CLINICAL BOTTOM LINE:
There is significant variability in clinical practice regarding aphasia assessment across the continuum of care.

Speech Pathologists frequently report using informal, non-standardised individualized assessments to assess people with aphasia. Although norm-referenced quantitative and qualitative assessments are considered valuable to diagnose aphasia and to highlight specific areas of language difficulty, these may not be realistic in a clinical setting due to time constraints, co-morbidities or other health issues, patient fatigue and tolerance. Some research has indicated standardised assessments may not fully identify functional communication skills and therefore may not address a patient's specific areas of concern. In addition, norm referenced aphasia assessments may not be considered appropriate for culturally and linguistically diverse (CALD) populations. Informal, dynamic assessment is considered by most clinicians a thorough way to assess a patient's everyday functioning, and identify patient specific needs.

A number of published assessment tools have shown merit in terms of efficiency and efficacy of assessment (see Results section). Unfortunately, research is limited and it is difficult to clearly define the most suitable assessment for use with any one patient, secondary to high variability and needs of individuals. Access to assessments within the clinical setting varies from site to site, and has been identified as a challenge by practicing clinicians.

Within Australia, of the commonly used standardised tools used by Speech Pathologists to assess aphasia the Western Aphasia Battery (WAB) and the Frenchay Aphasia Screening Test (FAST) are considered the only validated tests for use post stroke. However, these assessments may not be suitable for all patients.

Consequently, there is no 'one size fits all' approach. It is recommended that:
- All patients who have had a stroke are screened for communication deficits
- All patients with aphasia receive assessment by a qualified Speech Pathologist
- Speech Pathologists make a clinical judgement regarding the most suitable assessment to use based on patient needs, availability and time constraints
- Speech Pathologists consider using the WAB or FAST if available in their clinical setting
- Speech Pathologists use a published or unpublished tool to measure functional communication abilities including participation and social inclusion, communication confidence, quality of life and self perception.
- Families, carers and significant others are included in the assessment process

Clinical [PICO] Question
What types of assessments are clinically valid to assess aphasia in the:
- a) Acute
- b) Sub-acute/Rehabilitation and
- c) Community/chronic settings?

Background and Objectives:
Clinical discussion within the Adult Language EBP Group in 2012-2014 highlighted that there is significant variability in clinical practice regarding assessment of aphasia in the acute, rehabilitation and community settings. The National Stroke Foundation Guidelines (2010) recommend that:
- "All patients should be screened for communication deficits using a screening tool that is valid and reliable." (Section 6.5.1 – Level C Evidence)
- "Those patients with suspected communication difficulties should receive formal, comprehensive assessment by a specialist clinician" (Section 6.5.1 – Good practice point)
- "Clinicians should use validated and reliable assessment tools or measures that meet the needs of the patient to guide clinical decision-making" (Section 1.6 – Good practice point).

However, a paper by Vogel et al. in 2010 indicated that Speech Pathologists working in acute hospital settings across Australia predominantly use "individualized assessments developed by [the] clinician or institution" to assess people with aphasia (within the first 30 days post stroke). In addition, Saldert et al., (2012) indicated the use of norm-referenced, quantitative and qualitative assessments conjunctly is valuable and valid to diagnose aphasia and to highlight specific areas of language difficulty to assist with planning of therapy.

Group members work with the adult population across a broad range of clinical settings. Therefore, the group identified a 3 part clinical question, investigating the use of aphasia assessment at 3 stages of recovery (acute, rehabilitation and community settings).

The objectives of the group were to identify the evidence from published research articles, consider the clinical application of this evidence and trial applying this evidence within their clinical setting in order to best address the clinical question.
Purpose of identifying the need for referral to Speech Pathology:

Results:

Papers were excluded if they were more than 15 years old, unpublished or were published in a language other than English.

Databases used for searching included AMED, Aphasiology Online, Cinahl, Comisdom, CSA Linguistics, Embase, Google Scholar, Medline, OvidSP, Proquest, PsychInfo, Pubmed and SpeechBite.

Search terms used were “assessment”, “aphasia”, “aphasia assessment”, “acute”, “rehabilitation”, “sub-acute” and “community”.

Papers were excluded if they were more than 15 years old, unpublished or were published in a language other than English.

SearchTerms/Systems:

Group members individually searched for relevant external published evidence articles using online search methods via accessible databases.

Overall findings:

Unfortunately, we were unable to use Dollaghan (2007)’s guidelines due to limited knowledge, education and training.

Overall level of the evidence base:

The CAPped articles were single case experimental design studies or case series. Although these have a low level of evidence on the NHMRC evidence hierarchy, they were considered clinically applicable and representative of the group’s clinical caseload.

Quantity of the evidence based:

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Quantity of the evidence based:

Number of suitable papers actually capped: 25

Overall level of the evidence base:

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Overall findings:

Overall, the external published evidence regarding assessment of aphasia is quite limited, and many of the papers appraised had methodological weakness and/or lacked detail regarding study method. Variability in participant characteristics, assessment methods and limited information regarding time post injury that assessments were administered made it difficult to directly compare studies (and therefore compare assessment tools).

Results:

To summarise potential clinical application of aphasia screening tests (i.e. tools administered by other health professionals, with the purpose of identifying the need for referral to Speech Pathology):

- From a 2006 systematic review by Salter et al., the ‘Frenchay Aphasia Screening Test’ (FAST) was deemed the most thoroughly evaluated, with sensitivity reported at 87%, and specificity at 80%. However, other co-existing deficits such as visual field deficits, visual neglect or inattention, illiteracy, deafness, poor concentration or confusion can lead to false positive results.
- Thomessen et al. (2002) indicated that when nursing staff administered the aphasia item on the Scandinavian Stroke Scale there was a high rate of false positives when compared with comprehensive assessment by an experienced Speech-Language Pathologist. This could however be due to the presence of dysarthria and/or cognitive deficits, and therefore may not preclude it as a useful screening measure.
- Nakase-Thompson et al. (2005) indicated that the MAST (Mississippi Aphasia Screening Test) is valid in identifying language impairment in patients with a left hemisphere stroke when compared with patients with a right hemisphere stroke, and normal controls. However, further evaluation of the reliability of the MAST and comparison against an accepted reference standard is required before we could be confident of its usefulness as a screening tool to be administered by other health professionals.
- The language component of ACE-R (Addenbrooke’s Cognitive Examination – Revised) may be a useful screening tool for medical staff in determining the need for Speech Pathology assessment of language skills post stroke, but further research regarding validity of this tool is required (Gaber et al., 2005).
- The ScreeLing may be considered a valid and reliable tool for assessing the presence and severity of aphasia and linguistic deficits at 12 days after stroke. (Hachioji et al., 2012; Salter et al., 2006).
- The Ullevalal Aphasia Screening Test (UAS) is intended to be used by nurses and appears well tolerated by patients too ill to tolerate lengthy assessments (as per Salter et al, 2006).

Assessments of aphasia that Speech Pathologists can use in the acute, rehabilitation and community settings:

- Kitsos et al. (2008) suggest that of the 3 most frequently used communication assessments in Australia, The Western Aphasia Battery (WAB) and the Frenchay Aphasia Screening Test (FAST) are the only validated tests for use in communication assessment post stroke. The Boston Diagnostic Aphasia Exam (BDAE) was found not to have been validated in the published literature available.
- Williamson et al. (2011) reported there is no significant correlation between level of aphasia severity and overall quality of life, using the Western Aphasia Battery-Revised (WAB-R) and the Stroke and Aphasia Quality of Life Scale-39 (SAQOL-39). This suggests the WAB-R cannot be used to infer quality of life, but only to assess aphasia severity.
- Although the Inpatient Functional Communication Interview (IFCI) is not specifically designed for assessing people with aphasia, and few subjects with aphasia were included in the development and validation studies published by O’Halloran et al. (2007 – Parts 1 & 2), the revised version of the IFCI does appear useful as a measure of functional communication in the acute setting, in that it evaluates communication success in a range of exchanges that were found to occur frequently in the acute hospital setting. It can also allow clinicians to explore facilitative communication strategies.
- O’Halloran et al. 2007 – Part 1 indicated that the ‘Functional Communication Profile’ (FCP) is a sub-optimal tool to measure functional communication in the acute setting, because it doesn’t capture relevant functional information. However, it may be more suitable in the rehabilitation and chronic/community settings.
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The Comprehensive Aphasia Test (CAT) is considered an accurate tool for profiling aphasia and comparing one person to another with aphasia (Howard et al., 2010).

The Multimodal Communication Screening Test for Persons with Aphasia (MCST-A) may guide clinicians in identifying the most appropriate AAC strategies and therapy for individuals with aphasia, however further research with this assessment is required to gather reliability and validity of data. (Lasker & Garrett, 2006).

The Kentucky Aphasia Test (KAT) appears to be a clinician-friendly aphasia test from a time efficiency point of view however it may not be suitable for an Australian population, for all people with aphasia and is not diagnostic in nature. The test is designed to assist in determining changes in language functioning during the early post-onset period of aphasia (Marshall et al., 2008).

Walker and Schwarz (2012) suggest The 2 alternative short forms of the Philadelphia Naming Test (PNT) can be used to reliably diagnose the severity of naming of frequently used concrete nouns and in addition, screen for simple error patterns in naming. The PNT short form can also be used to measure change in an individual’s naming ability in the clinical setting. The short forms appear easy and quick to administer, and the results obtained can be compared to the norms (a large cohort of research participants with aphasia) for the full PNT.

A number of outcome measurement tools within the literature were identified, with these tools focusing on communication confidence, self perception and social inclusion.

- The Communication Confidence Rating Scale for Aphasia (CCRSA) may be useful to measure an individual’s self-perceived functional communication abilities. This assessment can also be used by carers or significant others to collect qualitative information. (Babbitt & Cherney, 2010; Babbitt et al., 2011). The test is easily administered, using scales. However, the research indicates this tool would benefit from the inclusion of symbols and pictures to aid comprehension.
- An article by Wei et al., (2010) suggests the Communication Disability Profile is a reliable assessment of people’s self-perceptions of the impact of aphasia. It is suggested this tool can be used with people with mild to severe aphasia. Further studies are suggested.
- The Community Integration Questionnaire (CIQ) is possibly suitable for use in people with aphasia when measuring participation, when supported by a caregiver or Speech Pathologist. It appears a short, easy to administer tool. However, data on its psychometric properties in aphasia are absent (with previous research only conducted in a traumatic brain injury population) and further research is required. There are currently no other existing measures for accessing participation in a neurological caseload. (Dalemans et al., 2010 and Dalemans et al., 2008).
- Glueckauf et al. (2003) suggest The Functional Outcome Questionnaire for Aphasia (FOQ-AQ) has potential as a functional outcome measure when completed by caregivers. The tool was successful in reducing some of the biases identified in other tools such as caregiver perceptions of burden and quality of life. However, further revision and research is needed.
- The Therapy Outcome Measure (TOM-UK) activity scale has promise as a clinically feasible, socially relevant and reliable measure of functional communication when used by trained unfamiliar Speech Pathologists to rate a short conversation as part of outcome measurement. TOM training and use of a consistent clinician for rating across multiple occasions of outcome measures is preferable to achieve clinical reliability (Hesketh et al., 2008).
- The Communication Outcome after Stroke (COAST) Scale appears to be a well thought out scale examining communication (speech and language) effectiveness post stroke in an accessible format. However, it is unclear whether the scale may be suitable for severely impaired individuals, nor (critically) is there any current data identifying how well it can measure changes in performance (Long et al., 2008).

From group based discussions and a brief survey of Speech Pathologists involved in the Adult Language EBP group in 2013 and 2014, comments regarding the usefulness of different screening and assessment tools in the acute, rehabilitation and community settings included:

- Many formal assessment tools for aphasia are too time-intensive to administer (e.g. WAB & PALPA). In particular, quick, easy to administer assessment is frequently required by clinicians in the acute setting.
- Quick spontaneous recovery of patients can mean that a comprehensive, time-intensive assessment have limited benefit for guiding ongoing intervention.
- Many published assessment tools can be too high-level for patients in the very acute phase of care (e.g. Mt Wilga High Level Language Assessment & sections of the Informal Language Processing Screen (ILPS)).
- Some tools are difficult to use with patients from culturally and linguistically diverse backgrounds because of their content and complexity (e.g. Boston Naming test, Mt Wilga High Level Language Assessment).
- Speech Pathologists using the MAST as a screening tool could provide useful indication regarding the direction of further more comprehensive assessment (e.g., high-level versus low-level), however it does not necessarily yield useful information from which to plan early intervention.
- The Australian adaptation of the MAST (AusMAST) is more relevant to our clinical population that the original version developed in the USA.
- The IFCI is considered very functional and holistic, but clinicians need to be very familiar with the tool to administer in effectively and it is not appropriate for people with significant aphasia.
- The WAB screener is quick to administer, but not particularly functional.
- The ILPS can provide useful information regarding language skills across the different domains (i.e. reading, writing, speaking and listening).
Informal, dynamic assessment involving a variety of simple tasks (e.g. object naming, answering yes / no questions, following commands) and observing a patient’s response to cueing can be a time-efficient way to:

- determine what strategies can assist a person with aphasia communicate (e.g. gesture, being given a binary choice, having commands repeated or simplified)
- enable early provision of impairment based therapy tasks to the patient and/or family (e.g. functional naming tasks, writing practise) in some clinical settings

In the rehabilitation and community settings, it is essential informal assessment is patient directed and tailored to the patient’s values, priorities and goals.

Families and communication partners can provide further information to guide assessment and are encouraged to participate in the assessment process.

In addition, Speech Pathologists involved in the Adult Language group in 2013-2014 collected data on assessment tools that are readily available to them within their clinical setting and discussed the positives and negatives of each tool. Please contact the 2014 Adult Language group co-leaders for raw data and further information.

Speech Pathologists involved in the Adult Language group in 2014 trialled a number of assessments that were identified in the literature across a number of sites. The group also discussed the suitability of these tools within their clinical setting. The assessments trialled included:

- The Comprehensive Aphasia Test (CAT)
- The Communication Confidence Rating Scale for Aphasia (CCRSA)
- The Communication Outcome after Stroke Scale (COAST)
- The Functional Outcome Questionnaire for Aphasia (FOQ-AQ)
- The Philadelphia Naming Test (PNT)

These assessments were selected as they were:

- Identified as being clinically appropriate in the published literature to assess aphasia
- Were readily accessible (either available on-line or available in full at 3 NSW based sites)
- Were novel or not well-known by a large number of group members

The group discussion guided clinical judgement to complete the CAT. For a full summary of discussion points surrounding each tool please contact the 2014 Adult Language group co-leaders.

Recommendations:
It is recommended that:

- All patients who have had a stroke are screened for communication deficits
- All patients with aphasia receive assessment by a qualified Speech Pathologist
- Speech Pathologists make a clinical judgement regarding the most suitable assessment to use based on patient needs, availability and time constraints
- Speech Pathologists consider using the WAB or FAST if available in their clinical setting
- Speech Pathologists use a published or unpublished tool to measure functional communication abilities including participation and social inclusion, communication confidence, quality of life and self perception.
- Families, carers and significant others are included in the assessment process.
Application to practice (when change has been indicated):
Change is encouraged, and it is possible.

There is significant variability in clinical practice regarding aphasia assessment across the continuum of care. Speech Pathologists in clinical practice in NSW report using both informal and formal measures to assess aphasia in the acute, rehabilitation and community settings. Generally, current clinical practice reflects the published external evidence; however some recommendations may not be fully implemented in all workplaces. In particular, the following change is strongly encouraged:

- Speech Pathologists are well supported by their workplace, managers and colleagues to continue to develop clinical reasoning skills in order to make a clinical judgement regarding the most suitable assessment to use based on patient needs, availability, and time constraints. This is particularly important for new-graduate staff or those who have limited experience of aphasia assessment within their current clinical workplace.
- Speech Pathologists consider using a published or unpublished tool to measure functional communication abilities including participation and social inclusion, communication confidence, quality of life/self perception in addition to more standardised quantitative assessments,
- Families, carers and significant others are included in the assessment process.