Running head: EBP in acute aphasia management

Turning the tide: Putting acute aphasia management back on the agenda through evidence based practice

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Review Abstract

Background: The role of speech pathologists working in the acute hospital setting has evolved away from service provision to people with aphasia and their families towards a stronger focus on dysphagia. Evidence-based practice (EBP) can be conceptualised as the integration of four streams of evidence: research-based clinical evidence, clinical expertise, patient preferences and values, and the practice context. EBP is an important tenet in current healthcare. However, it is not clear whether SPs in the acute setting are using EBP to support their aphasia management. Not adopting evidence-based approaches to care has the potential to result in negative impacts for people with aphasia and their families, healthcare services, and speech pathologists who experience a sense of dissonance related to their current service provision. This paper explores acute aphasia management through an EBP lens in an attempt to better understand this dilemma.

Aims: This paper applies the conceptual framework of EBP to acute aphasia management. An extensive, systematically conducted review of the international literature relating to health professionals was undertaken. The findings are presented as a narrative literature review.

Main Contribution: This paper describes and evaluates how the different streams of research evidence, clinical expertise, patient preferences and values, and the practice context contribute to speech pathologists’ management of acute aphasia. Further, the paper identifies current gaps in the literature and suggests a research agenda for the field.

Conclusions: Little is known about how speech pathologists integrate and implement the different streams of evidence in EBP, and how these contribute to acute aphasia practice. Speech pathologists report that clinical guidelines containing low level evidence are the main source of research information. Other sources of knowledge include colleagues, professional development events, and
websites. Additional challenges to the management of people with aphasia in the acute hospital setting may be posed by the physical environment, the culture of the acute hospital setting, and the provision of leadership to support evidence-based approaches to care. The challenge of using a person-centred approach to care for people with aphasia is acknowledged. Further research exploring speech pathologists’ perceptions of their role in acute aphasia management, the clinical decision making process of speech pathologists in relation to acute aphasia management, and the experiences of people with aphasia and their families in the acute setting is required. This will allow for the design of patient-centred approaches to care, and enable the implementation of evidence-based acute aphasia management.
INTRODUCTION

Shifting waters: The role of the speech-language pathologist in the acute hospital

The role of the speech pathologist in the acute hospital setting has altered during the last few decades. Speech pathology time and resources are being dedicated to dysphagia in the acute hospital setting at the expense of communication intervention, with studies in many parts of the world suggesting a significant decrease in the services provided to people with aphasia and their families (e.g., Armstrong, 2003; Code & Heron, 2003; Enderby & Petheram, 2002; Lalor & Cranfield, 2004; Lawrie, 1996; Rose, Ferguson, Power, Togher, & Worrall, in press).

The shift in acute speech pathologists’ focus from communication impairment to dysphagia is reflected in a recent survey of Australian speech pathologists employed in adult neurology in 2010. This study revealed that 79 (approximately 89%) of the 89 responding therapists who worked in acute settings indicated that dysphagia was the dominant component of their caseload while only 6 (approximately 7%) indicated that aphasia was their dominant caseload (Rose et al., in press). Concerns have been raised that the perception of speech pathologists as ‘swallowing specialists’ rather than ‘communication specialists’ may result in a further reduction in communication related referrals to speech pathologists (Armstrong, 2003). Such a perception may result in a subsequent reduction in the assessment, therapy, and counselling provided to people with communication disorders in the acute hospital setting (Lawrie, 1996). Over time, this may in turn result in a reduction in speech pathologists’ clinical expertise in the assessment and management of aphasia in the acute hospital setting.

Potential factors influencing this change in practice include an ageing population, increasing healthcare provision costs, a growing dysphagia knowledge base within the speech pathology profession, and a lack of role clarity for speech pathology aphasia management in the acute hospital.
Caseload demands and new roles in dysphagia management have resulted in a reduction of available time to dedicate to patients with aphasia in this setting, creating competition for therapists’ time and resources (Code & Heron, 2003; Enderby & Petheram, 2002). This has led to some discussion in the literature regarding how the limited resources dedicated to acute aphasia management should be used (Code & Petheram, 2011), with some advocating for a conversational-counselling approach (Holland & Fridriksson, 2001), others proposing a consultative model approach (Duffy, Fossett, & Thomas, 2010; Johnson, Valachovic, & George, 1998), and others favouring a more traditional impairment-based approach (Peach, 2001). These debates are further complicated by the emergence of recent literature questioning the effectiveness of early aphasia intervention (Bowen et al., 2012), which contrasts with previous evidence lending preliminary support to the provision of acute aphasia services (e.g., Brady, Kelly, Godwin, & Enderby, 2012; Godecke, Hird, Lalor, Rai, & Phillips, 2012). It is clear that research questions in this area remain (Brady et al., 2012).

Published research studies provide some insight into how this change has affected the service provided to people with aphasia by speech pathology clinicians in the acute hospital setting. An observational study on an acute stroke unit found that speech pathology contact attributable to rehabilitative therapy for both swallowing and communication impairments equated to approximately fifty minutes a week per person (Bernhardt, Chan, Nicola, & Collier, 2007). However, when looking specifically at aphasia, a recent study reported the equivalent of approximately fourteen minutes of aphasia therapy for each patient per week in the acute hospital, which is markedly lower (Godecke et al., 2012). This low average intervention time may be attributable to the fact that the majority of patients received no aphasia intervention. That is, only 15% of patients diagnosed with post-stroke aphasia who were medically appropriate to commence language intervention received any therapy. This is consistent with a previous study on ‘usual care’
intervention, in which caseload demands were cited as the primary reason why therapy was not provided to all (Lalor & Cranfield, 2004). Whilst not reporting on the duration of therapy session, findings from an American study involving retrospective medical record review of 207 acutely aphasic patients (with an average hospital length of stay of 8.7 days) in a single acute hospital setting, suggested that patients with aphasia received a mean of only 1.2 (SD=1.3) management sessions with speech pathologists during their acute inpatient stay (Duffy et al., 2010). This low amount of therapy is consistent with another recent study on the provision of therapy in the very early recovery phase (Godecke et al., 2012).

Self-report data obtained from speech pathologists through surveys yield results indicative of higher levels of aphasia service delivery compared to those obtained from observation or case auditing. Speech pathologists in a Swedish study report less opportunity to interact with the families of people with aphasia in the acute hospital setting compared to rehabilitation and community settings (Johansson, Carlsson, & Sonnander, 2011). In addition to this, the Verna, Davidson & Rose (2009) survey of aphasia services in Australia, sampled in 2006, found that of the 33 therapists who provided aphasia services in the acute setting, 11 (34%) reported providing less than 3 aphasia sessions per week. Despite this low number of sessions, the 33 therapists reported delivering an average of just over two hours of direct aphasia therapy each week for patients with aphasia (m=2.14 hours, SD=1.15 hours).

The report of family members of people with aphasia acts as another source of data relating to time speech pathologists spend with people with aphasia in the acute setting. One study from Hong Kong found that the family members of people with aphasia report that the frequency at which inpatient sessions were provided by speech pathologists was most commonly only once a week (27.0%) or
once every month (16.2%), and most of these sessions were delivered in fewer than 30 minutes (67.7%) (Kong, 2011).

The source of the discrepancy between speech pathologists’ self-report, family report, and case auditing or observation of services is unclear. It may represent a sample population more engaged in aphasia service delivery in the acute setting, methodological flaws, a discrepancy of understanding as to what constitutes aphasia therapy, or a misrepresentation of observed versus reported practice. It should be noted, however, that this worldwide decline in service provision to people with aphasia is not attributable to low levels of aphasia, with aphasia estimated to be present in 30-35% of patients with first-ever stroke (Dickey et al., 2010; Engelter et al., 2006). Aphasia, and the negative impact of aphasia on patients and their families, has not diminished.

**Putting evidence into practice: EBP for aphasia management in the acute hospital setting**

EBP is a current and important tenet in healthcare. Since its inception in the field of health sciences, EBP has undergone a conceptual evolution. The definition of EBP has shifted from its beginnings in evidence-based medicine (EBM), with a perceived predominant focus on the research literature, to incorporate the broader elements that contribute to effective clinical decision making. The widely accepted definition of EBM describes it as “the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71) . This definition includes the requirement for integration of three different components: research-based clinical evidence, clinical expertise, and patient preferences and values. The inclusion of an additional category, characteristics from the practice context, has also emerged in response to debate about the interpretation of the original definition (e.g., McCormack et al., 2002; Rycroft-Malone et al., 2004).
The momentum toward EBP in allied health professions around the world has built over the last two decades primarily because EBP aims to provide the most effective care that is available, with the goal of improving patient outcomes. Increasing demands from organisational management, policy makers and the public to demonstrate the efficacy and effectiveness of interventions has driven ongoing development of EBP. What remains unclear is how speech pathologists are using the principles of EBP to support their recent role change in the acute hospital setting and to guide acute aphasia management.

The service gap: Impacts on people with aphasia and their families, healthcare services and speech pathologists

In the immediate aftermath of aphasia onset, people with aphasia enter into a period similar to bereavement, requiring them to “negotiate a new understanding of their worlds and others in it” (Müller & Code, 1989, p. 108). Post-stroke aphasia in the acute care setting may be conceived as a ‘crisis’, with emotional ramifications including fear, anxiety, frustration, and depression for both patients and their families (Holland & Fridriksson, 2001). The presence of aphasia has the potential to have a substantial negative impact on the individual, with influence upon mood, relationships, employment, and community participation widely discussed (e.g., Dalemans, De Witte, Beurskens, Van Den Heuvel, & Wade, 2010; Hilari, 2011; Parr, Byng, Gilpin, & Ireland, 1997; Taylor Sarno, 1993). It also has strong prognostic value, and “is the most important predictor of social outcome in patients with stroke with aphasia” (Gialanella, Bertolinelli, Lissi, & Prometti, 2011, p. 122). Yet, as
discussed above, speech pathology intervention is minimal, and opportunities to provide optimal patient care in this important early phase are being missed.

In addition to the implications for people with aphasia and their families, healthcare service usage is reported to be notably different for people with aphasia compared to stroke survivors without aphasia. The presence of aphasia is an independent predictor of increased length of hospital stay and increased use of rehabilitation services (Dickey et al., 2010). The presence of aphasia, therefore, has likely associated financial ramifications for the healthcare system (Ellis, Simpson, Bonilha, Mauldin, & Simpson, 2012).

Additionally, the service gap reported in healthcare systems across the world is creating a sense of dissonance for speech pathologists in the acute hospital setting for whom professional tension is created by the evidence-practice gap in aphasia management (Byng, Cairns, & Duchan, 2002; Rose et al., in press). Notably, in response to open-ended questions, speech pathologists working in the acute hospital setting have discussed the tension between current practice and the implementation of practice recommendations supported by the literature which are difficult to achieve in their setting, including more intensive inpatient therapy (Rose et al., in press). This tension warrants further exploration of how the concept of EBP in acute aphasia management is perceived by speech pathologists.

In summary, the role of speech pathologists has evolved, resulting in a stronger focus on dysphagia in the acute hospital setting. This has brought about a decrease in service provision to people with aphasia and their families. Valuable intervention opportunities to work with this psychosocially vulnerable group are being missed, creating a sense of unease for speech pathologists working in this area. This is testament to the need to further investigate best practice in aphasia management across
the continuum of care, including the acute care setting (Dickey et al., 2010). Whilst calls for better services for people with aphasia and their families in the acute phase have been largely philosophical to date, the use of an evidence-based practice framework may bring some clarity to the field. Detailed knowledge of current practice and the identification of evidence-practice gaps in acute aphasia management will allow for clearer articulation of research questions which can inform and develop our understanding of the EBP management processes of speech pathologists in the acute hospital setting.

**METHODOLOGY**

An extensive, systematically conducted review of the literature was undertaken between March 2011 and September 2012, with keyword searches conducted in a range of peer-reviewed English language scientific electronic databases (including CINAHL, Cochrane Library, EMBASE, Medline, PsychINFO, and Scopus) and using internet search engines (including Google Scholar) (see Table 1 for search terms and combinations). Search terms were grouped conceptually and defined by the search strategy. These concepts and terms were driven by the desire to explore acute aphasia management within an EBP framework. In addition, seminal texts were reviewed, publications by key authors searched, and ancestry searching of references cited in identified sources was undertaken. There were no search restrictions based on date of publication. Due to the multi-faceted nature of the topic, an extensive and broad search of literature was carried out. It is therefore not logical to report overall yields from these searches. The different search strategies resulted in the inclusion of 130 relevant sources. All relevant results are cited and discussed in this narrative review.

This broad review of the components of evidence-based practice within acute aphasia management is presented here as a combined narrative literature. The review explores each different stream of evidence as it relates to acute aphasia management. The acute aphasia literature is reviewed, as well
as speech pathologists ability to access it and use it within their clinical reasoning processes. The barriers to including the patient within this process are also reviewed within the context of the demands of the acute hospital setting. Recommendations for clinical practice and research are suggested.

(Insert Table 1 about here)

RESULTS

The use of research evidence by speech pathologists

To ensure an effective realisation of evidence-based practice in speech pathology, the role of research evidence should include the production and dissemination of a strong evidence base, as well as emphasis on clinicians’ information literacy (Nail-Chiwetalu & Bernstein Ratner, 2006). Thus, the information literacy of speech pathologists is now reviewed, as well as the current state of the research on acute aphasia management.

Hunting and gathering: How speech pathologists seek research evidence

It is important to examine speech pathologists’ information literacy, as it provides an understanding of the preferred source and methods speech pathologists use to access research evidence. Knowledge regarding the information literacy of speech pathologists is derived predominantly from three survey questionnaires of American and Australian speech pathologists (Guo, Bain, & Willer, 2008; Nail-Chiwetalu & Bernstein Ratner, 2007; Vallino-Napoli & Reilly, 2004), with each assessing a broad range of speech pathologists across the continuum of care. These data primarily relate to the information seeking behaviours of speech pathologists, as opposed to their information needs or use. No data are available which explores information seeking solely in the population of speech pathologists working in the acute hospital setting, or in relation to the seeking of aphasia-specific information.
Exploration of the information seeking behaviour of speech pathologists has demonstrated a heavy reliance on self and others to meet informational needs for clinically based questions, compared to information seeking involving library or database resources (Guo et al., 2008; Nail-Chiwetalu & Bernstein Ratner, 2007; Vallino-Napoli & Reilly, 2004). Frequent sources of research information include clinical guidelines, colleagues or personal contacts, professional development events, and websites. Nail-Chiwetalu and Bernstein Ratner (2007) suggest that the pattern of reported utilisation of research sources was consistent with the clinician’s perceived usefulness of the source of information, suggesting that making information sources user-friendly may increase the profession’s access to and ongoing usage of them.

Of concern, one study reported that the percentage of respondents who accessed electronic databases for literature searching was as low as 53% (Vallino-Napoli & Reilly, 2004), citing possible reasons including poor physical access, limited allocation of time, poor literature searching skills and strategy, or poor ability to evaluate and interpret collected data (Guo et al., 2008; Nail-Chiwetalu & Bernstein Ratner, 2007; Vallino-Napoli & Reilly, 2004).

Speech pathologists do, however, highly value research and its implications for practice (Finch, Cornwell, Ward, & McPhail, 2012; Metcalfe et al., 2001; Vallino-Napoli & Reilly, 2004). However, 44% report that it is hard to apply research in practice, and 26% report that basing practice on research findings would be costly both financially and in terms of time (Vallino-Napoli & Reilly, 2004).

Little is known about the current information literacy of speech pathologists, with the majority of data arising from surveys which while carrying a strong message for their time, must be interpreted
with caution given the rapid technological advance and changing university curricula that has occurred in the interim. It is unclear from the literature if there are differences in the information literacy behaviours of speech pathologists in different specialties or practice contexts. What is evident is that speech pathologists rely heavily on themselves and others in their profession to meet their informational needs. Given the purported reasons for the lack of research utilisation, it may be hypothesised that improved access may be facilitated by resources that collate and synthesise research, such as systematic reviews, clinical guidelines, or other pre-appraised sources. Population specific data exploring speech pathologists’ information needs, information seeking, and information use may assist in the improvement of services and products that promote information literacy in speech pathologists (Kloda & Bartlett, 2009).

*Clinical guidelines for the management of acute aphasia*

In speech pathology, barriers to the implementation of research evidence are more complex than the promotion of information literacy in clinicians alone. In fields comparative to speech pathology, clinicians are concerned by a perception of disengagement between research and clinical practice (Jette et al., 2003). While Nail-Chiwalu and Bernstein Ratner (2006) suggest that systematic reviews, discipline specific databases, and clinical guidelines may act as potential solutions to such problems, they reiterate the need for caution in the interpretation of synthesised outcome data, suggesting that in a profession with comparatively modest data, “meta-analysis may lead to unsatisfying or even misleading conclusions about best approaches to treatment” (p. 165).

Speech pathologists report that clinical guidelines are the main source of research evidence used to guide their aphasia management (Verna et al., 2009). As such, it is important to explore clinical guidelines for aphasia management, and their contribution as a source of research evidence. Evidence-based clinical guidelines contain “systematically developed statements to assist
practitioner and patient decisions about appropriate health care for specific circumstances” (Institute of Medicine, 1990, p. 38) in specific areas of practice, based on a systematic and critical review of the current literature.

Internationally, there are many clinical guidelines that outline approaches to acute aphasia management. A recent systematic review of the quality of clinical guidelines for aphasia in stroke management reported significant variability in both the scope of coverage of recommendations for aphasia management provided within the guidelines and in the methodological rigour of the guideline development processes (Rohde, Worrall, & Le Dorze, submitted). Examples of clinical guidelines include the Australian Clinical Guidelines for Stroke Management (National Stroke Foundation, 2010), the New Zealand Clinical Guidelines for Stroke Management 2010 (Stroke Foundation of New Zealand and New Zealand Guidelines Group, 2010), the Scottish Management of Patients with Stroke or TIA: Assessment, Investigation, Immediate Management and Secondary Prevention (Scottish Intercollegiate Guidelines Network, 2008) and the British Clinical Guidelines (The Royal College of Speech & Language Therapists, 2005) and the National Clinical Guideline for Stroke (Intercollegiate Stroke Working Party, 2012), developed by or in collaboration with peak national speech pathology professional bodies. Other groups have also synthesised data relating to aphasia therapy, although these findings have not been presented as a guideline (e.g., Academy of Neurologic Communication Disorders and Sciences, n.d.; Salter, Teasell, Bhogal, Zettler, & Foley, 2011). They cover topics including aphasia management, and they reflect the complexity and diversity of speech pathology practice in acute aphasia management and stroke care in general. Given that the recommendations made in these guidelines are intended to be applicable to practice across the continuum of care, practitioners are required to use clinical judgement and knowledge of context, in conjunction with an awareness of the patient’s wishes, to decide on the clinical applicability of these recommendations on an individual basis. The need for interpretation is
reflected in the careful selection of terminology in the recommendations, including ‘as appropriate’, ‘can include’ and ‘should be’, which is consistent with other guidelines in the area where the specific evidence base is modest.

At this stage in guideline development for aphasia therapy, the majority of synthesised research evidence results in a low level grading of recommendation. The grading of a recommendation relates to the strength of the evidence on which the recommendation is based, and does not necessarily reflect the clinical importance of the recommendation (Scottish Intercollegiate Guidelines Network, 2008). However, a poor grading of evidence may reduce speech pathologists’ willingness to actively engage in implementing the recommendations, and prevent advocacy for changes to practice.

In addition, some authors have raised concerns regarding the rigid interpretation of guidelines, and the potential for clinicians to implement recommendations without consideration of patient and contextual variables (Yates, Kruger, Coombes, & Hoffmann, 2010). In response to such concerns, the guidelines emphasise their role in the provision of “a general guide to appropriate practice to be followed subject to the clinician’s judgement and the patient’s preference” (National Stroke Foundation, 2010, p. 30). In recognition of the need to integrate these streams of evidence, clinical expertise and patient views and values, as well as the contextual factors, are examined below.

**Clinical expertise as a component of evidence-based practice**

Clinical expertise is a cardinal feature of EBP, and is conceptualised as “the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice” (Sackett et al., 1996, p. 71). It includes a health professional’s reasoning and decision making in a clinical environment, as explored below. It is also important to consider the role that the clinical expertise of others plays in speech pathologists’ decision making in relation to acute aphasia
management. While varying definitions of clinical expertise now abound, their commonality is in the acceptance that ‘years of experience’ alone is no longer sufficient to encapsulate the complexity of the notion of expertise (Higgs & Bithell, 2001; Roulstone, 2011; Stathopoulos & Harrison, 2003). Rather, clinical expertise is conceptualised as the development of skills and knowledge, which in the context of EBP can be seen as the integration of streams of evidence to support decision-making (Gillam & Gillam, 2006).

Dollaghan (2007) perceives clinical expertise as the “glue” which holds the other elements of EBP together, and suggests that not only clinical expertise but the opinions of experts should be integrated when making decisions regarding patient care. The weight that these opinions and experiences are given in relation to other streams of evidence requires a developed clinical reasoning skill set, as a means to integrate and interpret these different sources of information.

Research to date from the United States suggests that speech pathologists base the majority of their clinical decisions on knowledge derived from educational programs (both tertiary programs and postgraduate professional development), clinical experience, and the opinions of colleagues (Gillam & Gillam, 2006; Guo et al., 2008; Zipoli & Kennedy, 2005), suggesting a heavy weighting of the clinical expertise stream of evidence within the profession, comparative to other streams of evidence. The reasoning behind this uneven weighting of one stream of evidence remains unclear in the literature.

*The transition from novice to expert: Clinical reasoning, clinical decision making, and expertise*

To understand the concept of clinical expertise and its’ relationship to evidence-based practice, we must first understand what is meant by expertise and the progression of clinical reasoning and decision making skills. There is agreement in the literature that transition along the continuum from
novice to expert is fundamentally concomitant with changes in a clinician’s clinical reasoning and
decision making processes. The complexity of the process of arriving at a clinical decision is
highlighted by Smith, Higgs and Ellis (2008) who describe the requirement for health professionals
“to make decisions with multiple foci…in dynamic contexts, using a diverse knowledge base…, with
multiple variables and individuals involved” (p. 89).

The concept of clinical reasoning and problem solving are integral to the speech pathology
profession’s concept of competence, as evidenced by the references to reasoning, judgement and
decision making in the professional behaviour documents of national bodies around the world
(American Speech-Language-Hearing Association, 2007; Speech Pathology Association of Australia
Limited, 2011; The Royal College of Speech & Language Therapists, 2006). Despite what appears to
be a clear recognition of the centrality of clinical reasoning and decision making in the profession
(Ferguson, 2006), little evidence is available to describe the process, especially within the acute
setting. Much of what is known about clinical expertise is derived from knowledge from other
professions, for example, the dialectical model in physical therapy (Edwards, Jones, Carr, Braunack-
Mayer, & Jensen, 2004) and the narrative model in occupational therapy (Fleming, 1991). It is
possible that clinical reasoning in the acute hospital setting has its own particular challenges, as
postulated in the nursing and physiotherapy literature (Bucknall & Thomas, 1997; Hedberg &
Sätterlund Larsson, 2004; Smith, Higgs, & Ellis, 2007; 2010). These include time pressures,
conflicting personal values, inadequate knowledge base (Bucknall & Thomas, 1997), level of clinical
experience and expertise (Smith et al., 2010), and environmental elements, such as interruptions and
work procedures (Hedberg & Sätterlund Larsson, 2004). It has further been suggested that the
clinical reasoning process is likely to be influenced in the acute setting by the nature of the decision,
the context of the decision, and the clinician’s personal factors (Smith et al., 2007). While these
clinical reasoning models hold intuitive appeal in terms of their applicability to speech pathology,
they have not been confirmed as the processes that underlie the clinical reasoning of speech pathologists (McAllister & Rose, 2008).

The opinions of experts

Expert opinion is another source of clinical expertise that may contribute to the practice of clinicians. In hierarchies of evidence, expert opinion is presented as the lowest level of evidence (e.g., Greenhalgh, 2010; Phillips et al., 2009). Commentators on evidence-based practice caution against the heavy weighting of expert opinion, asserting that speech pathologists should seek additional evidence in the face of unsupported opinions and theories (Dollaghan, 2004; Gillam & Gillam, 2006). Despite this, an emphasis is placed on the opinions of others within the speech pathology profession (Gillam & Gillam, 2006; Guo et al., 2008; Zipoli & Kennedy, 2005).

In summary, to better understand the role and weighting of different streams of evidence and knowledge there is a need for further research into clinical reasoning in the speech pathology profession (Justice, 2010; McAllister & Rose, 2008; Records & Tomblin, 1994; Roulstone, 2011). Understanding of clinical reasoning processes may not only help the profession to understand decision-making behaviour, but also inform the implementation of change to support EBP principles in the profession (Sladek, Phillips, & Bond, 2006).

Hence, to effect change and adopt an evidence-based approach to management in acute aphasia practice, research must first establish the speech pathologists’ perception of their role in this setting, and an understanding of the processes that drive clinical reasoning. An appreciation of the factors affecting aphasia service delivery and the barriers and facilitators to change will allow for the implementation of strategies to promote and strengthen EBP.
Putting the patient in the picture: The preferences and values of people with aphasia and their families in the acute hospital setting

Integral to the paradigm of evidence-based practice is the inclusion of patient preferences and values, “a rich source of evidence for practice” (Pearson, 2010, p. 221). One means of facilitating a clinician’s ability to listen to the needs of their patients is the adoption of a patient-centred care (PCC) approach.

For people with aphasia, PCC represents a perception of increased respect, inclusion, partnership, and accessibility (Byng et al., 2002) in their relationships with clinicians. While there has been some exploration of the conceptual applicability of PCC in speech pathology, there is limited research demonstrating evidence of its implementation. The benefits of PCC have been demonstrated (e.g., Stewart et al., 2000; Wolf, Lehman, Quinlin, Zullo, & Hoffman, 2008) but not specifically in interactions with people with communication impairments in the acute care setting. The potential barriers to PCC for people with aphasia in the acute hospital setting are two-fold, as discussed below.

The impact of the acute hospital setting on the provision of PCC

It is possible that the acute hospital itself influences how and if patient-centred approaches to care are delivered. Whilst the majority of the literature on PCC focuses on the management of chronic health conditions, the applicability of the concept to acute conditions was acknowledged early (Stott & Davis, 1979). Despite this, barriers to implementing this approach to care have been identified.

In the acute phase of a chronic condition, such as aphasia, people may experience a sense of intense loss as the personal and social implications of the condition present themselves (Alaszewski, Alaszewski, & Potter, 2004). It is perhaps not surprising then that patients have demonstrated a preference for a less active role in healthcare decision-making during the acute phase (Say, Murtagh,
& Thomson, 2006). Within this phase, patients are additionally found to have difficulty articulating their goals (e.g., Holliday, Ballinger, & Playford, 2007; Parry, 2004; Wressle, Öberg, & Henriksson, 1999). However, people with aphasia have the ability to discuss their immediate concerns and priorities in the acute setting (Worrall et al., 2010). Laver et al. (2010) suggest that “the time needed to adjust to a major health event, the lack of knowledge that patients have about typical recovery and the passive role assigned to patients in a hospital setting” (p. e-139) may affect this. Findings also suggest that for those experiencing grief after stroke, healthcare workers are more likely to be perceived as effective if they express to patients that they are “willing and able to communicate, in particular to understand the biographical context which each survivor uses to make sense of their situation and to map and manage their future” (Alaszewski, Alaszewski & Potter, 2004, p. 1077).

The acknowledged difficulties and potential barriers to PCC in the acute setting must be balanced against the knowledge that active participation in goal setting in the context of neurological rehabilitation results in increased satisfaction in the process of rehabilitation (Holliday, Cano, Freeman, & Playford, 2007). Further to this, joint goal setting has implications for motivation, and perceptions of control and freedom in decision making (Conneeley, 2004).

The impact of aphasia on the provision of PCC

In addition to the challenges posed by the acute hospital setting, people with aphasia encounter additional barriers as a result of the inherent language impairments characteristic of aphasia. The articulation of personal healthcare decisions, targets for rehabilitation, and broader aspirations require the support of a skilled communication partner. The process can be lengthy and challenging. In addition, the notion of aphasia and its ongoing consequences is unfamiliar to most people experiencing aphasia for the first time.
Upon review of the literature on shared decision making and joint goal setting, the presence of aphasia was cited as a potential barrier (e.g., Fleck & Hayes, 2002; Freedman, Stuss, & Gordon, 1991). Aphasia has also been cited as a reason for patients being excluded from providing consent to participate in research studies into acute stroke (e.g., Demarquay et al., 2005; Rosenbaum et al., 2004). Despite the potential for cognitive competence to be masked by linguistic difficulties, people with aphasia remain largely cognitively intact (Kagan, 1995). However, issues in assessing cognitive competence in people with aphasia may be present, particularly in the early stages post-stroke (Worrall et al., 2010). Worrall et al. (2010) appropriately suggest that “most people with aphasia should be viewed as competent partners in decision making about their needs” (p. 310). Overcoming the challenges inherent in the acute hospital setting and in the context of communication impairment requires the strengthening of communication strategies.

*Communication is the key to PCC*

In order to facilitate the implementation of elements of PCC in the acute setting for people with aphasia, enrichment of the communicative interaction is required. This may be achieved through the involvement of a patient-selected ‘helper’, or the implementation of communication strategies which facilitate the participation of people with aphasia (Stein & Brady Wagner, 2006). Communication strategies which may facilitate this include accessible healthcare information (Parr, Pound, & Hewitt, 2006; Rose, Worrall, Hickson, & Hoffmann, 2010), supported conversation techniques (Kagan, 1998), decision aids (Hoffmann & Tooth, 2010; Trevena, Baratt, & McCaffery, 2008), and Talking Mats ® (Bornman & Murphy, 2006).

It is acknowledged, however, that the acute hospital setting poses barriers to communication that are likely to be accentuated in people with aphasia. An observational study and qualitative meta-synthesis exploring the environmental factors that influence communication between patients and
their healthcare providers in acute hospital stroke units found barriers including high levels of background noise, busy environments with multiple visual distractors, a lack of communication aids, poor provision of accessible written information, and being in shared rooms (O'Halloran, Worrall, & Grohn, 2012; O'Halloran, Worrall, & Hickson, 2011).

*What do people with aphasia want in the acute hospital setting?*

Qualitative research into the goals of people with aphasia (n = 50) has revealed nine broad goal categories (Worrall et al., 2010). While each of these has applicability in the acute phase, those of particular relevance were *return to pre-stroke life*, which was reported as dominating the early period, and *information*, with patients reporting a perceived lack of information for themselves and their families during the early weeks or months (Worrall et al., 2010). This desire for additional information in the acute phase correlates with the premise of Laver et al. (2010) that models of goal setting which include a ‘motivational’ phase (e.g., Schwarzer, Luszczynska, Ziegelmann, Scholz & Lippke, 2008) may be beneficial for use in acute stroke rehabilitation, allowing time to build knowledge, develop understanding to facilitate goal creation. The feeling of disempowerment described by people with aphasia in the category of *dignity and respect* may also have significant implications for inclusionary practices in the acute setting.

Importantly, variation has been reported between the goals of people with aphasia and those set for them by their treating speech pathologists. Goals set by therapists, when categorised according to the International Classification of Functioning, Disability and Health (ICF) (World Health Organization, 2001), were predominantly based around the concepts of impairment and activity limitation (Leach, Cornwell, Fleming, & Haines, 2010), whereas the goals of people with aphasia are spread across the spectrum of the ICF, with most goals linked to activities and participation (Worrall et al., 2010). This finding of discrepancy in perspectives is supported by other research from Australia and
Scotland, which suggests that while commonality exists, the views of people with aphasia do not necessarily coincide with those of aphasia practitioners in relation to service provision (Law et al., 2010; Rohde, Townley-O'Neil, Trendall, Worrall, & Cornwell, 2012).

The implementation of a patient-centred approach for people with the aphasia in the acute setting is known to have significant challenges. Despite these challenges, it is clear that people with aphasia want a patient-centred approach to care, and that by taking this approach there is the potential for improved outcomes through the maintenance of patient autonomy.

**The context of the acute hospital setting for people with aphasia and speech pathologists**

Evidence from the practice context is the final stream of evidence in the EBP paradigm. At present, there is no available evidence on how speech pathologists perceive the context of practice to influence their clinical reasoning and decision-making, however general EBP literature suggests that this concept is vital to evaluations of the application of EBP. Kitson, Harvey and McCormack’s (1998) conceptual model of the enmeshed nature of the multiple influences which impact upon the implementation of evidence into practice identifies the concept of ‘context’ as being central to this framework, highlighting the importance of the practice setting in the clinical application of evidence. Building on a previous definition which identified context in concrete terms as the environment or setting in which practice occurs (Kitson et al., 1998), McCormack et al. (2002) assert that the term additionally requires acknowledgement of the economic, social, political, historical, and psychosocial factors. Additionally, it is important to identify factors that operate at the organisational context level. In recognising this, French et al. (2009) proposed a model, derived from related concepts in organisational and management sciences, which aims to assess and improve organisational conditions to foster a decision-making culture informed by research. Three core categories related to organisational context – vision, leadership, and learning culture – are identified.
Beyond this, four categories of action are highlighted: knowledge need, acquisition of new knowledge; knowledge sharing, and knowledge use. Within each of these areas, a series of organisational attributes with which to measure and improve the organisational context for EBP in healthcare are provided. There is a distinct need to consider context as being greater than the physical environment in order to better reflect the complexity of the concept (Kitson et al., 1998). Understanding of context may help in the identification of potential barriers and facilitators to achieving EBP.

The physical environment of the acute stroke unit

Physical environments have the potential to dictate how clinical services, including acute aphasia management, are provided. In recent times, the acute management of stroke has undergone significant advances. It is acknowledged that not all stroke survivors have access to acute stroke units, with many being managed by general medicine, neurology, or geriatric medicine units (Stroke Unit Trialists' Collaboration, 2007). However, acute stroke unit care is now acknowledged in the literature as best practice (National Stroke Foundation, 2010; 2011; Stroke Unit Trialists' Collaboration, 2007), with a systematic literature review reporting improved outcomes both in terms of death and disability for patients treated in an acute stroke unit compared to a general medical ward (Stroke Unit Trialists' Collaboration, 2007). As such, the physical environment of the acute stroke unit is examined, with the suggestion that findings relating to the ‘gold standard’ in stroke care may be able to be applied to other acute hospital wards to which stroke survivors are admitted. Acute stroke units have been defined as geographically discrete units which provide comprehensive assessments, co-ordinated multidisciplinary care, specialised staff, and an active person-centred approach to care (Langhorne & Pollock, 2002). Yet despite the assertion stroke unit care improves stroke outcomes, with proximity care of stroke patients as a core definitional element (National Stroke Foundation, 2010; 2011), little discussion has been undertaken regarding the importance of
addressing the environmental factors and work space challenges which may impact upon healthcare providers’ ability to provide evidence-based healthcare within stroke units.

Acknowledgement of the physical acute stroke unit environment was especially vital in the context of an evaluation of early intervention in the acute stroke units of large metropolitan teaching hospitals which found that patients were in or beside their beds for 88.5% of observational time, with only 0.2% of observed time in a therapy area (Bernhardt, Dewey, Thrift, & Donnan, 2004). This is consistent with findings of a similar European study (De Wit et al., 2005). This suggests that much of the therapeutic intervention provided occurs at the bedside, with the potential for a restriction in the approaches to management that a clinician can implement.

An investigation of the perceptions of nursing staff working in a Canadian acute stroke unit found that lack of space was a constant challenge to providing care, impacting upon their ability to undertake a range of nursing roles including medication delivery, charting, and patient interactions (Seneviratne, Mather, & Then, 2009). Furthermore, participants indicated that they did not, and potentially could not, ensure that patient autonomy and rehabilitation were priorities in the acute stroke care due to environmental limitations impacting on the provision of appropriate care, privacy and confidentiality (Seneviratne et al., 2009) – an issue with potential ramifications also for speech pathologists and other allied health clinicians working within the acute stroke unit setting.

In the realm of speech pathology, O’Halloran, Worrall and Hickson (2011) highlighted the impact of the acoustic environment, visual environment, assistive communication devices, physical referents, and a communicative support person. While these factors were identified as barriers to communication between healthcare providers and patients, there is the potential that they may also
act as barriers to achieving evidence-based management of patients with aphasia in the acute setting, given the centrality of communication in these interactions.

*The culture of the acute hospital setting*

Culture can be considered to form part of the contextual factors that may influence clinical practice. McCormack et al. (2002) believe that culture can be defined in terms of the prevailing values and beliefs of the organisation. Culture “includes beliefs, values, norms, customs, and behaviours which are shared by a group or society” (Sumsion, 2009, p. 32), and is constructed in the context of relevant social policy (Sumsion, 2009). Exploration of research utilisation by nursing staff in acute care has indicated the strong influence of unit culture in the clinical application of research findings (Breimaier, Halfens, & Lohrmann, 2011; Pepler et al., 2006; Pepler et al., 2005).

*Attitudes of staff in the acute setting towards people with aphasia*

A qualitative meta-synthesis completed by O’Halloran et al. (2012) explored the environmental factors that influence communication for patients with a communication disability in acute stroke units. The opinions of healthcare staff and patients, and direct observation of communication interactions, revealed that the attitudes of healthcare professionals were important factors in influencing communication either positively or negatively. Negative attitudes towards people with aphasia may be expressed by health professionals who do not allow uninterrupted expression by people with aphasia, resulting in negative emotional responses by people with aphasia (Parr et al., 1997). Conversely, positive attitudes by health professionals, including patient-centred approaches and the provision of adequate time within communicative interactions to allow the person with aphasia to feel they are a valued conversation partner (Sundin, Jansson, & Norberg, 2000), may facilitate communicative interactions.
Simmons-Mackie et al. (2007) reported on a Canadian intervention study designed to increase communicative access and involvement in decision-making for people with aphasia, through the training of health professionals working in settings with patients with stroke or aphasia across the continuum of care. Following the training, the bulk of barriers to system change were identified by the acute care team. These included issues related to staffing, organisational characteristics specific to the acute setting, lack of motivation due to perceived limited success, and the attitudes of the team. The investigators reported that the attitude of the acute care team was characterised by a lack of ‘buy-in’ to the approach, although it is unclear if this originates from poor project leadership, poor feedback, or possible resistance to change (Simmons-Mackie et al., 2007). This study is indicative of some of the cultural barriers which may impact upon communication intervention in the acute setting, and have the potential to impact also upon speech pathologists’ management of aphasia in the acute setting.

**Leadership to support evidence-based practice in the speech pathology**

The role of strong leadership in creating a context which supports research implementation in healthcare has been described in the literature (e.g., Crow, 2006; Halm, 2010; Kitson et al., 1998; Marchionni & Ritchie, 2008; McCormack et al., 2002; Newhouse, 2007). In speech pathology, the role of leadership in creating evidence-based services is beginning to gain recognition and support. Davies (2010) reflects on the significance of strong speech pathology leadership in the change management process in response to the emergence of new evidence. She suggests that the key elements of speech pathology leadership are conveying a vision, learning from the evidence, reflective practice, service evaluation, and enabling contribution to the evidence base. Roddam and Skeat (2010) report further on the embedding of EBP into the culture of speech pathology departments, advocating that leadership need not come from service managers, but through
inspirational therapists who can act as ‘champions’ – a role that they argue should be dedicated and defined, and supported at an organisational level by senior management.

**Closing the evidence-practice gap for acute aphasia management**

Speech pathology discipline-specific knowledge of the components of EBP and their contribution to acute aphasia management is limited. Further research into current practice and the factors that influence it is required. The successful implementation of EBP in acute aphasia management requires the consideration of each of the different streams of evidence, bridging research and practice.

The above literature review suggests that a gap exists between current acute aphasia management practices, and the research in the field. Research exploring ways to improve the uptake of evidence in clinical practice has gained legitimacy of late, and exists under the guise of various names, including knowledge transfer and exchange, implementation sciences, and evidence-based practice. The key underlying concept common to each of these theories is the exploration of how to promote the utilisation of research in clinical practice to improve the productivity and sustainability of healthcare services, whilst achieving optimal outcomes for patients (Wensing, Grimshaw, & Eccles, 2012). While early models of knowledge transfer and exchange were represented in a linear fashion, recent modelling is characterised by an emphasis on connections and interchange between researchers and research users (Kiefer et al., 2005), with multiple points of contact between consumers, clinicians and researchers throughout the research process in order to better promote the clinical uptake of research findings. As an example, the *Knowledge to Action Process* model developed by Graham et al. (2006) demonstrates the interactive relationship between *knowledge creation* and *knowledge action*, providing a scaffold upon which to develop strategies for the introduction of evidence-based techniques into clinical practice. Supporting the need to move away from linear modelling is the proposal that the translation of evidence into knowledge and practice is socially mediated, and that it
is therefore crucial to undertake organisational analysis in order to better understand barriers and facilitators to evidence-based practice in local clinical settings (Dopson & Fitzgerald, 2005). Dopson and Fitzgerald (2005) suggest that an alternative social perspective, aiming to understand the perspectives and concerns of clinicians, is required, and that adopting and utilising evidence-based practice is dependent on a series of supportive social processes operating smoothly within the practice context. The EBP literature in speech pathology has paid limited attention to the implementation of the best practice recommendations that emerge from the literature and the context in which practice occurs, instead focusing on appraisal of research findings.

Evidence-practice gaps, or knowledge-to-action (KTA) gaps, exist when divergence is apparent between what is known to be best practice and what is done in clinical reality. While evidence-practice gaps are usually defined in terms of the divergence between research literature and practice alone (National Institute of Clinical Studies, 2003), this review has taken a broader approach by examining the different EBP elements – the research-based clinical evidence, clinical expertise, patients’ preferences and values, and the context – and their contribution to speech pathologists’ management of acute aphasia. Identification of evidence-practice gaps is an initial step in the process, further research is required to explore why these gaps exist, and how agents for change can facilitate the implementation of EBP. The perspectives of ‘front-line’, clinical speech pathologists and people with aphasia will be vital in driving this process.

The challenge inherent in changing practice in order to bridge these gaps is acknowledged by the National Institute of Clinical Studies (2005), who report that “past beliefs need to be challenged, systems readdressed and conscious steps taken to replace previous actions with new behaviours that are supported with high quality evidence” (p. iv). Such is the challenge that lies ahead for the speech pathology profession in implementing evidence-based acute aphasia management.
CONCLUSION

Changes in the role of the speech pathologist in the acute care setting have resulted in a significant decrease in service provision to people with aphasia and their families. This results in professional discord for speech pathologists for whom this gap in service is evident. The personal cost of aphasia to families and the financial cost to the healthcare system suggest that knowledge of how to provide best practice approaches to care for this population is essential. While theoretically-based arguments have previously been made advocating the need to improve speech pathology service to people with aphasia in the acute hospital setting, we argue that speech pathologists must move towards the provision of explicitly evidence-based acute aphasia management in order for our services to be valued within the healthcare system, supported financially, and meet the needs of people with aphasia and their families.

While some evidence exists which evaluates the barriers to achieving EBP across the allied health professions or the broad speech pathology context, little evidence exists to date which examines the speech pathologist in the acute setting’s concept of EBP in relation to aphasia management – how do the research evidence, clinical expertise, patient preferences and values, and the context of the acute hospital setting interact to inform acute aphasia practice? A clearer understanding of factors affecting aphasia service delivery in the acute hospital setting will allow for the implementation of strategies to promote and strengthen the implementation of EBP.

Further exploration of the aphasia management processes of speech pathologists working in the acute hospital setting is required. To this end, research which addresses speech pathologists’ perceptions of their role in acute aphasia management will provide some understanding of motivational factors and competing interests in this setting. Investigation of the clinical decision making process of speech
pathologists in relation to acute aphasia management will create a knowledge base related to the factors which influence aphasia management. Understanding the experiences of people with aphasia and their families in the acute setting will allow the design of patient-centred approaches to care. Elucidation of agents for change will support the creation of accommodating contexts and environments that enable the implementation of evidence-based acute aphasia management.

It is time to turn the tide. There is a clear need to reflect on current acute aphasia management, to undertake research to better understand this practice, so that speech pathologists are able to provide, and patients are able to benefit from, more evidence-based approaches to the management of aphasia in the acute hospital setting.

REFERENCES


FIGURE 1

The components of EBP: Research-based clinical evidence, patient preferences and values and clinical expertise are integrated with the consideration of the practice context (based on the work of McCormack et al. (2002) and Rycroft-Malone et al. (2004)).
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| Knowledge translation OR          | Competency*                        | Transformational leader* OR        | factor OR Environment OR           |
| Knowledge transfer OR             | Clinical expertise OR OR Mentor*   | Environmental element OR           |                                     |
| Knowledge exchange OR             | Expertise OR Experience            | Environmental factor OR            |                                     |
| Research implementation OR        | OR Professional expertise          | Social environment OR              |                                     |
| Information needs OR             | Professional practice              | Environmental impact OR            |                                     |
| Information literacy OR           | Clinical reasoning OR              | Organisational context            |                                     |
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