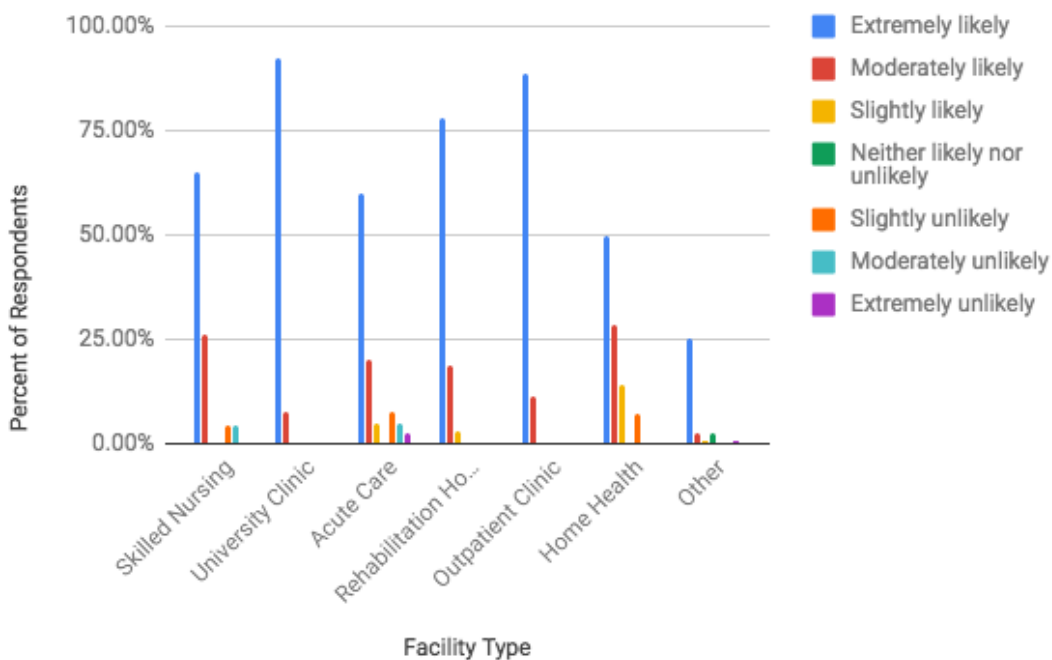


**Treatment**

Approximately one half (45.9%) of survey respondents reported currently working in more than one setting while 54.1% report not working in more than one setting. Respondents were asked to report how likely it would be that a PWMA would become a part of their caseload

based on the types of settings they currently work in. For example, the survey asked, “If a part of your caseload is in a skilled nursing facility, how likely is it that an individual with mild aphasia will become a part of your caseload?”. Settings in which SLPs were most likely to take on a PWMA were in university clinics and outpatient clinics. Settings in which SLPs were least likely to take on a PWMA were in home health and ‘other’ settings than those provided such as VAs and assisted living. Results are summarized in Figure 8.

Figure 8. Likelihood of a PWMA being added to caseload based on facility type



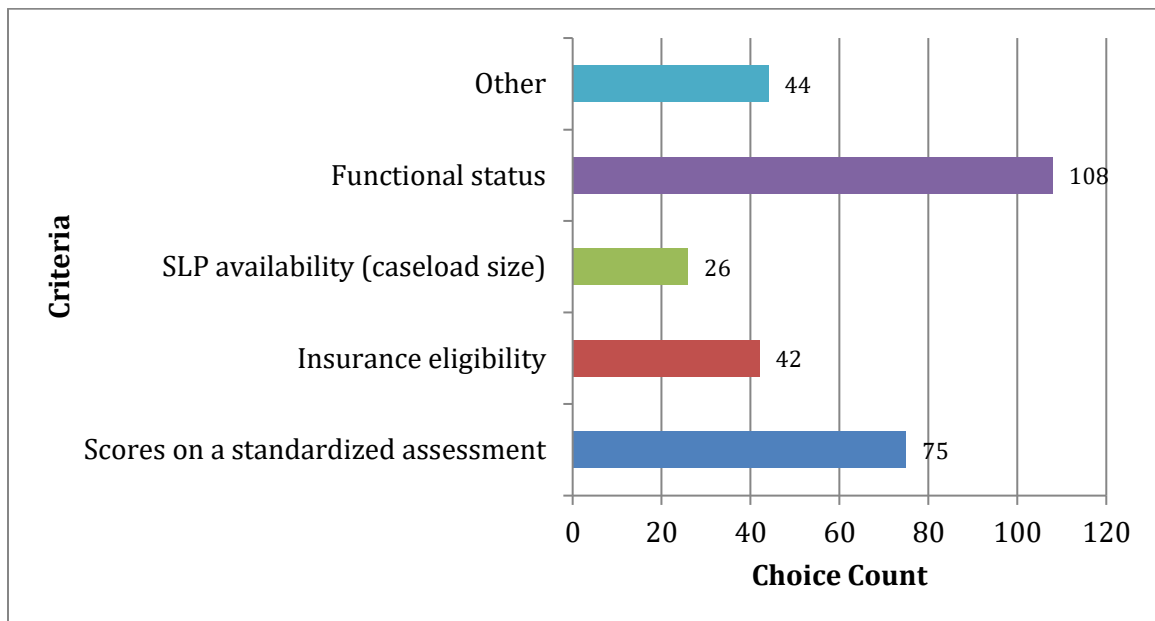
Respondents were asked which criteria are used in determining if an individual with mild aphasia will become a part of their caseload. The greatest portion of SLPs (108) reported that this is determined by the individual’s functional status. Respondents were asked to check all

statements that apply, which gave them the opportunity to select multiple criteria. Additional results are presented in Table 5 and Figure 9.

Table 5. Factors that determine if a PWMA will become a part of clinician caseload

Criteria	Choice Count
Functional status	108
Scores on a standardized assessment	75
Other	44
Insurance eligibility	42
SLP availability (caseload size)	26

Figure 9. Factors that determine if a PWMA will become a part of the clinician caseload



**Treatment**

When asked how many times per week they would provide services to an individual with mild aphasia, the greatest portion of respondents (59.8%) reported providing therapy less than 3 times per week. The most frequently reported treatment session duration was between 46-60 minutes. Only .8% reported that treatment sessions would be greater than 75 minutes. A

summary of the results to question regarding treatment duration and intensity can be found in Figures 10 & 11.

Figure 10. Average frequency of treatment for PWMA

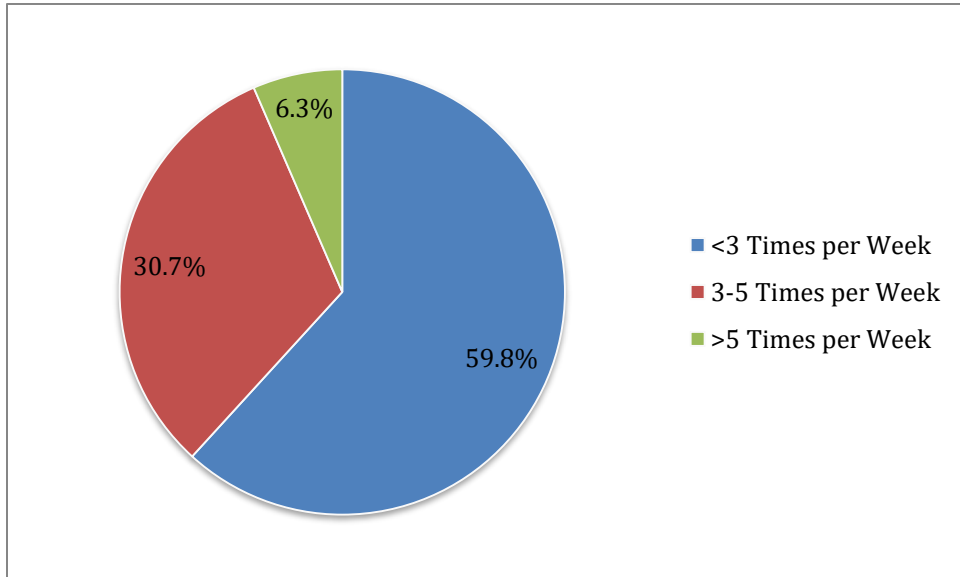
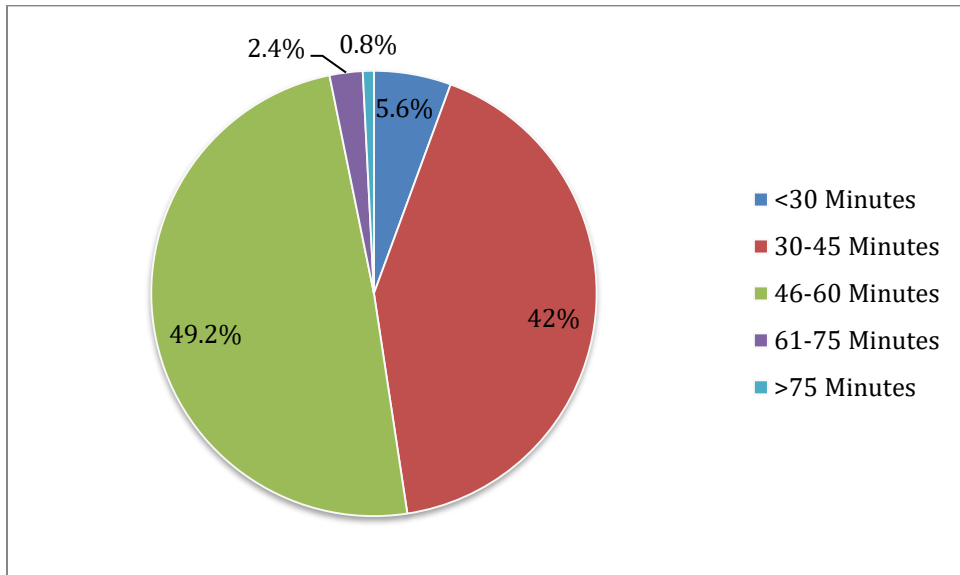


Figure 11. Average duration of treatment sessions for PWMA



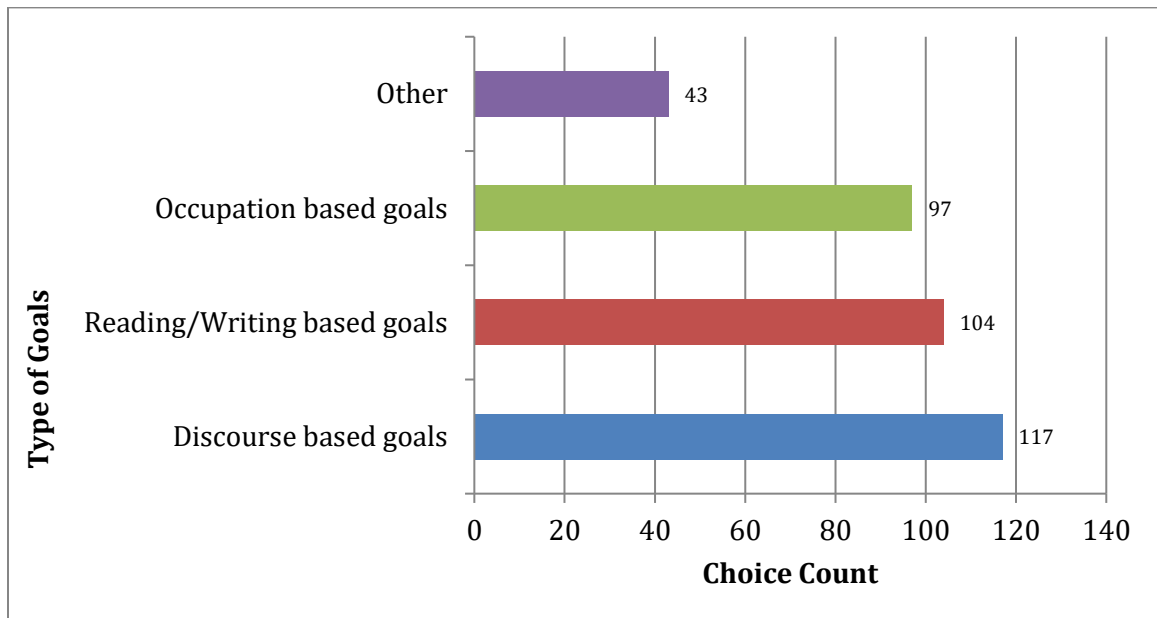
Respondents were asked to select the types of goals that they typically work towards for individuals with mild aphasia. Respondents were able to select multiple types of goals (check all

that apply). A majority of respondents implement various types of goals including discourse-based goals, occupation-based goals, and reading/writing-based goals. The number of times each type of goal was reported is displayed in Table 6 and Figure 12. If respondents chose ‘Other’ a free text box allowed them to enter in the types of goals they typically work towards. The majority of respondents who chose ‘Other’ implement goals based on functional life skills. Respondents also implement word-finding goals, goals based in use of compensatory strategies, social/pragmatic goals, and goals targeting co-occurring cognitive impairments (including executive functions).

Table 6. Treatment goals established by clinicians

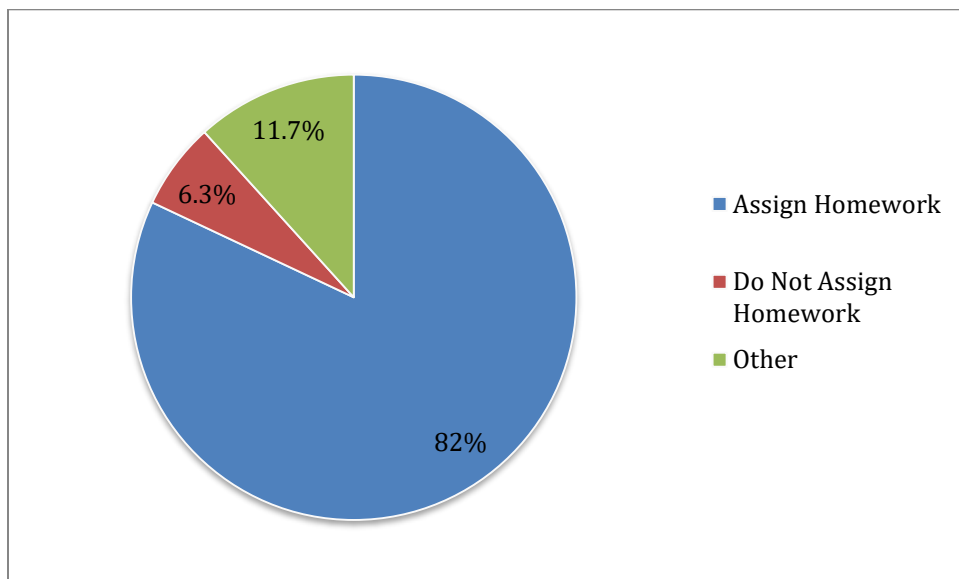
Type of Goal	Choice Count
Discourse based goals	117
Reading/Writing based goals	104
Occupation based goals	97
Other:	43

Figure 12. Treatment goals for PWMA established by clinicians



The following question asked respondents if they typically assign homework to PWMA. Figure 13 displays a summary of the results. A vast majority of respondents (82%) reported that they do in fact assign homework to individuals with mild aphasia. 6.3% reported not assigning homework, and 11.7% who did not choose yes or no, were asked to explain.

Figure 13. Percent of clinicians who assign homework to PWMA



Respondents were also asked to report on what assigned homework usually consists of. From the free-text responses, eight categories were generated. The number of respondents who reported assigning each type of homework, is summarized in Table 7 and Figure 14. Respondents were also asked how the amount of homework given to PWMA compares to the amount of homework given to other clients. The results are summarized in Figure 15 with a vast majority of respondents reporting that they assign the same, or more, homework to PWMA as compared to other clients.



Table 7. Homework assigned by clinician

Type of Homework	Respondents, %
Reading	27
Writing	24
Worksheets	21
Web-based Activities	18
Functional Tasks	17
Verbal Expression	16
Not Specified/Other	15
Communication Log/Journal	7

Figure 14. Type of homework assigned to PWMA

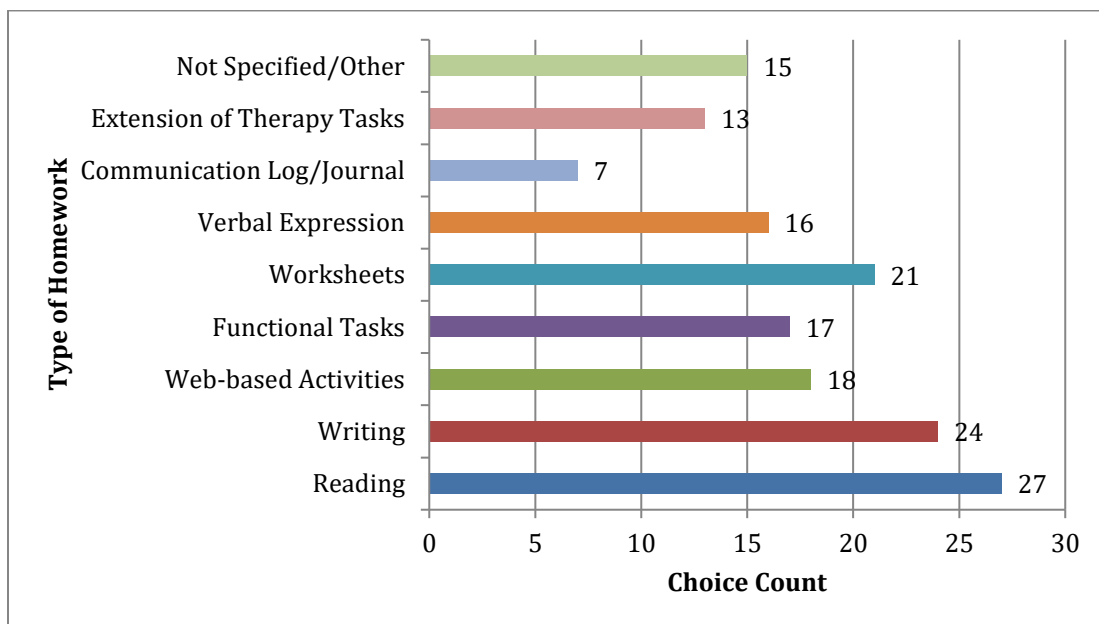
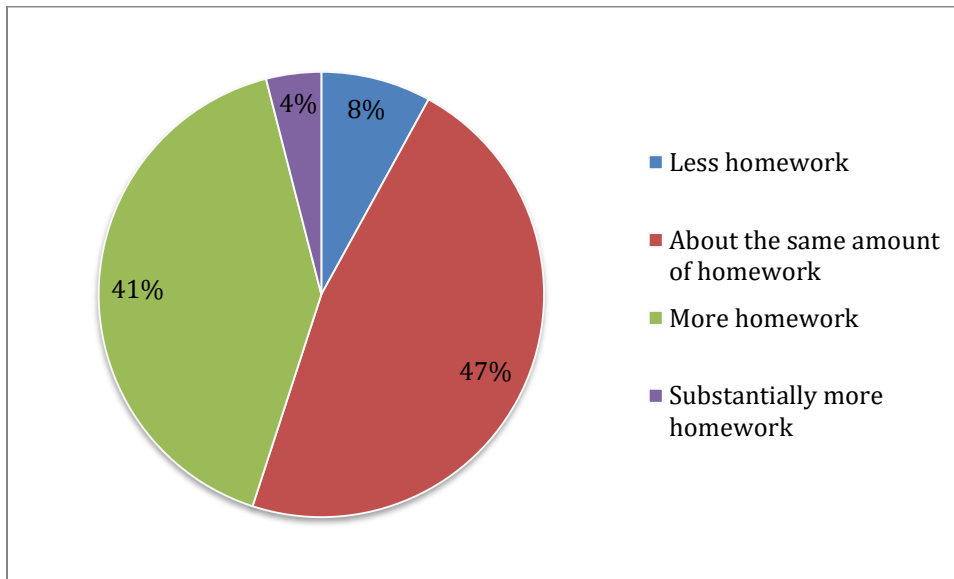


Figure 15. Amount of homework assigned to PWMA as compared to other clients on caseload



Respondents were then asked to respond to various questions regarding the use of technology in treatment of PWMA. Respondents first reported on whether technology plays a role in treatment for PWMA to which a majority of respondents reported that technology is incorporated at least some of the time. Results are reported in Figure 16. Respondents were then asked to select how technology is typically incorporated into treatment. The subsequent results are summarized in Table 8 and Figures 17 & 18. In addition to the options provided, 53 respondents provided additional means of how they incorporate technology, which have been assigned to six different categories. Categories include; Non-aphasia specific applications/programs and programs (12), functional training for use of mobile phone (7), email generation (4), online discussion materials (4), use of assistive technology (8), and unspecified (3).

Figure 16. The frequency of which technology plays a role in treatment for PWMA

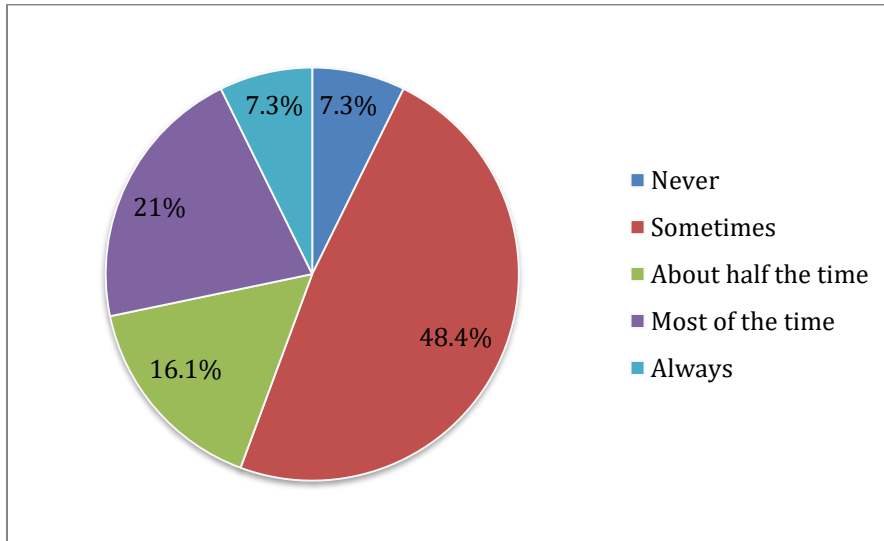


Table 8. Inclusion of technology in treatment of PWMA

Technology Utilized	Choice Count
Applications (Constant Therapy, Lingraphica, etc.)	93
Other	53
Speech-to-Text Features (ie. Supported Communication)	42
Technology is Not Incorporated at This Time	12
Tele-Rehab (check-ins, full treatment sessions)	7

Figure 17. Technology used in treatment for PWMA

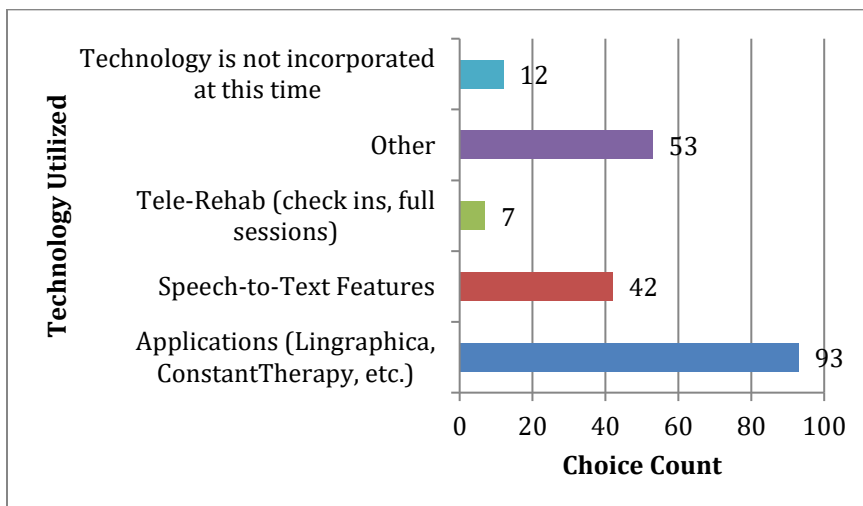
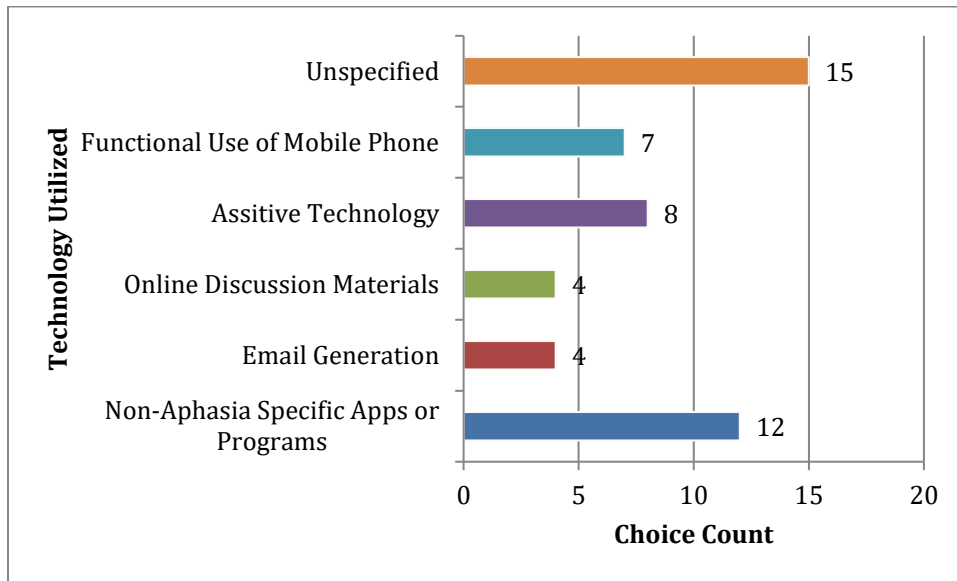


Figure 18. Responses to ‘Other’: Types of technology used in treatment for PWMA

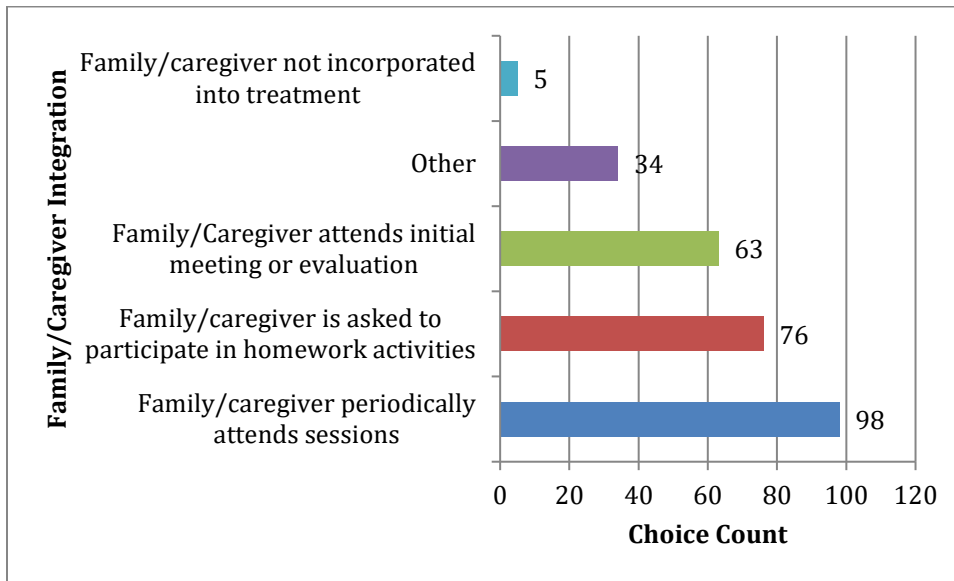


To gain a further understanding of how treatment is provided, respondents were then asked if family members of PWMA are incorporated in treatment and if so, how? A majority of respondents reported incorporating family in treatment of PWMA. The ways in which family is incorporated into treatment varied, and are summarized in Table 9 and Figure 19. Common responses among the ‘other’ category included family observation of sessions, family attends and participates in support groups, and family participates in caregiver training. Respondents were also asked to report on how often treatment is performed offsite. Figure 11 displays the results.

Table 9. Family/Caregiver integration in treatment for PWMA

Family/Caregiver Incorporation	Choice Count
Family/caregiver periodically attends sessions	98
Family/caregiver is asked to participate in homework activities	76
Family/Caregiver attends initial meeting or evaluation	63
Other	34
Family/caregiver not incorporated into treatment	5

Figure 19. Family/Caregiver integration in treatment for PWMA



**Discharge**

Following the questions regarding treatment procedures for PWMA, respondents were asked to report on the typical discharge procedures for PWMA in their care. For the purposes of this survey, this refers to discharge from the services of the SLP responding to the survey not discharge from all speech services. In order to determine when individuals with mild aphasia are discharged as compared to other individuals with aphasia, respondents were asked to complete the following sentence with one of the options provided: “I will tend to discharge an individual with mild aphasia...”. The results from this question are summarized in Figure 20. However, in reviewing the free-text responses provided by those who selected “other”, it became apparent that this particular question may have been misunderstood by participants. For this reason, it is important for readers to know that information gathered from this question may not accurately reflect the thoughts and ideas of respondents.

Respondents were then asked to describe the typical discharge process for individuals with mild aphasia that are in their care. Common themes generated from the free-text responses are likely dependent upon the type of facility and included measures of functional communication, review of goals, family/staff/caregiver education, re-assessment, recommendations for community services, referral to next level of care, assign home program, and arrange maintenance program. The most commonly reported procedure was referring the individual for continuation of skilled services (54) followed by measures of functional communication (31). Table 11 and Figure 21 provide a summary of the results.

Figure 20. Relative discharge of PWMA as compared to individuals with more severe deficits

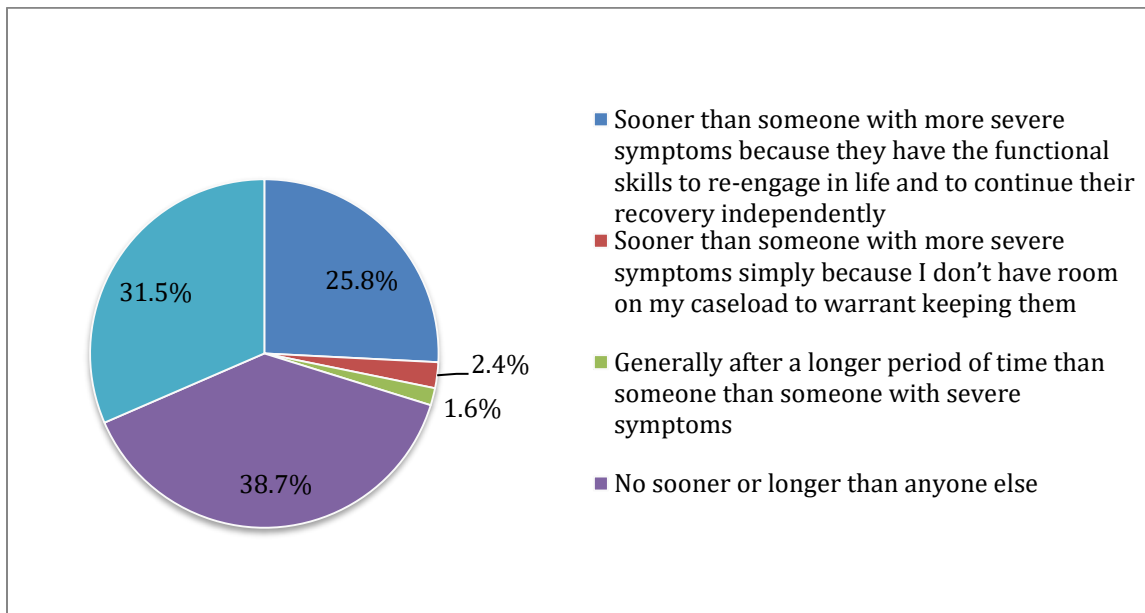
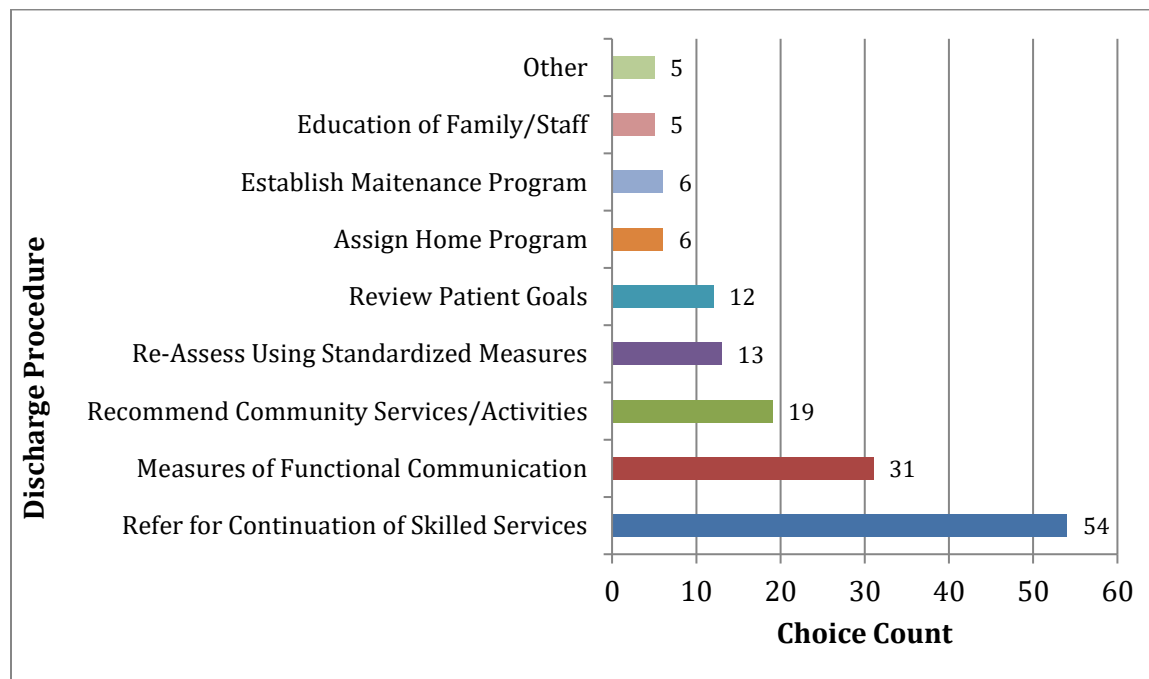


Table 11. Discharge procedures for PWMA

Components Of Discharge	Choice Count
Refer for Continuation of Skilled Services	54
Measures of Functional Communication	31
Recommend Community Services/Activities	19
Assessment/Re-assessment	13
Review of Goals	12
Assign Home Program	6
Establish Maintenance Program	6
Caregiver/Family/Staff Education	5
Other	5

Figure 21. Discharge procedures for people with mild aphasia



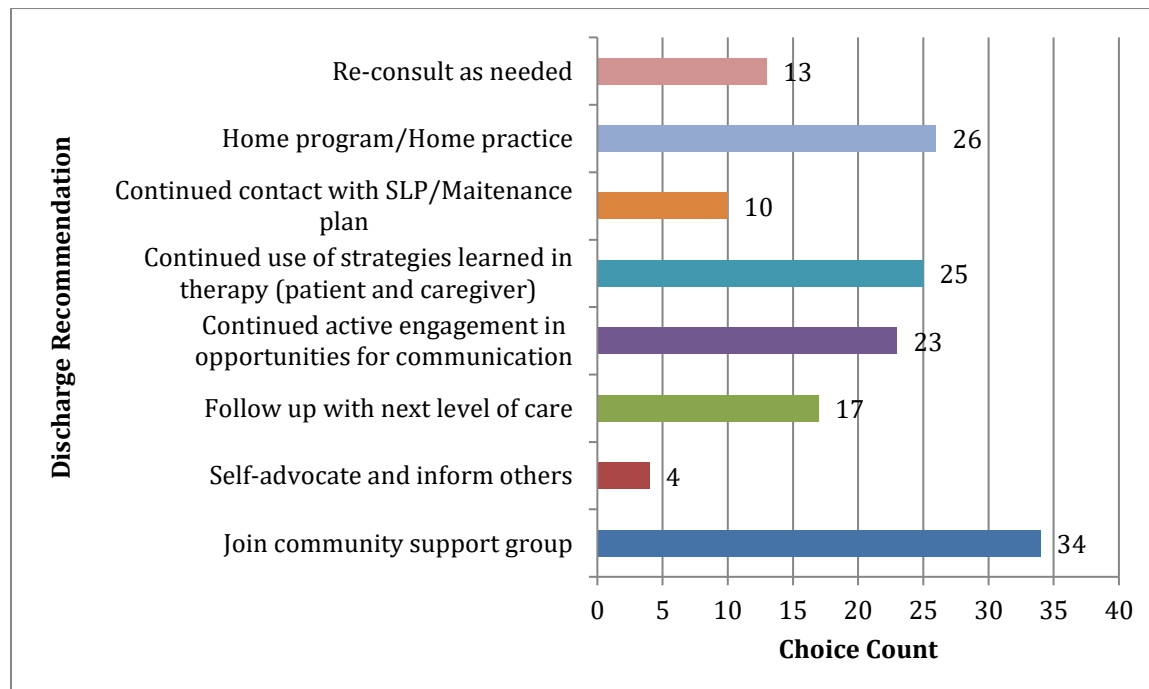
The final question in relation to discharge, asked what recommendations respondents provide for individuals with mild aphasia that are being discharged from their care. The answers provided to this question were closely related to the information gathered in the previous question regarding discharge procedures. Many of the same themes were observed among the free-text responses to both questions. The results are displayed in Table 12 and Figure 22 below. Overall, it appears that SLPs are recommending that PWMA continue to pursue communication

opportunities with others and continue to use the compensatory strategies learned in therapy to aid in their communication. Many clinicians are also recommending continued home programs and continued contact with the treating SLP.

Table 12. Discharge recommendations for PWMA

Recommendation	Choice Count
Join Community Support Groups	34
Continued Home Program	26
Use of Strategies Learned in Therapy (Patient and Caregiver)	25
Continued Active Engagement in Opportunities for Communication	23
Follow-Up with Next Level of Care	17
Re-consult as Needed	13
Continued Contact with SLP	10
Self-Advocate and Inform Others	4

Figure 22. Discharge recommendations for PWMA



The final, and possibly the most telling, question of the survey asked respondents what they need in order to better serve this population. Respondents were asked to check all options

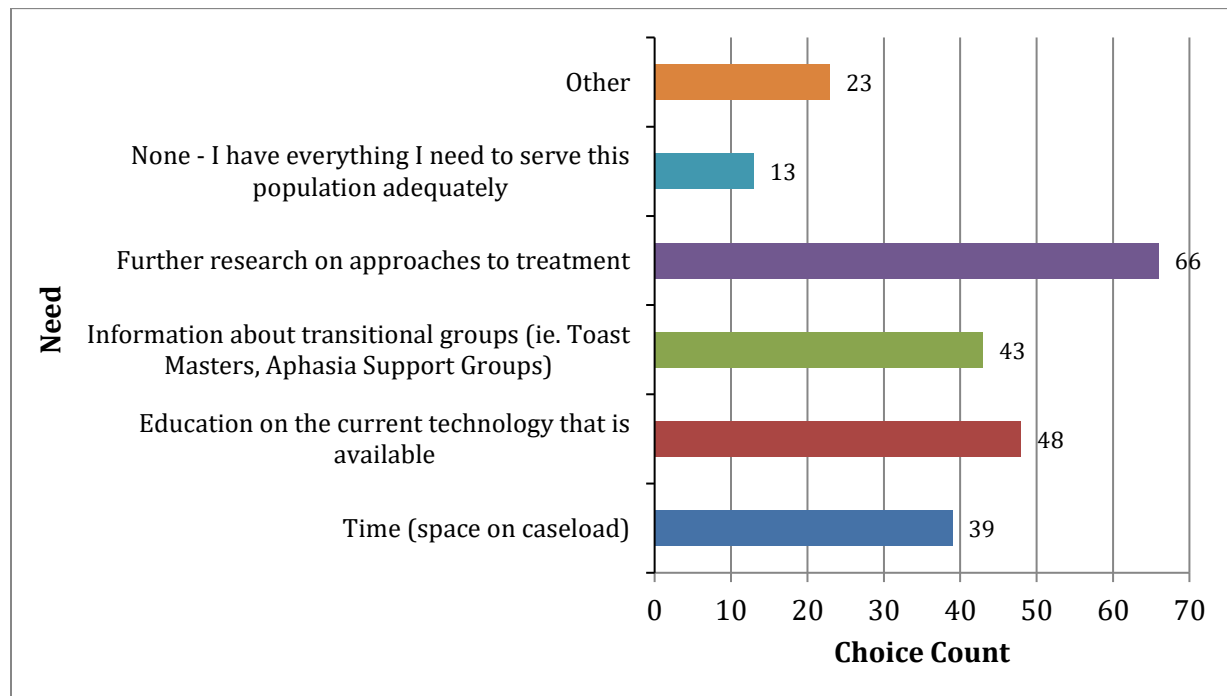


that apply and also to explain if they chose ‘other’. Based on the responses, it appears that the most current need is assessment tools that are designed to target the language of mildly aphasic individuals followed by the need for additional resources. Referrals from medical professionals, access to technology, insurance approval, and updated research on mild aphasia, were ranked similarly by respondents. The results from this question are summarized in Table 13 and Figure 23, below.

Table 13. Current needs of SLPs providing services to PWMA

Current Need	Choice Count
Further Research on Approaches to Treatment	66
Education on Current Technology Available	48
Information About Transitional Groups	43
Time (space on caseload)	39
Other	23
None	13

Figure 23. Current needs of SLPs providing services to PWMA



### Discussion

The idea for current research survey stemmed from multiple conversations with people who have mild aphasia. The University of Connecticut conducts weekly “Book Club” meetings for PWA. Between the two book clubs, 10 of the participants would be classified as having mild aphasia. In all 10 cases, the individual has, at some point, independently expressed dissatisfaction with the therapeutic process. Specifically, they view standardized tests as having little relevance; they want to work on getting back to “normal”; they feel desperate to be understood and they often feel disregarded by professionals who say, “you are too high level, you’ll be just fine” or “there’s nothing more I can do.”

Indeed, current published literature does little to differentiate this population. There is some emerging evidence that assessment is insufficient but very little is published on the need for specific treatment.

Despite oftentimes being considered “functional communicators,” PWMA present with a range of deficits that continue to affect them in their daily lives (Hicken et al., 2015; Gober, 2013; Cruice, Worrall, & Flickson, 2006; Elman & Bernstein-Ellis, 1995; Marshall, 1993; Raymer and Lapointe 1986, Wertz 1998). People with mild aphasia are unique in that their goals often include returning to work (Elman, 2007) and with this goal in mind, SLP involvement is certainly warranted. SLPs should recognize that PWMA may have different needs than individuals with more severe aphasia and these needs are no less pressing. Acknowledging these differences that set PWMA apart is a first step in developing appropriate assessment, treatment, and discharge protocols.

## Survey Responses

The present study aimed to gather preliminary information regarding the current assessment, treatment, and discharge practices of speech-language pathologists involved in providing services to individuals with mild aphasia. For several questions, an open-ended format was utilized so as not to limit respondents to a set of predetermined categories that may reflect the biases of the investigators. The goal of such questions was to find the categories that reflect the actual opinions and practices of SLPs currently in the field. Responses to both the open and closed ended questions, revealed diverse procedures across domains with a number of common themes being identified throughout. Responses to demographic questions revealed that a majority of respondents were SLPs across the Northeastern United States with greater than 10 years of experience, representing a variety of workplace settings. SLPs reported using a variety of tools and activities to assess people with aphasia including both formal, standardized measures, as well as informal measures. In assessing people with mild aphasia, SLPs reported a greater tendency to use informal measures; likely a result of standardized assessments being unable to capture mild deficits. SLPs were also more likely to perform more in depth cognitive and literacy evaluations.

Respondents identified a number of factors that may preclude an individual with mild aphasia from being assessed with the most commonly reported answer being 'lack of (doctor) referral for services.' With the very limited context offered by the closed-ended format of this question, one might also interpret this response to mean that PWMA were not referred at the previous level of care. Functional status, insurance eligibility, SLP caseload size, and scores on standardized assessments were all determined to be factors in determining if a PWMA will become a part of the SLP's caseload. Respondents reported establishing a variety of goals for

their patients with mild aphasia including discourse-based goals, occupation-based goals, and reading and writing-based goals. A majority of respondents reported incorporating technology into treatment through the use of both aphasia and non-aphasia apps, speech-to-text features, tele-rehab, and other specified modes. Reports of family involvement varied considerably, with some respondents reporting no family involvement in treatment and others reporting family actively participating in treatment sessions or attending caregiver training. Discharge procedures reported by SLPs focused on increasing or maintaining social language opportunities as well as continued use of therapy techniques in the form of home programs. Results from the survey outline a number of possible factors that may be limiting SLP involvement in providing services to PWMA. These factors include but are not limited to; a lack of adequate assessment tools for identifying subtle language deficits, a lack of education in other healthcare professionals as it pertains to mild aphasia, and limitations of funding and caseload size.

SLPs in university clinics and outpatient clinics were the most likely to have PWMA become a part of their caseload. This is surprising as one might expect that the likelihood of providing services to individuals with mild aphasia to be consistent across rehabilitation, acute care, and outpatient settings. These results, however, may indicate that individuals are being diagnosed later on in their recovery process. In addition, it is possible that SLPs in a university setting may be more likely to respond to a research survey, which may have had an effect on the responses to this question. If that were the case, then this would then be an example of response bias. Response bias and its effects on the survey data are discussed in further detail in subsequent sections. SLPs in acute care settings were less likely to take on patients with mild aphasia. This is likely a result of the brief screening procedures used by SLPs in acute care which we suspect may not be sensitive enough to detect the subtle language and cognitive deficits that are seen in

mild aphasia. This may also be a result of the need to prioritize when their caseload is at capacity. Over the past few decades, the average length of stay in hospitals in the United States has been decreasing steadily (OECD Health Statistics, 2017) reflecting a nationwide campaign to discharge patients as quickly as possible. While prompt discharge from the hospital decreases insurance spending and has also been linked to decreased incidence of hospital acquired infections, we speculate that this may result in missed diagnoses of mild aphasia.

### **Assessment**

The current survey also gave respondents an opportunity to discuss the factors that they believe may preclude an individual with mild aphasia from being assessed. One of the most commonly reported responses to this question was ‘lack of medical doctor referral’. It is important that SLPs fulfill their role as members of a multidisciplinary team through collaboration with other professionals as outlined by the ASHA Scope of Practice. It is the responsibility of the SLP to consult with other professionals in order to meet the needs of individuals with communication and swallowing disorders (American Speech-Language-Hearing Association [ASHA], 2016). It is important that physicians and other medical professionals be educated on the subtle ways in which mild aphasia may present itself. Additionally, education should be provided on the importance of thorough assessment following stroke, as more minor deficits can often be overlooked. Education of medical professionals can take the form of medical student orientations, for example, during which SLPs provide information on their role in the given setting with additional information about mild aphasia and what signs to look for. In addition, when screenings are conducted by other professionals, it is then the responsibility of the SLP to consult with these professionals regarding the results (ASHA, 2016). We speculate that in

situations where collaboration occurs, it is less likely that a patient's deficits would be missed or overlooked.

Unfortunately, even when an appropriate referral is made, it is not necessarily obvious as to how to manage the recovery of PWMA. Most of the evidence base in aphasia rests on those skills needed to manage the moderate-to-severely impaired patient with obvious deficits of communication. Studies have shown that standardized language assessments may not be sensitive enough to identify deficits in people with aphasia. This is especially true in PWMA who often perform so well on standardized assessments that their aphasia is not recognized. Results from the current study indicate that SLPs are commonly utilizing assessments such as the Boston Diagnostic Aphasia Examination (Goodglass and Kaplan, 1983) or subtests from a range of assessment tools to determine an individual's current level of function. Many of these assessments, however, are not sensitive enough to detect mild impairments (Raymer & LaPointe, 1986; Ross and Wertz, 2004). One assessment that has been found to be effective in identifying subtle language impairments in PWMA is the Token Test (De Renzi & Vignolo 1962). Studies have found that the Token Test is especially useful in detecting syntactic deficits in PWMA (Raymer & Lapointe, 1986). Additional diagnostic information can be gained from also observing the time in which it takes individuals suspected of having mild aphasia to complete the assessment; a reflection of their sentence processing abilities (Raymer & Lapointe, 1986). Due to its sensitivity, the Token Test may serve as an advantageous alternative to assessment for PWMA.

Results from the current study also reveal that in order to gain a comprehensive understanding of the client's strengths and weaknesses, many clinicians are turning to informal assessment techniques such as role-play and picture descriptions. A recent scoping review of the

informal assessment literature revealed a number of themes related to the use of current informal methodologies (Thomson, Gee, Sage, & Walker, 2018). Thomson and colleagues found that frequently, several informal measures are being used to explore a single aspect of communication which they suggest may be a result of the lack of consensus on how to best establish performance for a given communicative function. In addition, they report that there is limited information on when to potentially use a given method or what the suggested procedure is in terms of administration, documentation, and analysis. In fact, some of the most common informal measures have limited or no information provided on how they are analyzed. For example, no explicit information is available on how to document or analyze information gathered from a simulation or role-play activity. Information from Thomson et. al., is useful in informing clinicians' decision to utilize informal assessment measures in diagnosing individuals with suspected mild aphasia.

One method of informal assessment that is supported by the literature in regard to administration and analysis is discourse analysis. The discourse analysis procedures investigated by Marini et al. (2011) show compelling evidence for the analysis of various aspects of language including productivity, lexical and grammatical processing, narrative organization, and informativeness. This study provides support for the use of discourse analysis, and more specifically multilevel discourse analysis, to provide useful information about the language of PWMA that would not otherwise be captured in standardized assessments. Multilevel discourse analysis assesses discourse along lower-level stages (e.g. syntactic structures, cohesion) and higher-level stages (e.g., relevance, coherence, well-formedness) (Sherratt, 2007). An alternative discourse analysis procedure includes counting Correct Information Units (CIUs) from which we can reliably calculate measures of efficiency and informativeness of the connected speech of

adults with aphasia (Nicholas & Brookshire, 1993). The results from the present study show that a relatively small number of SLPs are utilizing CIU and discourse analyses in assessing mild aphasia. Due to the sensitivity of such measures, they may also be useful for quantifying more modest treatment-based improvements that may be missed by aphasia or language assessments (Hussmann et al., 2012), making them an invaluable resource for tracking an individual's progress.

Information from the current study has helped to identify areas in which assessment practices for PWMA have fallen short. There are a number of factors that are preventing PWMA from being assessed. Due to a lack of appropriate assessment tools, clinicians are turning to informal assessment measures to help pinpoint subtle language deficits.

## **Treatment**

In their 2005 position statement, the American Speech-Language-Hearing Association stated that audiologists and speech and language pathologists should incorporate the principles of evidence-based practice (EBP) in clinical decision making to provide high quality clinical care (ASHA, 2005). "The term *evidence-based practice* refers to an approach in which current, high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions" (ASHA, 2005). Although clinicians are expected to use evidence-based practice, there is limited EBP available to support treatment approaches for PWMA. Lack of evidence-based approaches forces clinicians to formulate their own treatment plans with the resources that they have available to them. Although these plans may be tailored to fit the needs of the individual, their efficacy may not be supported by research.



In order to determine the most efficacious treatment approach for this population, additional research in the form of treatment studies is required. Ideally, these studies would include experimental groups consisting of *only* PWMA since many of the current studies either have very few participants with mild aphasia or are structured as only single case studies (Milman, 2016; Hickin, Mehtaa, & Dipper, 2015). By having an experimental group comprised of only PWMA, researchers would be able to determine if current treatment approaches, such as Verb Network Strengthening Training (Edmonds, Nadeau, & Kiran, 2009), are effective for this population. Limited research has been devoted to trialing these treatment approaches with a large number of PWMA, so at this point, it is difficult to know if their results can be generalized.

In addition to determining the efficacy of current treatment approaches for PWMA, it is also important to determine if, or how, certain factors will influence treatment; one such factor is treatment dosage and intensity. There is a growing body of evidence in favor of intensive treatment for people with aphasia (Brady, Kelly, Godwin, Enderby, & Campbell, 2016) however learning studies in healthy students favor distributed learning (Son & Simon, 2012). At this time, it is unclear which would be better suited for PWMA. Future research to determine if PWMA benefit from the same intensity (frequency) of therapy would be warranted. Additional factors that have been found to influence the effectiveness of treatment among people with aphasia in general include: Motivation of the patient, stimulus selection, the cueing hierarchy utilized, and the availability of a practice partner (Hillis, 1998). Additional research is needed to explore these factors as they relate to PWMA in order to determine the most suitable treatment frameworks.

In addition to analyzing the current treatment approaches that are available, newly developed treatment options should also be explored. These treatment approaches should be specific to the needs of PWMA. For example, a treatment approach that focuses on returning to

work may be beneficial as evidence tells us this is something that PWMA often struggle to accomplish (Marshall, 1993; Aphasia Recovery Connection Facebook Page; n.d.; Talk Aphasia Facebook Page, n.d.). Additional treatment approaches to trial may also include those that focus on improving reading and writing skills. A study by Kjellen, Laakso, and Henriksson (2017) not only confirms the presence of reading and writing deficits in PWMA through interviews with participants, but also provides general themes that are important in the design of reading and writing based interventions. An additional approach that should be considered for PWMA is the self-management approach which requires individuals to take responsibility for their own care (including seeking information, managing symptoms, addressing psychosocial issues, etc.) (Nichol, Hill, Wallace, Pitt, Baker & Rodriguez, 2019). Although no specific self-management framework has been developed and applied to aphasia, its success for various other chronic conditions makes it a promising alternative intervention for PWMA who possess the self-efficacy required for success. Information gathered from these studies can be used to further develop such interventions that can then be trialed in treatment studies.

## **Discharge**

According to a study conducted by Hersh (2009), discharging patients with aphasia is a difficult process for speech and language pathologists and is often characterized by breakdowns in communication during discharge negotiations (Hersh, 2009). A 2007 study by Hersh revealed that the discharge process is a difficult for individuals with aphasia as well, as they often had feelings of uncertainty and confusion surrounding discharge (Hersh, 2007). With limited research in the field that pertains specifically to discharge of PWMA and a limited discussion of

the topic in clinical training programs (Hersh & Cruice, 2010), deciding when and how to properly discharge PWMA can be a challenge.

A portion of respondents (25.8%) reported discharging PWMA sooner than someone with more severe symptoms because they have the functional skills to re-engage in life and to continue their recovery independently. Only 2.4% of respondents reported discharging PWMA sooner than individuals with more severe symptoms due to their caseload size. This is an interesting finding as one might predict that prioritization of more severe cases would likely influence sooner discharge of PWMA, however, this does not seem to be the case. This evidence is promising as it shows that discharge decisions for PWMA are not being based on extraneous factors such as caseload size.

Many PWMA continue to struggle with daily tasks and may not be fully prepared for discharge and for this reason, care must be taken to ensure the use of a supportive discharge plan. Support may come in the form of “check-ins” every few months that would give the individual an opportunity to connect with the clinician and discuss their progress. A supportive discharge plan may also include collaboration between the client, the SLP, and the client’s employer and may involve making any necessary changes to the client’s work environment if returning to work is something they hope to accomplish.

### **Study Limitations**

While using an online questionnaire for data collection purposes is a cost-effective way to reach a large numbers of individuals, there are certain limitations to this method which should be noted. One such limitation is response bias which refers to the conditions or factors that take place during the survey process that affect the way answers are provided (Lavrakas, 2008). The

current survey about mild aphasia was advertised via email and social media so a vast majority of the respondents are the SLPs who are particularly interested in mild aphasia. Those who do not understand mild aphasia as a concept or do not feel they know what to do with PWMA may be less likely to respond. Consequently, respondents to this survey likely represent SLPs with the knowledge and skill base needed to serve this population rather than SLPs as a whole. In addition, respondents may feel pressured to provide answers that are socially acceptable. In the present study, the data could have been influenced by participant's ideas of ideal assessment, treatment, and discharge practices for PWMA and their desire to produce the 'correct' answers. An attempt was made to control for response bias by maintaining each respondent's anonymity in hopes that they would answer truthfully without risk to their professional image. Additionally, piloting of the current survey provided an opportunity to eliminate confusing questions and reword them in a way that was more understandable. Despite taking these measures, however, it is possible that response bias may have had an effect on the results. For example, although the respondents knew that their answers to the survey questions would be anonymous, it is possible that they wanted to provide answers that reflected 'best practice' as to meet the needs of the current research.

Another limitation of online surveys is the potential for low response rates. Because the survey is not being administered face-to-face, many individuals may be less motivated to complete it. One way in which we attempted to increase response rate was to send out a reminder email two weeks after the initial invitation to participate, which did yield an increase in the number of responses in this case. Another potential limitation should also be noted; 67.7% of survey respondents have been in the field for greater than ten years. This poses a potential bias as the answers to the survey questions could be greatly impacted by the amount of experience that a

clinician has. An SLP that has been practicing for twenty years may use a variety of assessment tools while a new clinician may tend to use the assessment tools that are readily available in their work environment as they may be unfamiliar with all of the potential options. In the future, it may be beneficial to bring the survey to SLPs in their work environment to increase response rate and to receive feedback from all SLPs - not just those particularly invested in aphasia and not just those who have been in the field for longer periods of time. It may also be beneficial to create two individual links to the survey; one to be posted on social media and in forums, and one to be sent via email to potential respondents. Because the same anonymous link was utilized in distribution of the survey, we are unable to differentiate between those who responded to the email and those that responded to the social media link. The validity of the current survey has been strengthened by conducting a pilot study in which individuals working as SLPs in various settings (ie. university clinic, acute care, skilled nursing facilities) reviewed the content and format of the survey questions.

### **Future Research**

The varied ways in which mild aphasia affects individuals, and the complex nature of the assessment, treatment, and discharge processes, suggest that developing a single approach to service is quite unrealistic. Rather, information gathered from the current survey can be used to guide the formation of guidelines and principles for providing services to individuals with mild aphasia. Although the current survey touched upon the three pillars of service (assessment, treatment, discharge), more detailed information would be beneficial in developing these guidelines.

**Conclusion**

Future research should be targeted at eliminating barriers to assessment for PWMA to ensure that no individuals are “slipping through the cracks”. In assessing these individuals, more sensitive standardized measures are needed in order to detect the subtle deficits that are affecting this population. Future research should also aim to develop evidence-based treatment guidelines through trialing current treatment methods with large groups of PWMA as well as through trialing new, innovative methods, more specific to the higher level needs of this population. Research aimed at determining the most suitable discharge practices that result in the most successful recovery for PWMA would also be beneficial to the field. There is still much to learn about how we can best serve individuals with mild aphasia, a population with unique needs and potential for job re-attainment, a population that deserves equal attention from clinicians and researchers alike.

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## Appendix A: Electronic Mail Correspondence Sent to SLPs

Dear (future) Colleagues,

My name is Andrea Pascariello and I am a UConn graduate student reaching out in hopes that you will aid in my investigation of services provided to individuals with mild aphasia by filling out a brief survey. Responses to the survey will remain completely anonymous. Please take approximately 10 minutes of your time to complete the survey via the link provided below.

The information you provide in the survey will help to inform practice and potentially improve the services that people with mild aphasia receive from speech-language pathologists. I ask that you please distribute the link to this survey to other speech-language pathologists within your network if possible.

Link to Survey:

[https://uconn.co1.qualtrics.com/jfe/form/SV\\_1Tx67hlOpyWaskd](https://uconn.co1.qualtrics.com/jfe/form/SV_1Tx67hlOpyWaskd)

Thank You,

Andrea Pascariello, graduate student

[Aphasia Rehab Lab](#)

Department of Speech, Language, and Hearing Sciences

University of Connecticut

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## Appendix B: Survey Information Sheet

Information Sheet for Mild Aphasia Survey

Principal Investigator: Jennifer Mozeiko

Student: Andrea Pascariello

Title of Study: A Survey of Speech-Language Pathologists regarding the services they provide to people with mild aphasia

You are invited to participate in this survey of speech-language therapy services provided to individuals with mild aphasia. I am a graduate student at the University of Connecticut and I am conducting this survey as part of my coursework. I am interested in finding out the approach that speech-language pathologists take in the assessment, treatment, and discharge of individuals with mild aphasia.

Your participation in this study will require completion of the attached questionnaire. This should take approximately 10 minutes of your time. Your participation will be anonymous and you will not be contacted again in the future. You will not be paid for being in this study. After completing this survey, you will have the option to enter a drawing to receive a \$100 Amazon gift card. Taking part in the drawing is completely optional and will require you to share your email address though this will not be linked in any way to your survey responses. This survey does not involve any risk to you. Benefits of your participation may help increase knowledge about the current practices in the service of individuals with mild aphasia. Completing this survey may help identify gaps in care for this population, and in turn, will aid in identifying needs and in creating awareness such that SLPs are best equipped to provide services to those with mild aphasia.

You do not have to be in this study if you do not want to be. You do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project or if you have a research-related problem, you may contact me, Andrea Pascariello (graduate student) at [andrea.pascariello@uconn.edu](mailto:andrea.pascariello@uconn.edu) or my advisor, Jennifer Mozeiko (PI) at [jennifer.mozeiko@uconn.edu](mailto:jennifer.mozeiko@uconn.edu). If you have any questions about your rights as a research participant you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

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- Please check this box to indicate that you have read this information sheet (1)
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