



National Credentialing and Accreditation for Assistive Technology Practitioners and Suppliers

An Options Paper

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Glossary

Assistive technology (AT) - ‘an umbrella term for any device or system that allows individuals to perform tasks they would otherwise be unable to do or increases the ease and safety with which tasks can be performed’ (World Health Organization, 2004: 10). AT encompasses a wide range of items from simple to complex (see Table 2). Modifications to the home and vehicles are also an essential part of AT solutions for many.

AT helps individuals overcome barriers, enabling a wide range of outcomes including autonomy and independence in activities in the home, getting out and about in the community, communicating with others, and participating in education and employment and community activities.

AT practitioner – an inclusive description of a person who may work independently, in government, in a not-for-profit, or in a business, and who has the skills in one or more areas described below to provide:

- advice regarding personalised information and guidance on AT selection;
- assessment in conjunction with an individual with disability regarding how AT may assist the individual and their family, and providing general AT recommendations to individuals and their family, and to funders such as DisabilityCare;
- assistance to a consumer and their family to implement one or more AT solutions.

AT practitioners will generally have relevant qualifications and/or considerable experience in AT provision.

Consumer – in this paper it refers only to a person with a disability who uses AT, and has a much broader meaning elsewhere.

DisabilityCare Australia (DisabilityCare) – the name for the national insurance-based scheme created in 2013 for people with disability.

Family – according to the Act to establish DisabilityCare: ‘The role of families, carers and other significant persons in the lives of people with disability is to be acknowledged and respected’. This paper uses the term ‘family’ broadly to include families, carers and other significant people who are important to consumers.

Participant – is the term used by DisabilityCare for people with disability eligible for assistance under the scheme.

Planner – a delegate of DisabilityCare who assists a participant to prepare a plan for their goals and associated supports for 12 months or longer.

Prescriber – a traditional term used within existing AT funding schemes for the AT practitioner responsible for specifying the needs and AT requirements of a person with disability, usually within the limited scope of what is available in that scheme.

Provider – under the DisabilityCare Australia legislation and rules, a ‘provider of support’ is a person or organisation who provides, or manages the funding for, a support to a participant. Supports are particularly broad under the Act. For AT both an AT practitioner (providing information, advice or assistance) and an AT supplier (providing AT products) would be providers of supports.

Supplier – traditionally an organisation that sold or fabricated an AT device or system for a person with disability in response to an order from a funding body, or an individual consumer. Increasingly suppliers are providing information, advice and guidance to consumers and practitioners about AT products, as well as the ‘supply’ of AT (including trialling, training, setup and repair). For regulatory reasons they will generally still operate as an organisation/ business even if they are an individual operator. Many suppliers employ AT practitioners.

Executive summary

DisabilityCare Australia will shift control of resources for their disability-related goods and services to people with disability. This will include the way assistive technology (AT) is funded. The shift away from block funding of AT programs will require replacement of current bureaucratic structures used to ration scarce resources equitably and manage the risks associated with AT prescription and supply processes with a new framework more in keeping with a person-centred market-based system.

AT is a primary enabler for many people with disability. Within DisabilityCare it is estimated that 12% of expenditure will go towards AT, including home and vehicle modifications. Nationally 10% of the population (40% of people with a disability) rely on aids and equipment. Consumers often utilise advice and support to identify, select and make the fullest use of AT. Consequently, ensuring the competence of AT practitioners and the quality of AT suppliers is critical.

This paper identifies the primary issues and options for establishing a national credentialing and accreditation system. Credentialing of individual AT practitioners and accreditation of AT suppliers, particularly for higher risk and more complex AT, will provide consumers and their families with a decision-making aid when making choices in seeking assistance to identify and meet their AT needs. It will also assist DisabilityCare and other individualised funding programs to identify AT practitioners with the relevant levels of competence to assist with assessments and planning.

For good AT outcomes consumers and families need:

- timely and accurate information
- advice that is directly applicable to their situation
- accurate assessment of their needs and capabilities, and
- effective implementation of the right solution.

Delivering good AT outcomes often hinges on the combined expertise of all parties: consumer and family; AT practitioners and suppliers.

The creation of DisabilityCare Australia signals a major shift in the culture and language of service delivery. In relation to AT, the role of AT practitioners will move away from 'prescription' with its inherent gatekeeping aspects, to one of 'advice', 'assessment' and 'implementation'. This shift in roles and language is reflected in the credentialing and accreditation options proposed in this paper. AT practitioners may undertake these different roles in a myriad of configurations. Practitioners and suppliers will need to strengthen their consumer focus, and address any potential conflicts of interest, particularly where these roles are combined such as in specialist seating clinics and for orthotists and prosthetists.

To develop this options paper, a consultation paper was widely circulated. Responses were received from approximately 65 organisations and individuals throughout Australia and internationally, comprising over 120 pages of written feedback, as well as a number of individual and group discussions. Research included a review of peer reviewed and grey literature, and existing AT accreditation and credentialing systems; critiques of those systems; and research into existing regulatory systems to identify key elements related to success/failure and best practice.

This paper is a modest first step, and much more work will need to be done in negotiating and implementing key decisions regarding selecting which options are most appropriate and achievable; and developing the detailed resources, structures and processes to implement an effective and sustainable credentialing and accreditation system.

Research results

The literature review identified a number of outcomes that regulatory schemes such as credentialing and accreditation can achieve, including:

- reduced abandonment (<5%) (Strong et al., 2011)
- greater high-competency practitioner availability by directing demand for guidance on lower risk/less-complex AT to lower skilled practitioners (Winchcombe & Ballinger, 2005)
- consolidation of a 'body of knowledge' and reduced sector fragmentation (Gebbie et al., 2007)
- agreement on the necessary AT competencies (Elsaesser & Bauer, 2011).

However, these and other positive benefits can be achieved only if credentialing and accreditation systems function effectively. Key elements identified for this include:

- 'right-touch' regulation, with the level of regulation commensurate with level of risk
- transparency and accountability to the community broadly and consumers particularly
- efficacy of monitoring and enforcement, with clear recognition that up-front requirements and supports to engender good practice are the best way to generate good outcomes
- ongoing evaluation of the system itself, and its effectiveness in enhancing consumer outcomes, with the caveat that AT outcome measures are improving but need more work.

Information was collected on 17 credentialing and accreditation systems nationally and internationally. Well-established and typical examples were reviewed against key criteria including:

- governance and structural relationships, such as affiliation with funder (Enable NSW) or independent (RESNA)
- costs: detailed information was not generally available, but funding structures were
- legal status (statutory or other basis of authority)
- entry requirements (restricted to registered health professionals or other limits)
- credentialing/accreditation attainment and continuing requirements
- addressing poor performance/problems/complaints
- links to education/training
- evaluation and transparency of the system.

There are few evaluations of existing systems, and information on all these criteria was not available for all systems. However strengths and weaknesses were identified utilising a combination of comparisons against the broader literature about what is required for effective regulatory systems, and informal discussions with people involved in the systems. Our discussions also helped highlight some of the inevitable trade-offs in building and operating such systems. The results of this research, as well as the literature and the consultation process were used to develop the framework for an Australian AT credentialing and accreditation system.

Framework for a national AT credentialing and accreditation system

This summary presents the major elements of the proposed system, including some results from the consultation. There are four main parts in the framework:

- broad systemic issues
- practitioner credentialing

- supplier accreditation
- timelines and tasks for the next stages.

Broad systemic issues considered included the System's purpose, objectives, principles and implementation fundamentals. Overall these were well supported in the consultation, and several important suggestions are now included.

Purpose: The credentialing and accreditation system will identify, develop and continually enhance high-quality practitioner and supply practices in the Australian AT sector that achieve the best outcomes for consumers and their families, and improve process and economic efficiency for funders, AT practitioners and suppliers.

Objectives: These emphasise that the System must:

- enhance AT consumers' outcomes, and improve process and economic efficiency
- be appropriate to the risk, cost and complexity of the AT being provided
- be accountable, transparent and just, and
- be effective, viable and sustainable.

Principles: The three principles are:

- that the System will evolve over time to ensure that: it is affordable and sustainable; does not create bottlenecks in the availability of AT practitioners and suppliers; can develop incrementally based on ongoing evidence of effectiveness; incorporates awareness and flexibility regarding meeting the needs of rural and remote communities
- credentialing and accreditation requirements should be appropriate to risk, and should include a matrix structure incorporating (a) levels of competency and (b) areas of practice (e.g. communication solutions)
- transparency and evidence regarding key indicators of good practice in AT provision will be essential including: collaborative practice between consumers, AT practitioners and suppliers; and adherence to UN Convention on the Rights of Persons with Disabilities.

Implementation fundamentals: This covers five major areas: basis of authority and scope; governance; financial sustainability; operational requirements; and evaluation. While all of these are pivotal, only issues of authority, scope and governance are discussed here.

The basis of authority for the System could be statutory, contractual, and/or as a decision-making aid to assist consumers/families (and DisabilityCare planners). The use of the System as a decision-making aid is proposed, and there is potential for DisabilityCare and other funding schemes to incorporate credentialing and accreditation into their contractual arrangements with AT practitioners and suppliers.

Issues of scope are not dealt with in detail, as much of this will be determined by different AT funding agencies (such as DisabilityCare). However, the range of AT in relation to issues of complexity, risk and the concomitant competencies required is canvassed broadly in Table 2. There was strong support in the consultation for a single system to cover both AT practitioners and suppliers.

Several options are proposed for governance and board composition. In the consultations half of the respondents supported utilisation of an existing body, particularly one already involved in

credentialing/ accreditation (such as AHPRA) or in the sector (ARATA and ATSA) to provide governance and/or to auspice the System. This was seen as cost efficient, enabling utilisation of existing structures and expertise. The other half argued for a new independent board and organisation to minimise conflicts of interest and ensure a strong focus on AT credentialing/ accreditation. Few people supported the idea of a representative board, with the vast majority arguing for a skills-based board or a combination of the two.

Credentialing AT practitioners

Fundamentally, the purpose of credentialing AT practitioners is to provide a robust and clear evidence-based assessment of their competence. To develop appropriate structures and processes to achieve this, the paper considers a wide range of issues including those summarised below.

Requirements for AT practitioner competence must be closely linked to the risks and complexities of the AT involved. Four levels of AT risk were identified, ranging from simple everyday items that most consumers would be confident and able to select for themselves (Level 1), up to highly complex AT solutions that will typically be unique to the consumer and often require a team of practitioners and suppliers to develop in conjunction with the consumer and their family.

With the four levels of AT in mind, three options were developed. All three are the same for Level 1 and Level 2 AT. It is proposed that no credential be required for Level 1 AT. Across all options it is proposed that for Level 2 AT a relevant undergraduate degree and credentialing evidenced through registration (where that exists) and/or good standing with the relevant professional association is likely to be sufficient and appropriate.

The major differences between options, and the major challenges, are in Levels 3 and 4 AT:

- Option 1 proposes that there are additional AT competency requirements, and therefore additional (secondary) AT credentialing, only at the highest level of AT risk, Level 4.
- Option 2 is similar to Option 1, except that it identifies the need for additional competencies and (secondary) AT credentialing that covers both Levels 3 and 4 AT.
- Option 3 proposes that there are additional competencies required at Level 3, and still more at Level 4 AT, with each of these requiring credentialing (secondary and then tertiary).

In relation to eligibility for 'secondary' credentialing, several pathways are suggested including (a) professional qualifications; (b) Cert III plus experience; (c) minimum 3 years equivalent full-time experience. This proposal is based on awareness that there are some very experienced and extremely capable practitioners without professional qualifications. Some concerns were raised in the consultation about allowing people without professional qualifications to apply. It was also proposed that after three years of operation, requirements be increased.

Similarly, there were several pathways proposed for meeting credentialing requirements, including: attainment of AT credentialing through a recognised system (e.g. RESNA ATP, and potentially equivalents in relation to 'advanced AT practice' if these are implemented in the future by relevant professional bodies such as Australian Physiotherapy Association); or a postgraduate qualification in AT practice; or a portfolio of demonstrated AT practice competence; or completion of an approved written examination.

Additional potential requirements include: a structured interview with an expert AT consumer and advanced AT practitioner canvassing essential practice dimensions; and agreement to abide by other elements including professional/association codes of practice, and participation in ongoing professional development, including an insightful/reflective practitioner requirement.

In the consultations there was strong support for the interview process and the insightful practitioner concept, but major concerns were raised by many of the feasibility and cost of these.

Significantly, one of the biggest issues raised throughout the consultation process was the intersection of additional AT credentialing requirements and existing professional credentialing through relevant professions, including occupational therapy, physiotherapy, speech pathology, rehabilitation engineering, and orthotics and prosthetics. The options described above reflect this intersection, and the next stage of this process will need to involve extensive work and negotiation to resolve these issues. In these existing professional credentials requirements regarding AT competencies vary widely. There are several different ways to proceed in relation to the roles of professional bodies and AT credentialing, including:

- a. set up a national accreditation agency (independent, or part of an existing organisation) to establish and run a credentialing system, or
- b. establish a national working group to develop AT competency standards/requirements and work with the registered and self-regulated professions to establish and manage their own 'advanced AT' practice credentialing programs, or
- c. A combination of (a) and (b) with a single national AT accreditation framework that incorporates recognition of the advanced AT credentialing done by the professions.

Finally, an option is proposed to undertake credentialing in two separate streams, separating AT practitioners into those who work within supplier settings and those who do not. The advantages and disadvantages of this option are described in the paper, and it is notable that this was the initial approach undertaken by RESNA, which subsequently combined them into a single stream.

Accrediting AT suppliers

The primary purpose of accrediting suppliers is to provide consumers with a clear indication of which suppliers have the skills and reliability to meet their particular AT needs, especially in relation to more complex AT. It will also assist funding agencies (e.g. DisabilityCare) in relation to identifying appropriate suppliers to become 'registered providers'.

Eligibility to apply for accreditation includes meeting current Australian business/organisation requirements; and employment of some experienced staff. Concerns were raised in the consultation about how consumers purchasing AT from overseas (such as software) would be affected, and was balanced by recognition that within DisabilityCare consumers are not likely to be restricted in their choice of where they can purchase AT, but that consumers should be aware of the increased risks when purchasing off-shore. It was also noted that accreditation needs to be focused on assisting consumers, not protecting suppliers from competition.

Proposed credentialing requirements include: appropriate premises in Australia; adequate recordkeeping, including complaints systems; agreements and approvals in place (e.g. TGA and product standards); consumer protections (e.g. insurance and protection of deposits); a code of

practice (e.g. ATSA code of practice); and capacity for provision of effective maintenance/spares/repairs; and regular audits.

Supplier accreditation was strongly supported in the consultation, including support for the proposed eligibility and accreditation requirements, with three notable exceptions. One has already been mentioned: concerns about limitations on off-shore purchasing. There were also some important concerns raised about the requirements for suppliers of higher risk AT (Levels 2–4) to have access to AT practitioners that were credentialed for that level of AT risk. Perceptions are that some suppliers could readily meet this requirement, but it may prove difficult for others (e.g. in rural settings). This issue will need more work and investigation. Decisions made regarding credentialing, including the competency requirements for different risk levels of AT and whether a single- or two-stream approach is adopted, will have a significant impact on this issue. Finally, the intersection of accreditation and existing quality systems in use by suppliers such as ISO 9001 will need consideration to ensure costs and red-tape are minimised.

Timelines and costs

Responses in the consultation indicated that the proposed timelines covered the major tasks that would need to be undertaken in time for the initiation of the wide-scale roll-out of DisabilityCare in July 2016. There was also recognition that a great deal of work will need to be done, and it will be challenging to do it within these tight timeframes.

A three-stage process is proposed: Stage 1 Development and establishment July 2013 – June 2016; Stage 2 Early operations and evaluation July 2016 – June 2018; Stage 3 Ongoing operations. Essential tasks for Stage 1 are outlined in detail over the three years. Some of these tasks are:

- secure commitment by the DisabilityCare Launch Transition Authority to support and promote AT practitioner credentialing and supplier accreditation, and work to be undertaken to encourage other funding programs to do the same
- secure funding for Stage 1, and establish a workforce
- develop credentialing levels and requirements, in negotiation with relevant professional associations, consumers/families, suppliers and other stakeholders, and establish links with education/training sources
- develop website and other communication media
- produce economic modelling on the costs of the System and appropriate fees and charges.

Determining costs for Stage 1 will require more detailed consideration of the work entailed and relevant costs of this work. These costs are very dependent on decisions that need more investigation and negotiation. For instance if it is decided to proceed through an existing organisation already involved in credentialing, costs may be substantially lower to establish the scheme than if a new independent organisation is established. Costs for the first year to work through the immediate requirements are likely to be in the order of \$150,000 to \$200,000.

Finally, in the consultation a range of fee structures were proposed for credentialing and accreditation. In both instances, feedback emphasised the need to keep fees as low as possible while at the same time ensuring that the System is self-sustaining once it is operational. Additionally, several responses emphasised that setting appropriate fees was not possible prior to cost modelling for operating the System, and this in turn could not be done until decisions were made about the details of the System itself.

Part 1: Background

This options paper was initiated and developed because DisabilityCare Australia will shift control of resources to people with disability, and away from traditional paternalistic program funding structures for disability-related goods and services – including assistive technology (AT). The shift away from block funding of AT programs will require replacement of current bureaucratic structures used to ration scarce resources equitably and manage the risks associated with AT prescription and supply processes with a new framework more in keeping with a person-centred market-based system. DisabilityCare launch sites go live in mid-2013, with the full roll-out beginning in mid-2016 in most states and territories.

As a modest first step in this process this paper identifies the primary issues and options that will need to be resolved so that a national credentialing and accreditation system can be developed and in place by mid-2016 at the latest. This is a relatively ambitious target given the amount of work that will need to be done.

The development of this options paper utilised a four-step process:

1. development of a consultation paper
2. consultation based on the consultation paper
3. analysis of the consultation
4. development of the options paper.

The development of the consultation paper included a literature review incorporating peer-reviewed material (identified through extensive academic data base searches utilising relevant key terms), grey literature and general documentation available around the world; and direct communication with key architects/stakeholders of systems in Australia, Canada, New Zealand, USA and the UK, and professionals who have written about practitioner/supplier systems in Canada (Strong, Jutai), and the USA (Consortium for Assistive Technology Outcomes Research plus others at the Universities of Buffalo and Wisconsin). Importantly, the literature review process and this dialogue continued throughout the consultation period widening the international contributions. The consultation paper drew upon work previously undertaken by ARATA, Desleigh De Jonge and colleagues on credentialing AT professionals, and by Natasha Layton in her PhD studies and other work in this area.

The consultation paper also included an extensive review of 17 AT accreditation systems in other countries and locally, and consideration of what is necessary and appropriate in the Australian context. The systems examined and analysed in depth are listed in Table 1, and other systems were also reviewed (such as the Domiciliary Equipment Service in SA, and the Medical Aids Subsidy Scheme in QLD). The analysis included a brief discussion of the strengths/weaknesses of these systems, and the next steps for establishing an Australian accreditation system including required resources and a timeline.

Table 1: AT practitioner and supplier credentialing/accreditation programs reviewed in depth

AT practitioner	AT suppliers
Statewide Equipment Program (SWEP) Victoria (registration & qualifications to prescribe AT)	EnableNZ Equipment and Modification Services (tender for Provider Panel & Subcontractor's Manual)
Enable NSW (registration & qualifications to prescribe AT)	Pharmacy Guild Australia (pharmacy accreditation including AT)
EnableNZ Equipment and Modification Services Assessors (via Ministry of Health Accreditation Framework)	USA National Registry of Rehabilitation Technology Suppliers (Code of Ethics & Standards of Practice)
Canada – Alberta Aids for Daily Living (authorizer status)	USA Durable Medical Equipment, Prosthetics/Orthotics, and Supplies (DMEPOS) (business registration requirements to supply AT)
Canada – Ontario Assistive Devices Program (authorizer status)	Canada - Alberta Aids for Daily Living (vendor requirements & registration)
Assistive Technology Professional (via Rehabilitation Engineering and Assistive Technology Society of North America - RESNA)	Canada - Ontario Assistive Devices Program (product & vendor registration)
UK Community Equipment Dispenser Accreditation Board (accreditation of staff)	UK British Health Trades Association (Code of Practice for AT suppliers approved by the Office of Fair Trading)
UK Assistive Technology Professional Society	UK Community Equipment Dispenser Accreditation Board (accreditation of retail premises)
	UK National Health Service – Any Qualified Provider (AQP)

The consultation paper was circulated very widely through networks of AT stakeholders in Australia, and to several international experts. These groups included organisations representing people with disability and their families, and those representing AT practitioners (such as Occupational Therapy Australia), suppliers, public servants and academics, and many individuals in the sector. The consultation paper was a vehicle for seeking input and advice from stakeholders on how Australia's national accreditation system for the practitioners and suppliers of assistive technology should be constructed, particularly within the context of DisabilityCare Australia.

In addition to receiving approximately 120 pages of written responses (excluding attachments) the project team also undertook direct consultation with key stakeholders: people with disability; the NDIS Launch Transition Agency; allied health professional associations; assistive technology suppliers; and local and international experts on assistive technology accreditation systems. The consultation was done face-to-face, by telephone and via electronic conferencing facilities. Approximately 65 organisations and individuals provided input and advice during (and before and after) the consultation (see the list in Appendix A). Several consultations and meetings with groups of stakeholders were held after the formal close of the consultation process and after initial analysis of the results, and while these generated important additional comments, no new issues were revealed which indicated that we had reached saturation of responses and had successfully identified most of the major issues and options.

The consultation proved to be invaluable in many ways. It effectively engaged the stakeholders across the nation who are involved in assistive technology. It identified a few major omissions and problems with the initial consultation paper, and a wide range of small but important gaps or errors. The process was particularly helpful in highlighting key issues where there are significant differences of opinion about the best way forward, and the many areas of consensus. Fortunately, many organisations and individuals expressed not only their views, but also provided their carefully

reasoned arguments and evidence about why they took a particular stand – which helped us to craft a robust options paper out of the ‘rough’ consultation paper.

Most of the options described in the second half of this paper are a result of preferences and ideas expressed during the consultation for developing a national AT accreditation system. For example, one of the most significant sets of comments was in relation to the role of allied health professionals (both regulated via the Australian Health Practitioner Regulation Agency (AHPRA) and self-regulated) in prescribing AT. This included:

- not enough emphasis and description of the contribution made through initial undergraduate education and subsequent registration/credentialing;
- concerns that AT credentialing and accreditation for basic (non-complex) AT was unnecessary in light of existing registration/credentialing, and an extra unjustifiable expense and burden of compliance;
- comments from allied health professionals themselves and others, that ‘newly minted’ allied health professionals were often not well equipped with skills and understanding of AT, particularly at the more complex levels.

These issues and concerns, like others, have helped to identify and shape some of the options described in the second half of this paper which presents a range of options for establishing a national AT credentialing and accreditation system. More details about the consultation results are presented in the second half of this paper.

The terms accreditation, certification and credentialing were used throughout the literature reviewed and information collected on existing systems, and sometimes with different meanings. This variation is maintained in the first half of this paper when discussing different systems and articles from the literature in order to capture the original authors’ intent and language. Observationally, credentialing is usually (but not exclusively) used primarily in relation to certifying individuals, and accreditation is often (but not exclusively) used in relation to organisations and/or businesses.

Elsewhere, particularly in the second half of the paper, we have used ‘credentialing’ to refer to individuals, and ‘accreditation’ for organisations.

Part 1 provides the background for the development of the AT credentialing and accreditation framework that is described in Part 2. Part 1 sets out an overview of AT provision in Australia and introduces the likely changes to the status quo that will be generated by DisabilityCare Australia and related individualised funding strategies. This is followed by a review of relevant literature about AT credentialing and accreditation, and also of evidence from research and reviews regarding regulatory systems internationally. Part 1 concludes with the results of our review of existing AT credentialing systems in Australia and internationally, and a summary of key findings.

The Project Team was Michael Summers (Assistive Technology Suppliers Australasia - ATSA) and Lloyd Walker (Tech4Life). A Project Advisory Committee was also convened and included representatives of: consumers, carers, AT professionals, and suppliers (see Appendix B for details). Advice and suggestions from this group played a very significant role in the development of this paper.

Overview of AT provision in Australia

One in ten Australians (40% of people with a disability) use and rely on aids and equipment (ABS 2004: 7), which equates to approximately 2,278,550 people in 2012. Of these, almost one million receive government-funded assistance in varying forms to acquire the AT they need to enhance their independence and maintain their basic quality of life (Pearson, O'Brien, Hill & Moore, 2013). This ranges from federally funded schemes (such as Hearing Program Services, Dept of Veterans Affairs Rehabilitation Appliances Program) through to state/territory AT funding programs that provide items such as wheelchairs, communication aids and prosthetics and orthotics to around 141,000 people (Pearson, O'Brien, Hill, & Moore, 2013).

AT services and devices

In many discussions of AT there is a tendency to focus on devices, and to see the service component as relatively minor or ancillary. As the following discussion indicates, the services related to getting a good AT solution in place, maintained and reviewed are significant. It is notable that in the USA national legislation differentiates between funding for AT devices and for AT services, which helps make much of the work that is currently hidden in Australian funding schemes more apparent and transparent. The case of AT suppliers is a strong example, as the costs of AT devices incorporate most of the costs of related services suppliers provide to consumers, AT practitioners and funders.

All current AT schemes depend on AT assessors/prescribers to evaluate an individual's AT needs and recommend suitable AT from the products that are funded by the relevant scheme. If the scheme accepts the AT prescriber's recommendation, it may then seek quotations from AT suppliers, offer a limited list of AT that the scheme has refurbished or purchased, or maintain a 'standing offer agreement' with preapproved suppliers for a range of AT. For eligible recipients, the funding scheme then arranges for the purchase or supply of the recommended AT subject to any budgetary constraints in force at the time, and any co-contributions required from the consumer.

The above process varies slightly between schemes but always includes three major contributors apart from the consumer (who is not treated as an active partner in many existing publicly funded AT schemes): the scheme/funding body, the AT prescriber, and the AT supplier.

However, day-to-day AT practice is more complicated than the above suggests. This is particularly true when the AT, the consumer (goals/aspirations, ability, needs) and the context (social and environmental) are more complex. As complexity increases it is more likely that a multidisciplinary team will need to be involved in the prescription/assessment and implementation process. The importance and use of an 'AT team' (including the consumer, multiple prescribers and multiple suppliers) increases as consumers utilise multiple AT items which are often interdependent. For example, Layton et al. (2010) identified an average of 8 AT items in use for each consumer (including vehicle modifications but not home modifications) in their survey of 100 people with disability. Additionally, consumers' and prescribers' reliance on suppliers to provide the detail and expertise about the capacity and appropriateness of different products increases as complexity increases. Also hidden in this simple description are the myriad of interrelated other tasks that needs to be undertaken. For example, currently prescribers usually provide training and support to the consumer, family and paid carers in relation to AT. But suppliers are also often involved in this process, and many run workshops, in-services and other training opportunities for prescribers

regarding clinical practice and about particular products that are either new or unfamiliar to the prescriber. Suppliers are usually expected to make equipment available for free home trials, in addition to configuring, delivering and setting-up equipment.

There is much hidden labour in these processes. As an example, a complex wheelchair (including customised seating and electronic controls) may take a prescriber 15–30 hours from the start of the process through to final training and support, and similarly suppliers often spend 30–40 hours including constructing, configuring and programming, trialling, delivery and setup. Other items such as utilisation of an iPad for communication may entail relatively little time at the supply level, but many hours of setting up, programming, training and then ongoing support of the consumer along with the family and others involved in the consumer's life. Toward the other end of the spectrum, a walking stick may take only a few minutes to set up properly for the user, and a little more time in training. Setting up environmental controls (ECU) within someone's home may be relatively simple and inexpensive, or expensive and time-consuming depending on the situation and what is required.

Table 2 gives an indication of how AT risk, which increases as complexity increases, could be described using four levels. AT ranges from non-complex (or basic products) through to highly complex solutions. A consumer may also have challenging needs (e.g. physical *and* sensory issues) or environments (workplace, school, rural/remote) that may create higher levels of complexity. In many cases, informed consumers can self-select the most suitable Level 1 AT to meet their needs. By contrast Level 4 solutions usually require multidisciplinary input to craft a solution that is probably unique and tailored to that individual's particular needs.

As a consequence of the 2002 World Health Organization's International Classification of Functioning, Disability and Health (ICF) and the ratification of the UN Convention on the Rights of Persons with Disabilities (UNCRPD) in 2006, many government funding programs and service delivery organisations (including those related to AT) are shifting choice and control to people with disability themselves. Instead of programs implementing quite complex approval processes often distant from the consumer, the decision on what to purchase is increasingly in the hands of the consumer (particularly for individualised funding). Governments and organisations contracted by governments to deliver services are also developing systems and processes to balance these changes with their responsibilities regarding the effective and appropriate use of public funding. One essential strategy has been to ensure that consumers have access to reliable AT advice and expertise to mitigate some of the risks.

In the last five years, Australian schemes (e.g. SWEP in Victoria, and Enable in NSW) have recognised that the skills required of their prescribers need to be higher for more complex AT and client needs (see

<http://swep.bhs.org.au/sites/default/files/forms/SWEP%20Prescriber%20Registration%20and%20Credentialing%20Framework%207%20October%202011.pdf> regarding SWEP requirements). Similarly some have begun to clearly define the service standards and contributions that AT suppliers can contribute to successful outcomes. Most of these arrangements for suppliers are embedded in contractual procurement processes, often in a quasi-adversarial fashion. In any case, the requirements (and approvals) for one scheme are not transferable to another, hindering scale, portability, transparency and efficiency.

Table 2: Four levels of AT risk

Level of AT risk	Description of type of AT matching the level. 1996)	Examples
Level 4	<p>AT devices where:</p> <ul style="list-style-type: none"> - intrinsically complex features or adjustments require expertise (skill, qualifications) to fit or tailor device to the participant, task and environment; - choice and personalisation require thorough clinical assessment; - where wrong choices expose the participant to significant clinical risk (e.g. deformity, injury or death), and often require a multidisciplinary team. 	<ul style="list-style-type: none"> - Custom-made power wheelchairs with specialised controls, interfaces and, complex seating - High risk tissue integrity management - Life support systems - Spinal orthotics, or complex prosthetics - Complex motor vehicle modification - Indirect control speech generation system - Multisensory AT systems
Level 3	<p>AT devices where potential contraindications related to human variation of the participant limit outcomes and present some risk, for example:</p> <ul style="list-style-type: none"> - bed equipment and limited mobility/high posture support required (risk of asphyxiation); - mobility appliances and altered muscle tone / altered visual field / impaired cognition (reciprocal tone changes; safety concerns); - hoists, environment of use and carer health (manual handling considerations). 	<ul style="list-style-type: none"> - Electronic navigational aids - Power wheelchairs/ scooters & ultralight chairs - Patient hoists - Extensive building mods - Tissue integrity management - Standard upper or lower limb prosthetics - Speech generation devices - Adapted ICT systems - Basic transport setup, etc.
Level 2	<p>AT where:</p> <ul style="list-style-type: none"> - clinical risk related to wrong choices is less critical; - range of AT that can be considered for the choice is broad and varied (thus alternative ways to build up assistive solution); - where installation/configuration requires mainly technical or only modest clinical competencies. 	<ul style="list-style-type: none"> - Standard wheelchairs, - Routine tissue care (e.g. cushions) - Rollators, crutches, - Weight-bearing bathroom/toilet aids - Ramps - Off-the-shelf orthotics - Communication book - Memory aid apps, etc.
Level 1	<p>AT which:</p> <ul style="list-style-type: none"> - augments daily living activities, usually in the home - is often 'low-technology'/low-cost and including everyday technologies/consumer products; - can be readily identified and trialled by AT users, to ascertain their value based on daily experience. 	<ul style="list-style-type: none"> - Modified cutlery & household utensils - Basic environmental control - Simple adapted computer hardware

Source: adapted from Layton, 2013 and Hammel & Angelo, 1996.

AT and DisabilityCare Australia

DisabilityCare Australia is utilising a very different approach to service provision compared to previous regimes of block-funded services. Built on the framework of the UNCRPD and the ICF, the new scheme has a strong emphasis on participant control and individualised funding. Also, given the

need to ensure that public monies are well spent, DisabilityCare is required to manage some of the risks involved. These issues are briefly outlined below.

Consumer control and choice

The Objects of the Federal Act to establish DisabilityCare ("NDIS Act 2013," 2013) include:

- (e) enable people with disability to exercise choice and control in the pursuit of their goals and the planning and delivery of their supports; and
- (f) facilitate the development of a nationally consistent approach to the access to, and the planning and funding of, supports for people with disability; and
- (g) promote the provision of high quality and innovative supports that enable people with disability to maximise independent lifestyles and full inclusion in the mainstream community.

Further the Act is based on 17 principles that reinforce how it should deliver a better future for people with disability including:

- (4) People with disability should be supported to exercise choice, including in relation to taking reasonable risks, in the pursuit of their goals and the planning and delivery of their supports.
- (5) People with disability should be supported to receive reasonable and necessary supports, including early intervention supports.
- (11) Reasonable and necessary supports for people with disability should:
 - (a) support people with disability to pursue their goals and maximise their independence;
 - (b) support people with disability to live independently and to be included in the community as fully participating citizens; and
 - (c) develop and support the capacity of people with disability to undertake activities that enable them to participate in the mainstream community and in employment.
- (12) The role of families, carers and other significant persons in the lives of people with disability is to be acknowledged and respected.

It is clear that DisabilityCare Australia will establish processes that facilitate consumer-driven and controlled selection and procurement of necessary supports (including AT). Importantly there is recognition that choice will enable consumers to take 'reasonable risks'.

While the full detail of how AT will be provided under DisabilityCare is still to be finalised, the legislation and associated draft rules imply that the roles of AT practitioners and suppliers will be focused more toward providing information and services to consumers. In general, AT practitioners will be released from the burden of being the 'gatekeeper' that is inherent in many existing funding schemes (particularly with the concept of 'prescriber'), and become 'assessors'. Rather than 'prescribing' with its inherent role as 'authorising' what can be provided (often from a limited or restricted list of 'authorised' items), AT practitioners will be sought out by consumers and DisabilityCare for advice and assistance in identifying the most appropriate solution that meets the consumer's goals. For AT practitioners the role will be more focused on offering information, assessment and advice, rather than approval. For suppliers it will be about ensuring that any delivered solution is tailored to achieving the consumer's expectations for their AT, rather than providing a limited set of options from a scheme-approved list of products.

It is important to recognise that consumers and families have many sources of information (including other consumers and families), and several programs are aimed at strengthening existing information systems, particularly the internet-based systems (such as the Independent Living Centres' databases, the Therapy Choices Practical Design Fund project, etc.). AT practitioners and suppliers will be a component of this mix, particularly where consumers are seeking specific or personalised information or have more complex needs.

Within the context of DisabilityCare and other individualised funding schemes, AT practitioners and suppliers will be asked by consumers (and those assisting them) for advice on how AT may assist them with their goals. To describe this shift away from 'prescription', this paper uses the terms 'AT assessment' to describe the first part of the collaborative process for selecting the best AT solutions, which are then funded. The second part of the process is 'AT implementation' that delivers the selected solutions. This includes ongoing support, training, maintenance, repairs, etc. Both AT practitioners and AT suppliers can be involved in these two roles.

The consumer (or their appointed broker) will identify one or more AT practitioners and/or suppliers to assist them to implement their planned AT. For some items, an AT supplier can provide all the assistance a consumer requires in selection, setup, training and follow-up, while in other cases (particularly as complexity and risk increase) AT practitioners and AT suppliers may work together to fulfil all the steps necessary for good AT delivery. For some AT (e.g. prosthetics/orthotics), the AT practitioner (as manufacturer) is also the supplier.

AT practitioners can thus work in two roles – AT assessment or AT implementation (or both):

- The AT assessment role delivers personalised advice (particularly for specialised or complex AT) which is likely to have significant influence on the broad choices of consumers, and the associated allocation of AT funding. It will be critical for consumers and those guiding the individualised funding package that this advice is impartial wherever possible, or any conflicts of interest are made clear. It seems likely that DisabilityCare will set minimum competencies or similar requirements (similarly to other insurers like the Transport Accident Commission (TAC) in Victoria and Lifetime Care and Support Authority in NSW), and credentialing of AT practitioners could assist with identifying such competencies.
- AT implementation is more targeted at an individualised AT solution. Some AT practitioners working in the implementation role will be employed or contracted by suppliers, and for others implementation is often part of a follow-through role after undertaking an assessment and providing continuity and ongoing support for the consumer and their family. This role will require people with skill in working with participants, their stakeholders and suppliers to deliver solutions focused on the desired outcomes set by the participant.

The literature increasingly notes the importance of practitioner competency in achieving good AT outcomes with consumers. The credentialing of AT practitioners as well as accreditation of AT suppliers could also assist in identifying the appropriate people and organisations to fulfil this role.

The challenge for the AT sector is recognising that the era of having a one-size-fits-all system for meeting consumer AT needs has passed. Increasingly consumers are doing their own internet searches and talking with advice centres and multiple suppliers as they make choices. Online shopping (including off-shore suppliers) is already a reality.

Managing risk

In relation to all supports provided through DisabilityCare (including AT) the following draft rules embody the work done to date on how to operationalise risk management requirements. Note that the rules presented below are a direct quote from the *NDIS Draft Rules*, and may be modified before they are finalised.

Value for Money

3.1 In deciding whether the support represents value for money in that the costs of the support are reasonable, relative to both the benefits achieved and the cost of alternative support, the CEO is to consider the following matters:

- (a) whether there are comparable supports which would achieve the same outcome at a substantially lower cost;
- (b) whether there is evidence that the support will substantially improve the outcomes for, and be of long term benefit to, the participant;
- (c) whether funding or provision of the support is likely to reduce the cost of the funding of supports for the participant in the long term (for example, some early intervention supports may be value for money given their potential to avoid or delay reliance on more costly supports);
- (d) for supports that involve the provision of equipment or modifications:
 - (i) the comparative cost of purchasing or leasing the equipment or modifications; and
 - (ii) whether there are any expected changes in technology or the participant's circumstances in the short term that would make it inappropriate to fund the equipment or modifications;
- (e) whether the cost of the support is comparable to the cost of supports of the same kind that are provided in the area in which the participant resides;
- (f) whether the support will reduce the participant's need for other kinds of supports (for example, some home modifications may reduce a participant's need for home care).

Effective and beneficial and current good practice

3.2 In deciding whether the support will be, or is likely to be, effective and beneficial for a participant, having regard to current good practice, the CEO is to consider the available evidence of the effectiveness of the support for others in like circumstances. That evidence may include:

- a) published and refereed literature and any consensus of expert opinion; or
- b) anything the Agency has learnt through delivery of the NDIS.

3.3 In deciding whether the support will be, or is likely to be, effective and beneficial for a participant, having regard to current good practice, the CEO is to take into account, and if necessary seek, expert opinion. (*National Disability Insurance Scheme Rules—Supports for participants (Commonwealth Draft)*, 2013:7,8)

In considering how these rules might impact on the provision of AT, there are some useful observations and findings from the literature. Provision of AT has always wrestled with the dangers of a poor AT solution being issued, or the sometimes over-emphasised risk of fraud. History and the literature supports the importance of well informed, and timely decision-making as close to the AT consumer as possible, and ideally by the consumer (Seymour, 2000). Brett, Moran and Green (2009)

in their study of risk in community service environments highlight the importance of equipping both organisations and individuals (including consumers) to understand and then manage the risks involved.

Twenty-five years ago, Strong, Pace and Plotkin (1988) highlighted the hazards to those with vision impairment where consumers are not able to access appropriate advice from competent practitioners. A person who has recently suffered neurological damage (e.g. a head injury or stroke) may not realise the importance of good postural seating to minimise permanent muscle contracture. The report by the Australian Institute of Health and Welfare (2006) into therapy and equipment needs of people with cerebral palsy has numerous examples where the lack of timely intervention and provision of the right AT resulted in significant complications (adverse events), particularly for children:

One child required a wheelchair with appropriate seating to help cope with aspiration and swallowing problems. Medical complications developed while on the waiting list. [The child] ended up with a gastrostomy [tube] instead of a wheelchair. (Australian Institute of Health and Welfare, 2006, p91)

While the case above hinged on delays in the provision system, similar devastating results can occur where consumers (and even practitioners with limited AT competence) are not aware of potential future consequences of their decisions.

For good AT outcomes consumers need:

- timely and accurate information
- advice that is directly applicable to their situation
- accurate assessment of their needs and capabilities
- effective implementation of the *right* solution (objectively and subjectively) for their needs.

Within DisabilityCare particularly, some consumers may have enough confidence and insight to address all of the above elements (through peers, experience, the internet, etc.) and engage directly with a supplier. Where risks are higher, such as when the consumer is inexperienced or unsure, and/or the complexity of AT, and/or the complexity of consumer's needs or situation, is higher it is likely they will seek advice from an AT practitioner and/or a supplier.

Establishing credentials for AT practitioners and accreditation for AT suppliers is an important tool to assist consumers (and their advisors) identify and choose those the appropriate practitioner and/or organisation that they can trust for their integrity, competence, advice and service. As Wagner, McDonald and Castle (2012) highlight, evidence is emerging across several sectors of the benefits of accreditation and credentialing in reducing adverse events. Indeed Lenker et al. (2013) highlight that when reflecting on outcomes aspects, consumers of AT were generally pleased with the service and advice they received from practitioners, suppliers and funders, but concerned about the variability they encountered, and the extent to which their experiences and wishes were acknowledged by those providers. Most recent authors urge the need for more monitoring and research of the AT service process and its impact on consumer outcomes using relevant consumer descriptors (e.g. independence, well-being etc.) (Lenker et al., 2013).

Review of literature and existing programs

Following through on some of the issues described above, particularly in relation to managing the inherent risks and complexities of good AT delivery processes to generate the right outcomes for consumers and their families, this section examines the international literature regarding AT credentialing and accreditation, and evidence from research and reviews of related regulatory systems internationally. This is followed by a section that presents results from our review of key structures and processes in existing AT credentialing and accreditation systems internationally and nationally.

The literature

AT service processes and outcomes

Credentialing and accreditation have been around for a range of professions and services for many years. In the AT domain, there have been several publications in the last ten years identifying how the different AT service delivery elements influence AT outcomes (Lenker & Paquet, 2004; Scherer, Jutai, Fuhrer, Demers, & DeRuyter, 2007; Smith & Rehabilitation Research Design & Disability (R2D2) Center, 2004; Strong, Jutai, & Plotkin, 2011). Indeed such investigations on the impact of AT services span the vocational rehabilitation arena (Noll, Owens, Smith, & Schwanke, 2006; Schwanke & Smith, 2005) across to education and special education (Edyburn, Fennema-Jansen, Hariharan, & Smith, 2005; Watson, Ito, Smith, & Andersen, 2010).

In the same way that consumers bring a range of skills, knowledge and experience, AT providers¹ also bring different abilities. Scherer et al. (2007) highlight that the contributions of the provider and consumer must complement each other in order to achieve a satisfactory outcome (see Figure 1). Their work is supported by work of the international Consortium on Assistive Technology Outcomes Research (CATOR). Scherer et al. use four categories to describe the different elements consumers and providers bring to the process of selecting AT. The consumer and provider can work together to assess the need and evaluate AT solutions (both objectively and subjectively) within their broader context and environment (which includes funding rules as well as where the consumer will use the AT). As Scherer et al. (2007) note, both consumer and provider adjust and develop their personal factors each time they undertake this process, and every time they have opportunity for continued education or peer discussion.

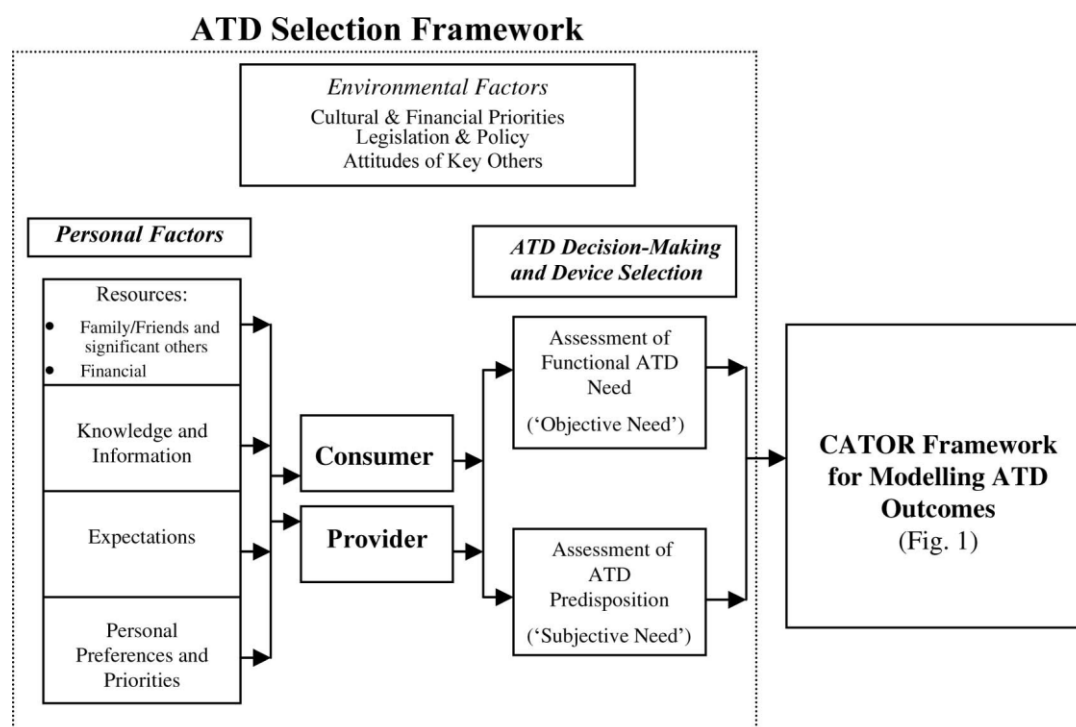
Elseasser and Bauer (2011) provide much greater detail on the range of stakeholders contributing to successful assistive technology services with consumers. They note that both government and professional organisations in the USA have proposed a range of complementary profession categories (health, health-related, product and technical, and resource) that come together to work through the various roles identified as part of AT services. The first role identified in Elseasser and

¹ Most literature, particularly that from North America, uses the term 'AT provider' which has broad coverage (based on USA legislation) and refers to clinicians, technologists, suppliers, and others. These different roles seem to be well understood by most in the USA AT sector. Some of the literature however does seem to equate 'provider' with 'practitioner' which is more narrow. In Australia, the term 'provider' can be used for those who provide a service – advice, guidance or assistance with a product. We have used the broader concept of 'provider' (in line with more recent commentary) here when reporting the implications of competence and credentialing.

Bauer's taxonomy is to 'inform – give or provide information', to both the consumer and their family. This is seen as ensuring appropriate decision-making, and highlights the importance of factors affecting AT device use, including qualifications of the team. Elseasser and Bauer (2011) provide a list of nine aspects that demonstrate competence in AT practice. Seven of these relate to the individual practitioner and two to organisational processes. Certification and accreditation are two of the nine areas, and most aspects are linked and interdependent, such as teaching/training and quality systems.

The complexity of the AT device selection process is exacerbated by the fact that AT (including its necessary training and setup) is rarely the sole solution. Competent application of AT requires a thorough understanding of other concurrent interventions running parallel to AT implementation (Rust & Smith, 2005). This is depicted in the IMPACT2 Model (Smith & Rehabilitation Research Design & Disability (R2D2) Center, 2004) that also underpins the provision of Assistive Technology Services Method (Elsaesser & Bauer, 2011). Addressing these factors for specialised and complex AT and consumer need demands substantial clinical and technical skill and knowledge that comes through professional education and training. After many years of European research and innovation in AT practice, the Association for the Advancement of Assistive Technology in Europe (AAATE) released a position paper on AT service delivery in 2012 that is a 'state of the science' framework. The paper recommends both increased skills and strengthened competency for practitioners, and the establishment of 'centres of excellence' particularly for complex AT. The paper includes six criteria necessary for a quality AT system: accessibility, competence, coordination, efficiency, flexibility, user influence. This options paper is in keeping with these six elements (see http://www.aaate.net/sites/default/files/ATServiceDelivery_PositionPaper.pdf).

Figure 1: Framework for modelling the AT selection process



Source: Scherer et al. (2007: 4)

Strong and Plotkin (2012) cite a vast range of benefits that come from the accreditation and peer audit of organisations. When linked to their preferred approach of 'Competitive Enablement' (Strong et al., 2011), accredited specialist centres are achieving very low abandonment rates at less than 5%.

In a competitive marketplace, it is important for consumers and funders to be able to identify the most appropriate prescribers/assessors and suppliers to partner with consumers to deliver their ideal AT solution. This is a vital role for accreditation/certification which is beyond the traditional basic requirements of safety, probity and regulation (Havighurst & King, 1983) which underpin most frameworks for the purchase of AT with public funds.

Building systems that create good practice

In 2005, the UK produced a framework to certify support workers as competent in certain AT practices to help reduce the waiting time for professional practitioner AT assessment (Winchcombe & Ballinger, 2005). Another health-related grouping of professionals (public health) moved toward credentialing in 2007 after much debate, primarily to establish an agreed body of knowledge for the 'profession' and to help address the perceived fragmentation of the sector (Gebbie et al., 2007).

The UK has been the centre of extensive reviews (including Royal Commissions), study and change with regard to the standards expected of practitioners and suppliers in health services. The trigger for this upheaval was a series of scandals that undermined the public trust in longstanding self-regulation of medical practitioners (Dixon-Woods, Yeung, & Bosk, 2011), and an economically driven desire to open up service provision to competition among providers (the Any Qualified Provider frameworks). The key criticism of the older self-regulation systems was that they lacked transparency, and seemed more focused on shielding the members (in the case of the General Medical Council) or the status quo (in the case of NHS Trusts) than protecting and meeting the needs of consumers and funders/government. These changes are only now starting to be clarified in the AT domain with the release of standards for *Specialised Services* to be nationally commissioned (see <https://www.engage.commissioningboard.nhs.uk/consultation/ssc-area-d/>).

Over the same period the Professional Standards Authority in the UK commissioned research to review the effectiveness of regulation for health practitioners (Quick, 2011) in line with their 'right-touch' approach to regulation. Quick (2011) highlighted the paucity of well-defined behavioural linkages between regulation and sound practice. Instead he noted that a combination of factors (e.g. contracts, clinical guidelines, professional regulation, leadership etc.) that all encourage sound practice (and modelled by sector leaders) are more effective in achieving sound practice than coercive approaches. Mirroring the recommendations of Australia's Productivity Commission regarding the regulation of allied health professions (Productivity Commission, 2005), the UK's Professional Standards Association has implemented Accredited Voluntary Registers (see <http://www.professionalstandards.org.uk/voluntary-registers>) to complement their statutory registers. Unfortunately these new approaches have been operational only for a couple of years and evidence of their effectiveness (or otherwise) is still being gathered. A number of currently unregulated allied health professions in Australia are calling for a similar approach (National Alliance of Self-Regulating Health Professions, 2012) under the Australian Health Practitioners Registration Authority.

In other fields, the development of both professionalism and credentialing has been closely studied. Brown and Ferrill (2009) explored the challenges of ensuring graduates in pharmacy were not only

sound in their knowledge and skill, but also in how they then went on to *act* – what they refer to as their ‘professionalism’. They identified three critical domains – competence, connection and character. While competence is the foundation, professionalism builds as each of the other domains is strengthened. Daniel and Ferrill see their holistic taxonomy as helping protect individual practitioners from temptations to ‘cut corners’ or be driven by motives outside the client’s best interest. Interestingly Conway and Cassel (2012) have noted that if it is well crafted, a suitable credentialing system can actually build professional behaviours while also supplying necessary quality assurance data to funding bodies and professional registration agencies. They note an increase in uptake of the recertification requirements in physician practice rather than simply moving across to funder required quality data because the professional credentials are comprehensive and in keeping with clinical flow.

The Australian AT credentialing discourse

The emergence in North America of the RESNA Assistive Technology Professional (ATP) and Assistive Technology Supplier credentials in 1996 prompted a forum at the 1997 ARATA Conference in Australia to approve a motion to ‘endorse, in principle, assistive technology practitioner accreditation in Australia’. A subsequent survey of the membership, professional associations and universities was conducted (Jones & Manolios, 1999) and found that the preferred method of credentialing mostly mirrored that of RESNA, but only 60% of members felt that the issue was a priority. At that time several professions were introducing new accreditation options, although none were AT specific, and the pursuit of AT credentialing waned.

The issues of competency and credentialing began to resurface at Australian AT conferences around 2007 when the NSW State Spinal Cord Injury Service developed training materials that built on a longstanding ‘Introduction to Wheelchair Seating’ course that had been run for a number of years by Penny Knudson, Bill Fisher and others. Over time this work has become a key part of some of the approval requirements for practitioners under the Enable NSW system. Since 2009 several states (e.g. Victoria and South Australia) have built systems to recognise approved/authorised prescribers with increased levels of authority based on demonstrated competence (for example see the Victorian SWEP green/amber/red system at <http://swep.bhs.org.au/sites/default/files/forms/SWEP%20Prescriber%20Registration%20and%20Credentialing%20Framework%207%20October%202011.pdf>).

In 2010 practitioner credentialing was again considered by ARATA members through a delphi-style forum at the 2010 Conference. Regulation (including credentialing and supplier accreditation) was one of six areas deemed necessary to improve the quality of AT service provision. Assessment of practitioner knowledge, validation of existing qualifications and competencies by existing agencies, and evidence of continued professional development were the top three preferred strategies agreed upon (De Jonge, Ford, & Duncan, 2010).

In New Zealand in 2010 the Ministry of Health NZ (MOH NZ) introduced the Equipment and Modifications Service (EMS) Accreditation Framework. The framework includes EMS Approved and Credentialed Assessors (across 8 and 4 categories of AT respectively) and in 2011 introduced ‘service accreditation’ to require services to be credentialed, rather than individual assessors, in relation to providing low-cost and low-risk equipment to consumers. This step was particularly relevant to community services and has assisted in reducing waitlists and duplication of home visits by different

allied health professionals. The community service is responsible for providing an appropriate level of training and mentoring to those prescribing AT, such as occupational therapy assistants prescribing commodes, district nurses providing crutches (Wilson, 2013). AT with higher levels of risk and complexity require practitioners to be specifically credentialed to do this at two different levels of risk/complexity. This system continues to be subject to evaluation (see Figure 2 for more details).

Figure 2: The Ministry of Health (NZ) Equipment & Modification Accreditation Framework

There are three levels within the EMS Assessor Framework:	
1.	“service accreditation” for low cost, low risk equipment which allows the service provider to determine who can prescribe – does not need to be an allied health professional.
2.	“approved assessors” – recognises core skills in undergraduate programmes so assessors only need to complete a core module on funding eligibility via EnableNZ to be approved. <ul style="list-style-type: none"> - Personal Care & Household Management (OT, PT employed as visiting neurodevelopmental therapist (VNT) or SLT (feeding only)), - Walking & Standing (PT & OT employed as VNT) - Basic household modifications (OT) - Vision assistive technology (Optometrists & Ophthalmologists, Coordinators or instructors RNZFB, or OT (in low vision clinic)), - Hearing aids/ hearing assistive technology (Audiologist, Deaf Aotearoa & RNZFB Coordinators, members of NZAS (with cert. of competence)) - Communication AT (SLT who are members of NZ SLTA)
3.	“credentialed assessors” for those areas where additional training to undergraduate programmes is required <ul style="list-style-type: none"> - Wheeled Mobility & Postural Management (Sitting & Lying), - Communication Assistive Technology, - Vehicle Purchase & Modifications, - Complex housing modification

Dealing with risk

Our literature review explored not only the current scholarship relating to the AT field, but extended to the way accreditation and credentialing is being viewed (and critiqued) particularly in the health and allied health domains. It is worth noting that much of the AT outcomes literature from North America tends to *assume* regulation (and to some extent credentialing/accreditation) of practitioners as fact, not a variable, which sometimes limits any reflection they may give to its value. We also explored the growing work being done on how regulatory systems balance degrees of risk and regulatory effectiveness against their costs and constraints to the delivery of flexible services. Any proposed Australian AT accreditation and credentialing system must be able to appropriately mitigate (where possible) these different levels of risk, with a minimum of constraints, burden and associated costs.

Linking outcomes with guidelines and standards

Accreditation and credentialing are primarily about managing risks. To that end the relationship of guidelines and standards that underpin accreditation and credentialing systems, and their relationships to outcomes for consumers and their families is a central issue. The development of the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Assistive Technology Professional (ATP) credential in the 1990s (following a long and carefully planned process – see Appendix C) preceded the substantial work in the last 15 years on the evaluation of AT outcomes. Two ground-breaking instruments – the Psychosocial Impact of Assistive Devices Scale (PIADS) (Jutai & Day, 2002) and Quebec User Evaluation and Satisfaction with Assistive Technology (QUEST) (Demers, Weiss-Lambrou, & Ska, 2002) – enabled the collection of validated data on consumer perspectives on AT solutions, enabling research groups to evaluate what factors in the AT prescription and delivery process influenced successful (or otherwise) outcomes (Fuhrer, Jutai, Scherer, & DeRuyter, 2003). These tools have not been widely adopted outside the research context.

Other instruments have been utilised to explore AT outcomes in routine practice. The OTFACT instrument uses a broad functional assessment approach (Smith, 2002). The SFA-AT (Silverman & Smith, 2006) and the School Performance Profile (SPP) have been presented as instruments to document the effects of assistive technology in schools, with the SPP having been shown useful for children with cognitive impairments (Watson et al., 2010). In Australia adaptations of Goal Attainment Scaling (Maclean & Young, 2006) and the Canadian Occupational Performance Measure (Nguyen, Garrett, Downing, Walker, & Hobbs, 2007) have been used to evaluate AT interventions. Studies are increasingly considering the impact of the practitioners involved.

Several research groups, particularly in North America, began to draw together broadly accepted aspects that would define the competencies of AT professionals (Elsaesser & Bauer, 2011). Similarly, standards for AT services were described and critiqued by the North American AT outcomes research teams (Lenker et al., 2010; Lenker et al., 2012; Strong & Plotkin, 2012), and in an extensive review by the Foundation for Assistive Technology UK (Down, Wardle, & Mitchell, 2006). For practising professionals, clinical practice guidelines and position statements were developed (in essence as the de facto standards) within the RESNA framework that set a benchmark for appropriate service delivery in several complex AT categories (e.g. power wheelchairs for paediatric users) (Arva, Paleg, et al., 2009; Arva, Schmeler, Lange, Lipka, & Rosen, 2009; Dicianno et al., 2009).

In the last few years though, outcomes researchers have been discovering limitations in the use of PIADS and QUEST for determining consumers' perspectives on valued outcomes (Harvey et al., 2012; Lenker et al., 2013; Mortenson et al., 2013; Mortenson & Miller, 2008). Indeed Lenker et al. (2013) highlight the importance of building better techniques and more appropriate questions to facilitate consumer feedback on outcome issues that are meaningful to them. This suggests that even some of the more commonly used instruments used in clinical practice could be improved. If outcomes are to be used as part of the assessment of effectiveness and competence of AT practitioners and suppliers, further development of appropriate measures is vital.

Regulation and professional self-governance

Recent literature on regulation and professional self-governance increasingly challenges the traditional one-size-fits-all approach of broadly based practitioner or agency registration/regulation, particularly systems that lack some form of 'front end' and ongoing monitoring of quality (both of

individuals and of the system itself)(Black & Baldwin, 2012a, 2012b). Indeed our review identified broad agreement that many current systems of health service and practitioner regulation were overly bureaucratic, disconnected from facets that truly influenced positive behaviour and outcomes, and were poor at accountability and transparency (Hutter, 2008; Lloyd-Bostock & Hutter, 2008; Quick, 2011; Redwood, Winning, & Townsend, 2010).

Dixon-Woods et al. (2011) point to such flawed frameworks and cultures as the primary cause of the demise of the UK's 150-year-old medical practitioner self-regulation system. In defence of many of these organisations though, Huising and Silbey (2011: 14) note that 'while we have increasingly sophisticated hypotheses for *why* some organizations are committed to achieving compliance, we continue to have an impoverished sense of *how* this commitment is successfully enacted'. While some believe that only a government regulator or accreditation system is valid, Havighurst and King (1983) convincingly argue that private accreditation/certification has a valid place in health services providing that there is transparency and accountability around governance and decision-making.

The UK Professional Standards Agency describe eight elements developed by the Council for Healthcare Regulatory Excellence (2010) that sit at the heart of 'right touch regulation':

Right-touch regulation focuses on the problem, the outcome and the roles and responsibilities assumed by different agencies. It uses an evidence-based assessment of issues. It allows for an inclusive debate, not dominated by expertise about process, but informed by experience and evidence relevant to the outcome. The right-touch approach can be summed up as 'more insight, less oversight'. (CHRE, 2010: 13)

The eight elements set out eight progressive steps that should be utilised in developing an approach to regulation or in our case, accreditation and credentialing:

1. Identify the problem before the solution
2. Quantify the risks
3. Get as close to the problem as possible
4. Focus on the outcome
5. Use regulation only when necessary
6. Keep it simple
7. Check for unintended consequences
8. Review and respond to change.

It is important to note, as several respondents did to the consultation paper, that the last three points have an underlying element of 'measure the outcomes'.

An excellent example of 'tailoring' intervention within a regulatory context is the work by Murphy et al. (2012) where their tested approach to practitioner revalidation ensures that:

- the focus is on what encourages safe and continuous improvement based self-evaluation;
- the evaluation is efficient and adequate to achieve reliable and consistent outcomes;
- those involved in the process are able to link the process to professionally agreed competency; and

- there is scope for graduated intervention/audit timing depending on the findings for each individual.

These elements are reflected in several recent studies of credentialing systems in anaesthetics (Conway & Cassel, 2012), nursing (Benton, Gonzalez-Jurado, & Beneit-Montesinos, 2013), and pharmacy (Brown & Ferrill, 2009).

It is also worth noting that there can be distinct advantages of a combined credentialing/ accreditation system. New Zealand's Ministry of Health 2011 move to accredit institutions to monitor their staff around lower level AT in particular has been regarded as successful in freeing approved and credentialed assessors to more complex tasks (Wilson, 2013).

Finally, a likely future for accreditation and certification in health is offered by Duffy (2009) who reflects that increasingly practitioners and services will be assessing their competence through routine inclusion of reports from patients and other professionals. Students and practitioners will focus their continuing professional development on practice-based learning with measurement and care outcome reporting. This approach is already apparent in the work of Murphy et al. (2012) and strongly endorsed for other Australian professions (Redwood et al., 2010).

Current AT credentialing and accreditation systems

Table 3 summarises some of the key attributes of the most significant and developed AT accreditation/credentialing schemes in operation regarding AT prescribers and suppliers. Key attributes summarised in the table include: scope of the scheme; its structure and requirements for accreditation/credentialing; the source of the scheme's authority and its purpose; some of the perceived strengths and weaknesses; and issues regarding governance, accountability and transparency. A summary of results from several of the most established schemes as well as a selection of typical schemes are set out in Table 3 below. A list of these and some of the other schemes reviewed can be found in Table 1, and the authors can be contacted for more extensive and detailed results. Also, a brief summary of some international schemes is provided in Appendix D.

Professional AT credentialing systems

With the exception of the RESNA ATP processes, most systems are either in their development phase, or are primarily focused on limiting the range of assessors/prescribers who can authorise government-funded AT.

Since their inception, Australian and New Zealand AT funding schemes have established 'authorised' prescribers. With few exceptions (particularly in vision assistance), these practitioners are graduate qualified allied health practitioners. Mostly they are either required to be registered (if applicable) or 'in good standing' with the relevant professional association.

Prior to 2010, the registration of professions varied from state to state (through discipline-specific statutory professional registration boards), with the result that some states required registration to practise in a particular profession, while a neighbouring state/territory did not. Concerns have led to all of the existing state and territory health and allied health registration boards being 'nationalised' under the Australian Health Practitioner's Registration Agency (AHPRA). The requirements on the registered professions are detailed, carefully structured and controlled and cover all activity within a professional discipline. Only three professions have specialties: medicine, dentistry and podiatry. The other way AHPRA recognises special skills is through an endorsement (e.g. acupuncture).

Some professions were not included in this coordinated registration process. In the AT field these were notably prosthetists/orthotists, speech pathologists and rehabilitation engineers. However, each of these three professions has their own national accreditation/registration system (with varying degrees of independence from the professional association), which is not statutory (governed by law).

In the last five years, several state AT funding programs (e.g. NSW, Vic, SA, WA) have also begun requiring practitioners to meet competence requirements at up to two levels beyond the basic graduate-entry level requirements for less complex AT. The approach varies but generally hinges on a combination of past training and experience.

Table 3: Summary of selected AT accreditation programs

Program	Scope	Structure/requirements	Authority/purpose	Perceived strengths/weaknesses	Governance, accountability & transparency
<i>SWEP Victoria</i>	Prescribers within Victorian Aids & Equipment Program	<p>A matrix using 3 tiers:</p> <ol style="list-style-type: none"> 1. Basic (green) 2. Intermediate (amber) 3. Complex (red) <p>And different areas of practice (i.e. seating, mobility, vehicle mods, etc.)</p> <p>With associated relevant allied health profession qualifications, experience and specialised training required</p>	<ol style="list-style-type: none"> 1. Created by & for SWEP to improve quality of AT provision & efficiency of administration 2. Prescription = funding authorisation generally (note most AT not fully funded, co-payments req'd) 3. Authority for prescribing AT underpinned by legislation for specific allied health professionals i.e. OTs, physio, etc. 	<p>Strengths</p> <ol style="list-style-type: none"> 1. In-house system enables very low running costs AND close links to data to determine who is/is not effectively prescribing AT 2. Self-assessed effectiveness of system by SWEP indicates it has provided very significant administrative efficiencies and very few inappropriate prescriptions <p>Weaknesses</p> <ol style="list-style-type: none"> 1. Lack of formal reporting and governance structures reduces accountability and transparency 	Set up and administered by SWEP with some informal accountability & transparency through advisory committees, primary accountability is to Vic govt at broad contractual level only
	Suppliers primarily repairs & maintenance, oxygen & continence aids to date, but extending	<p>Tendering process with expert review panel. Contract term 3yrs</p> <p>Emphasis on ensuring equity and state-wide coverage</p>	<p>SWEP purchasing approach</p> <ol style="list-style-type: none"> 1. Aiming for state-wide consistency & equity for consumers 2. Introducing KPIs/monitoring 3. Seeking bulk purchase efficiencies & greater accountability for suppliers 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Evaluated by experts in AT 2. Establishes range of AT & cost constraint <p>Weaknesses</p> <ol style="list-style-type: none"> 1. Highly competitive and may reduce local provision 2. Relatively high cost for suppliers each 3yrs not linked to level of supply 3. Process is not ongoing– new items wait for future round 	
<i>Enable NSW</i>	<p>Prescribers within NSW AT Program</p> <p>(Suppliers – there are also bulk procurement processes in place but similar issues are covered in other schemes here)</p>	<p>A matrix using 3 tiers:</p> <ol style="list-style-type: none"> 1. Basic (Grp 1) 2. Intermediate/complex (Grp 2) 3. High risk/complexity (Grp 3) <p>And different areas of practice (i.e. seating, mobility, vehicle mods, etc.)</p> <p>With associated relevant allied health profession qualifications, experience and specialised training required</p>	<ol style="list-style-type: none"> 1. Created by & for Enable NSW to improve quality of AT prescriptions 2. Prescription is reviewed and regularly amended by panel (note AT fully funded) 3. Unconfirmed, but likely that authority for prescribing AT underpinned by legislation for specific allied health professionals i.e. OTs, physio, etc. 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Increased consistency of clinical practice state-wide 2. Less referral/review by Enable panels increased formal training of AT prescribers <p>Weaknesses</p> <ol style="list-style-type: none"> 1. Does little to reduce bureaucratic review 2. Profession restricted 3. Limited availability of suitably approved professionals 4. Limited feedback/monitoring of prescribers 	Set up and managed by Enable NSW. No publicly available data (e.g. no list of authorised prescribers)

<i>Qld Medical Aids Subsidy Scheme (MASS)</i>	<p>(Prescribers) similar to NSW & VIC above <i>but solely on discipline registration</i> & not tiers, so review here is on supply)</p> <p>Suppliers primarily for wheeled mobility but exploring repairs & maintenance</p>	<p>Structured tender document to 'prequalify'</p> <ol style="list-style-type: none"> Specify products incl. AT product standards compliance & pricing (3 zone) Attest to meeting minimum business benchmarks 	<p>Government procurement process, coordinated through Qld Health</p> <ol style="list-style-type: none"> Prequalify AT against standards & pricing Ensuring the organisations meet minimum Qld Health requirements MASS must purchase from Standing Offer Arrangement (SOA) where one exists unless no suitable item 	<p>Strengths</p> <ol style="list-style-type: none"> Most product requirements drafted by clinical & technical specialists Ensures consistent pricing across a region (e.g. SE Qld) <p>Weaknesses</p> <ol style="list-style-type: none"> Considerable cost at each triennial tender Innovation and pricing can be constrained by timeline & process Limited impact on pricing - subsidy level has greater effect Limited choice for consumers in some product ranges 	<p>Set up and managed by MASS with assistance from Qld Health procurement staff. Requirements are transparent during tender phase – all other aspects confidential</p>
<i>MoH NZ Equipment & Modification Service (EMS) Accreditation Framework</i>	<p>Prescribers: EMS Assessors accessing Ministry of Health funded equipment (may be education therapists, private etc.)</p>	<p>A matrix approach with 2 tiers based on the clinical competency required to prescribe the equipment:</p> <ol style="list-style-type: none"> Basic Complex <p>Core level of knowledge required. Credential required for complex assessments. Linked to different areas of practice (see Figure 2) with associated relevant qualifications and specialised training required</p>	<ol style="list-style-type: none"> Regulations established by Ministry of Health, and administered on their behalf by EnableNZ throughout NZ Prescribers must meet set requirements to prescribe AT or modification services (e.g. home, vehicle) 	<p>Strengths</p> <ol style="list-style-type: none"> Now able to prequalify prescribers and then validate core knowledge Link to ongoing training & prescription history/performance High cost, high risk areas of credential (e.g. Complex WM&PM) require case study audit by expert panel before credential is awarded. Training workshops subsidised by MoH NZ <p>Weaknesses</p> <ol style="list-style-type: none"> Access to mentoring/supervising assessor for key task sign off is difficult in remote regions Employer required to certify assessor has completed further training and minimum number of assessments per year to maintain knowledge/skill – not transparent 	<p>EnableNZ administers this scheme throughout NZ</p> <p>Learning and Development Programmes for credentialed areas developed by clinical experts for MOH NZ and piloted with AT prescribers/services nationally</p> <p>Not specifically required to meet government procurement rules. RFP specifically limits rights to appeal and review. All commercial in confidence</p>
	<p>Suppliers: Request for Proposal (RFP) for various types of contracted provision for 3yrs (with 2yr extension possible).</p>	<p>Detailed RFP document for:</p> <ol style="list-style-type: none"> Full service model OR Truncated supply model Specific tests against capability, cost, agreements, and company financials 	<p>Created by EnableNZ to lift their bulk purchase from 45% to 80% and achieve cost savings. First of new RFP completed in 2012.</p>	<p>Strengths</p> <ol style="list-style-type: none"> Appears to be delivering greater cost savings and truncated supply proving effective Prequalifies providers (incl. consortia) to supply EnableNZ Truncated supply provides conduit to source import products direct at EnableNZ request <p>Weaknesses</p> <ol style="list-style-type: none"> Costly process to meet the RFP requirements Not clear the extent of tech/clinical expertise in evaluating tenders Limited link between supplier & consumer (less for truncated supply) 	

<i>Canada (drawn from review of Ontario ADP & Alberta ADL)</i>	Practitioners: Defined as <i>authorizers</i> who when approved can 'recommend' ADP purchases for clients	Requires registration with individual's professional body (including good standing) & indication of experience in AT. Conflict of interest policy Constrained to named worksites	Established by the relevant Provincial Authority. Only authorizers can recommend AT	Strengths Sets some basic requirements for authorizers Weaknesses 1. Audits have found that the schemes often fail to audit authorizers and data is often quite out of date 2. Authorizers can only recommend to authority 3. Location constrained (not readily transportable) 4. Quite complex rules about conflict of interest & supplier bias	Statutory body accountable to the relevant ministry, and some public information available via audit publications
	Suppliers: Must apply to become a Registered Vendor for all the categories of relevance Any new product has to be formally considered by the agency for listing	Detailed protocols and documentation required to register as a vendor including business, supply lines, staffing, product details, insurance, etc. Similarly to have a new product listed also requires significant documentation, testing and approvals	Established by the relevant Provincial Authority. Only Approved Vendors can supply items that are 'listed' and invoice the Ministry. Appears to be all about probity	Strengths 1. The level of detail and requirements ensure only quality vendors are used Weaknesses 1. Auditor General has noted none of this leads to enhanced procurement/cost savings on AT 2. Very bureaucratic to be registered, maintain registration, and to get a new product listed	
<i>RESNA ATP</i>	Practitioners: Base level certification of AT Professionals Higher level credential in seating (Cert Seating & Mobility Specialist)	For ATP: must be 0.25FTE in AT All candidates are assessed by written exam (multi-choice) which if successful gives them 2yrs registration Ongoing registration requires recertification or Certified Continuing Prof Development requirements of 20hrs of formal CPD in 2yrs of which half is from accredited training (IACET)	RESNA Professional Standards Board. Established to set minimum competency levels for practitioners in AT	Strengths 1. Universally available and a broad, base level AT credential 2. AT generalist (thus well known) 3. Permits multiple entry pathways but requires consistent testing/CEU requirements for all Weaknesses 1. Traditionally very USA and physical disability focused. Work has begun to redraft 2. Initial approach of ATP & AT supplier credentials was flawed and has been merged 3. Only written exam – no practical tests or requirements	RESNA Professional Standards Board with independence of the RESNA Board Accountable to the Board and via annual reports Maintains an online register of ATPs

<p><i>USA Durable Medical Equipment, Prosthetics/ Orthotics, and Supplies (DMEPOS) (Center for Medicare/ Medicaid Systems - CMS)</i></p>	<p>Prescription: DMEPOS now requires RESNA ATP or similar for complex AT prescription, see above for details)</p> <p>Suppliers: Very intensive and complex system of accreditation is being rolled out for Vendors (except professionals) in relation to requirements to access Medicare funding. This builds on existing basic systems. Coding system for AT</p>	<p>Vendors must complete the accreditation process with one of 10 independent accreditation organisations (AO) against the CMS standards</p> <p>In addition to accreditation documentation there are unannounced site inspection(s). Site inspections are required every 3yrs (see www.cms.gov/MLNProducts/downloads/DMEPOS_Qual_Stand_Booklet_ICN905709.pdf)</p> <p>Products are 'coded' and if approved given a 'reimbursement level' for that <i>type</i> of product (e.g. K0004 is power wheelchairs). Requires complex submission of evidence, health economic case and clinical justification</p>	<p>CMS is the national government funder of general AT for Medicare & Medicaid. Processes are covered by federal legislation.</p> <p>Standards set within CMS but implemented by independent accreditation organisations.</p> <p>Purpose is to enhance the quality of vendors of DMEPOS.</p> <p>Product coding establishes requirements and cost levels for each approved type of AT</p>	<p>Strengths</p> <ol style="list-style-type: none"> 1. Consistent national requirements, yet AO's have flexibility to implement different ways. Gives vendors choice to find AO that understands their business/sector. 2. Arm's length from CMS, but national coverage 3. Coding means reimbursement level clear for each AT category <p>Weaknesses</p> <ol style="list-style-type: none"> 1. Can be costly but competition in assessment aims to keep pricing manageable 2. Standards and process detailed and complicated, but no link to enhanced AT outcomes for consumers/risk base 3. Has not prevented some significant fraudulent activities, while complexity of system often results in aborted tenders 4. Coding can be arbitrary and can prevent access to new technology 5. Because of size of DMEPOS, codes & \$ levels constrain product development based on price 	<p>Government department, with process & requirements covered by federal legislation.</p> <p>Longstanding concern that approvals process ('determinations') can vary dramatically from state to state</p> <p>Argument that codes are transparent, but the decision-making process for 'coding' is not transparent and appears to be quite arbitrary at times, so involves high legal costs</p>
<p><i>UK British Health Trades Association (BHTA)</i></p>	<p>Suppliers: All members of BHTA</p> <p>BHTA also involved in several initiatives to credential practitioners (e.g. AT Society for professionals, CEDAB for AT assistants, etc.)</p>	<p>Companies applying for membership are required to demonstrate their compliance with the BHTA Code of Practice, including requirements for premises & staffing</p> <p>Subject to independent compliance audits, random customer feedback cards and mystery shopping at any time.</p>	<p>BHTA with approval through the UK Office of Fair Trading (which delivers some statutory protections for consumers)</p> <p>Was established by BHTA to ensure minimum standards of practice from reputable AT suppliers</p>	<p>Strengths</p> <ol style="list-style-type: none"> 1. Industry created and driven so strong emphasis on upholding scheme 2. Linked to a national statutory (and recognised) system (Office of Fair Trading) 3. Broad in scope (all AT suppliers can be covered) <p>Weaknesses</p> <ol style="list-style-type: none"> 1. Not yet linked to funding provider requirements 	<p>Developed and run by the BHTA Board. Have to meet Office of Fair Trading requirements to continue to double badged</p> <p>Publish annual reports on monitoring and action on complaints etc. Members use a TM logo</p>

<i>UK Community Equipment Dispenser Accreditation Board (CEDAB)</i>	AT providers: Voluntary accreditation of retail premises includes requirements for staff accreditation to sell, set up, fit, etc. AT.	Demonstrated core competence (10 areas) which can be gained through courses from several agencies (10+) Indicates there will be regular review of registrants but no details yet	Established by BHTA & National Association of Equipment Providers (NAEP) to register premises and staff for government's Transforming Community Equipment Services (TCES) program, and was originally intended to be TCES requirement but that is now responsibility of Local Council Authorities and not CEDAB	Strengths 1. Relatively straightforward and based on a series of competencies gained through training courses 2. Nationwide & flexible entry Weaknesses 1. The TCES has been of only limited success therefore limited uptake 2. No scope to go beyond basic competence	CED Accred. Board membership not on website, but info elsewhere states it is run by BHTA and NAEP No performance data or list of those accredited on website
<i>The Pharmacy Guild of Australia Quality Care Pharmacy Program (community pharmacy accreditation includes AT)</i>	Suppliers (community pharmacies): Designed to strengthen business principles and pharmacy clinical practice	A range of business and practice requirements specified in AS85000 and recognised nationally as an approved accreditation system (similar to ISO9000 QA accreditation) During introduction of the QCPP a government subsidy was available to encourage uptake	The Guild is accredited by Standards Australia as a Standards Development Organisation, and QCPP is accredited by JAS-ANZ (Joint Accreditation System of Australia and New Zealand) as a conformity assessment body The Federal government approves community pharmacies to dispense PBS subsidised medicines and states/territories register them for sale of controlled drugs/medicines Purpose is as per Scope	Strengths 1. Extensively trialled and tested, with range of self-assessment guides, and now codified into AS85000 2. Perceived to be linked to enhanced customer service and stronger business outcomes/profit administered from within the Guild which provides a full support program to ensure relevance to pharmacy and program integrity 3. Pharmacies must undergo an external audit every 2 years. Audits conducted by QCPP Licensed Assessors and are designed to protect the integrity of the program. Random assessment visits also used to assess maintenance of QCPP standards in pharmacies via the Mystery Shopper Program' 4. QCPP accreditation linked to funding streams (e.g. National Diabetes Services Scheme, MedsChecks, etc.) Weaknesses 1. Broad in scope – not specific to AT 2. Now codified in AS85000 so may be less flexible to change/adapt quickly without going through appropriate processes	QCPP staff and operational activities are accountable to the Pharmacy Guild National Council. The Program itself is checked and audited and indicated to the left. QCPP accredited pharmacies are published on the JAS-ANZ website and reports provided of the status of accreditation activities on a regular basis

Funding scheme AT authorisation systems

There are advantages where the agency engaging the practitioner in prescription or supply of AT is also the credentialing body. Some of these include (which not all schemes have achieved):

- established consistent core knowledge and advanced AT category-specific requirements through an 'expert clinician' panel
- timely intervention to address poor practice/supply through database monitoring
- training (sometimes free) that is pragmatic and based on emerging issues
- relatively low cost for administration.

There are several difficulties common to a number of the systems:

- restricted access to a limited number of allied health professions despite concerns raised in the literature about the adequacy of AT knowledge from undergraduate programs alone (Costigan & Light, 2010)
- some schemes limit portability of practitioners
- where continuing professional development/education is expected, it is not targeted or as a result of an individual plan, and in some cases may not even be related to AT
- few systems have an independent and balanced (including consumer views) review, monitoring and disciplinary committee
- weak at effectively addressing professional misconduct, and maintaining accurate practitioner records
- little or no publicly available information about either the practitioner's (including who is credentialed) or the system's performance
- generally no delegated approval authority (require further review and approval stage), which increases delays and the likelihood of poor outcomes as the distance between the decision and the consumer increases.

Independent AT practitioner credentialing systems

There are currently only a handful of independent systems around the world focused on AT practitioner credentialing, and there are none in Australia. Some elements of the MoH-EMS from NZ are handled by independent contractors (training and the actual credentialing check) but the scheme is administered by the government. Examples reviewed were: the Rehabilitation Engineering and Assistive Technology Society of North America's (RESNA) ATP and SMS (Assistive Technology Professional and Seating and Mobility Specialist respectively); the UK's AT Society; the USA's National Registry of Rehabilitation Technology Suppliers' RRTS and CRTS (Registered Complex Rehabilitation Technology Supplier and Certified Complex Rehabilitation Technology Supplier respectively); and the UK's Community Equipment Dispenser.

Identified advantages include:

- embedded in practitioner/sector experience and expertise
- usually offer a range of pathways to entry (and none are discipline restricted)

- the credential is upheld as a quality indicator for AT practice (and those who hold it); thus emphasis is on probity, marketing and enhancing the value of the credential
- tends to be very market sensitive, innovating relatively quickly to retain relevance and credibility
- can stimulate market demand for quality/approved training and educational courses/events (e.g. International Seating Symposium).

Weaknesses and difficulties noted:

- demands commitment from an existing body (professional or industry association) to drive its establishment and ongoing operation in early years, including:
 - financial and administrative support (e.g. to prepare submissions and grant proposals; auspice funding)
 - body of competent AT professionals to help establish competency requirements and testing/evaluation materials (content)
 - marketing and promotion, particularly in the early phases.
- slow uptake if no financial benefit gained from having credential (e.g. in NZ the shift to competency pathway for complex credential tightened requirements, so MoH subsidised training workshops)
- resistance from some established practitioners who are required to 'demonstrate' competence (most systems have not permitted 'grandfather' arrangements), so advanced practitioners need to 'lead by example' and usually experienced practitioners complete the requirements swiftly
- can be undermined if it fails to demonstrate its place relative to professional discipline registration
- critical that any ongoing requirements (e.g. education/training, reviews, feedback, etc.) are reasonably available where members practise
- potential to become elitist and resistant to requests for 'credentials' from 'non-professionals'.

AT supplier accreditation/regulation

Most work to date on accreditation of AT suppliers has focused on voluntary codes of practice (such as British Health Trades Association; Community Equipment Dispensers Accreditation Board; National Registry of Rehabilitation Technology Suppliers; and Assistive Technology Suppliers Australasia) which, while of considerable value and use, are usually not tied directly into how AT is funded and delivered. That is, there is no contractual requirement by funders to procure AT from companies that sign up to these codes and are compliant with them. Similarly, consumer recognition of the value and importance of purchasing AT from suppliers that operate within the voluntary codes appears to be quite limited.

The two notable exceptions we examined were Centers for Medicare & Medicaid Services with its extensive and costly requirements for AT suppliers² within the USA's Medicare scheme (introduced around 2008), and the accreditation program run by the Pharmacy Guild of Australia, which is comprehensive regarding the operation of pharmacies (now an Australian standard), including some modest requirements regarding the supply of basic (non-complex) AT.

In Australia AT suppliers include a wide range of businesses and organisations that manufacture, import, distribute, sell, service and hire equipment. There are numerous laws and regulations relating to suppliers that are relevant when considering accreditation of suppliers, and include:

- Australian Competition and Consumer Commission (ACCC) and Australian Consumer Law (ACL)
 - Uniform national laws administered at a state/territory level govern Australian businesses selling goods and services to Australian consumers.
 - They define a minimum statutory warranty that cannot be undermined or excluded.
 - Goods costing more than \$40,000 are not covered under the ACL nor as a rule are goods bought at auction or sold privately.
 - Collusion in relation to price-setting and other non-competitive business practices are prohibited.
- Therapeutic Goods Administration (TGA)
 - By law any supply of Class 1 Medical Devices (which includes most clinical AT, but not basic AT personal items) must be registered and have devices listed on the Australian Register of Therapeutic Goods (ARTG). The ARTG gives no guarantee of meeting Australian or other international standards, and is not a guarantee of quality at the Class 1 level.
 - Largely self-regulatory but requires a quality standard of manufacturing including technical documentation describing the product, its specifications and manufacturing procedures, and the ability to track and trace products (by serial number, product codes, etc.) in case of recall.
 - Importers are referred to as 'sponsors' in the regulations and must be able to demonstrate that they have a formal relationship with the overseas manufacturer.
 - Sponsors or local manufacturers are subject to a random audit of specific products validating documented claims and quality.
 - Compliance costs are generally considered not to be excessive for Class 1.
 - Recently some funders (SWEP-VIC, MASS-QLD, Enable NSW, etc.) will only fund equipment that is listed on the ARTG.

² Initially CMS intended to require ATP for clinicians (assessors) as well as suppliers. Following a robust campaign from professional associations, the requirement on clinicians was withdrawn. Practitioners working for suppliers though are required to hold ATP to meet the accreditation standards for complex AT.

- Standards and regulations
 - Currently no legal or regulatory requirement for AT sold in Australia to meet Australian or equivalent international standards (except some items in transport). Several funding schemes require suppliers to provide standards test results for the AT they purchase.
 - The Commonwealth Department of Infrastructure defines which powered mobility devices (including scooters and wheelchairs) may be imported and considered *not* to be a motor vehicle. Rules relating to use of devices on footpaths varies between states (weight:110–150kg tare and maximum speed: 10km/h), but no current requirement for supplier or user training. The whole area is under review, with potential to use the new AS/NZS3695.2 as the required standard.

In Australia and NZ, efforts to regulate the AT practice aspects of suppliers are generally piecemeal and relatively hidden from public scrutiny. De facto but often ineffective regulation occurs through government purchasing tenders or contracts. This ranges from establishing standing offer arrangements which assess both products and suppliers against cost, quality and performance (e.g. Qld MASS) through to a truncated supply model where the funding scheme makes arrangements with one or a limited number of suppliers to supply quantities of particular AT that the agency will then warehouse, distribute, service and repair (e.g. EnableNZ (for MoH NZ) Equipment and Modification Services; South Australia's Domiciliary Equipment Services). In the middle, some schemes have established contracted preferred suppliers (e.g. Vic SWEP, Dept of Veterans' Affairs) or a combination of approaches. In all cases, the schemes constrain either the range/number of AT products to be made available, service levels required, the price (across a geographic zone), or both. Where schemes do not directly contract their purchasing prices, they influence the charged price by the pricing cap/subsidy limit for that particular AT category and often utilise consumer co-payments to cover as much as 30–80% of the costs (Layton et al. 2010).

Fundamental problems arise in the use of procurement processes to establish AT industry standards:

- The process is usually highly confidential, and even finding details of what was required retrospectively for this project has been difficult.
- There is virtually no scope for review, appeal or broad stakeholder involvement.
- While the stated purpose includes value for money, there are perceptions that this is primarily about reducing costs when allocated government budgets are not sufficient to meet demands for AT, restricting consumer choice and hindering adoption of new technology and innovation.
- Except in the case of EnableNZ's approach to trialling 'truncated supply' (a process where the contractor will source a required product direct from a foreign manufacturer, and all retail/delivery/support aspects are the responsibility of EnableNZ), there is little scope for collaborative development of service/supply arrangements.
- By restricting the number of items that will be added to an approved list (e.g. only three lightweight chair models) or broad use of bulk purchase, consumer choice is undermined in favour of enhanced 'product/stock' management.
- Management of customer complaints and issues hinge on contractual agreements.

- The tendering process can generate extensive costs (on all sides) that may not be justified for the turnover, or the risk involved, or the expected cost savings on products.

Summary

Overall, most credentialing and accreditation regarding AT practitioners and suppliers is coordinated and linked to AT funding schemes delivered by government or a non-government organisation (e.g. EnableNZ on behalf of MoH NZ). These schemes tend to be restrictive on entry of non-allied health practitioners and also suppliers especially in between contract rounds, but often have good links between delivery of the service and both procurement and practitioner performance. To date monitoring or evidence of the accreditation/credentialing effectiveness has not been transparent and there seems to be little accountability regarding scheme outcomes – except in relatively unsophisticated economic terms (i.e. number of clients/products for a certain budget). The effectiveness of the NZ MoH EMS is currently under external review after two years of operation. Additionally, these schemes are generally slow at embracing new technologies within AT, tend to be inflexible and thus hinder innovation. Responses from NZ indicate that having separate training for AT practitioners is helping to maintain innovation and accountability within the system.

In contrast, independent systems to date have been developed by the AT sector itself (for instance the RESNA ATP). These tend to be focused on evidence-based frameworks and respond relatively quickly to market expectations (for strengthening, cost correction, promotion, etc.). Establishment of such systems requires either financial commitment from sector associations, an initial grant (government or philanthropic), or both. The credibility of these schemes is underpinned by transparency and effectiveness, accountability to AT consumers and the increased involvement of AT consumers in their governance/review processes.

The formation of a new national, Australian credentialing/accreditation system offers the opportunity to draw together many of the best elements of both funder-managed and independent schemes while mitigating their weaknesses. The evidence suggests this needs to be independent and sector-driven but with active engagement and commitment from those who stand to benefit from the scheme (e.g. consumers and AT funders).

In relation to accreditation of AT suppliers, there are between 300 and 500 retailers that focus primarily on AT in Australia. Several thousand retailers (including supermarkets) offer AT products, ranging from continence aids and magnifiers to wheelchairs. Not surprisingly the level of understanding of disability and the place of AT in addressing barriers is quite variable. As Pearson et al. (2013) noted, probably about 300 importers and distributors supply this market with around 80% of products coming through 40 importers. With suppliers purchasing products from each other and consumers purchasing via the internet (including from international firms who may have no presence in Australia), the pathway from manufacturer to consumer is increasingly varied and complex. While the flexibility for consumers is welcome, it also brings unexpected problems, costs and other unanticipated hazards for some of them.

While the AT supply sector has been improving the reliability and professionalism of its advice and service and its protections for consumers, such developments have a cost. Ensuring that products meet relevant national/international standards, that the firm has the ability to reliably repair their products, and that staff have good knowledge and the skills to advise clients and act ethically, adds to the costs of business. Rarely are these services offered by an 'internet shop' in another country,

or a trader who brings in a container load of 'cheap scooters' and sells them as a sideline. The pricing of these 'bargains' may be hard for consumers to resist, particularly when they believe AT is generally over-priced, while the risks can be much less obvious.

The introduction of AT supplier accreditation would:

- provide consumers and their families a decision-making aid when considering which supplier(s) to choose that will best to meet their needs;
- enable all stakeholders to easily identify and engage suppliers who have the appropriate level of capacity and skill (including credentialed staff) to help address the risks of specialised and/or complex personal and technology requirements;
- continue to build the professionalism of the AT sector by continuing to support and encourage the investment of suppliers in the skills and behaviour of staff and deterring unscrupulous and marginal suppliers and practices;
- enhance and sustain good practice in AT supply including reliable and timely delivery, repair, spare-part availability, and responsiveness to complaints and concerns.

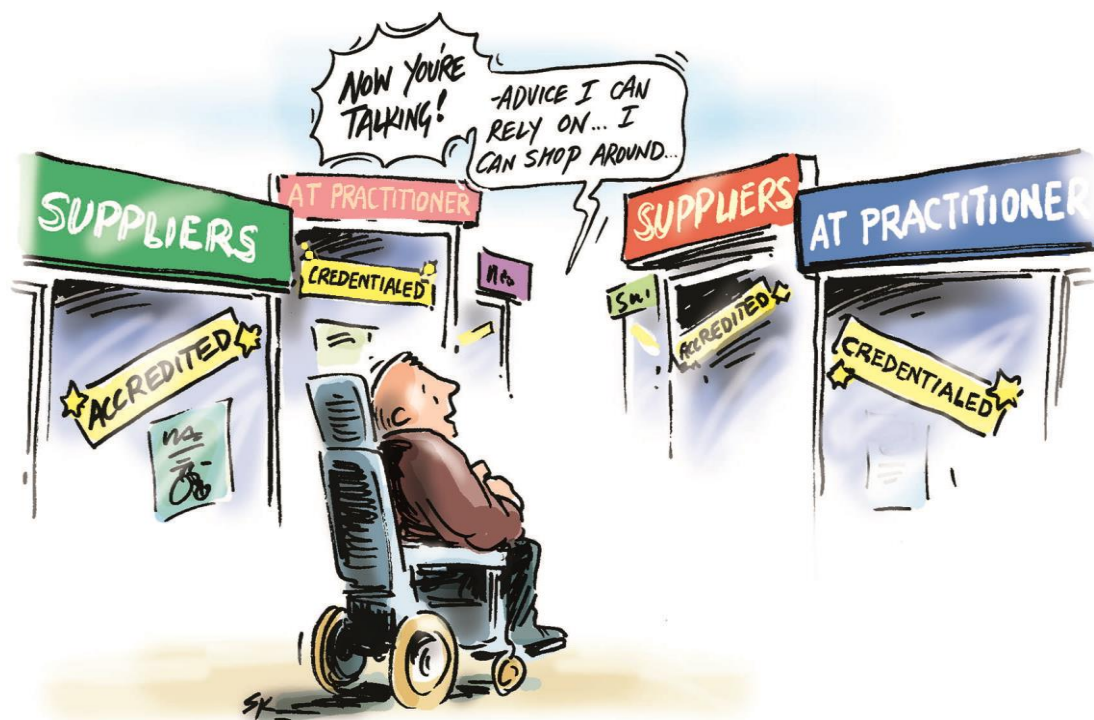
Credentialing and accreditation within DisabilityCare

The framework for a national credentialing and accreditation system will need to ensure that AT practitioners and suppliers are competent to work with consumers and their families to deliver on the goals and aspirations of consumers identified in their DisabilityCare plans.

A new national competency-based AT system would also address other important issues:

- Assisting consumers (and others in the sector) identify those AT practitioners and suppliers who have met clear competency and quality requirements.
- Making essential requirements for AT practitioners and suppliers transparent and effective, and ultimately linked to outcomes for AT users through the development of an evidence base. This information must be widely available to people who need AT and their families to support their choices of where they go for advice and supply of AT, as well as for DisabilityCare.
- Putting in place one national competency-based accreditation system that overcomes some of the variety and uncertainty contained in the multitude of different requirements currently set by existing piecemeal state/territory/federal schemes.
- Requiring a focus by practitioners and suppliers on seeking and reflecting on feedback (from consumers, peers and others) to continually improve how their activities benefit consumers (and achieve their defined outcomes).
- Strengthening and increasing the skills base and capacity of AT practitioners and suppliers to work in specialised and complex AT areas. Addressing the extra requirements necessary to deal with the higher levels of AT (and consumer need) will free others with basic AT skills to deal with the routine requests, and ensure a referral and/or support mechanism is available.
- Managing risks for DisabilityCare participants and the DisabilityCare Australia Agency (DCA Agency) itself, particularly in relation to the more complex and higher cost AT solutions.

- Linking training/education/skills development to high-quality AT provision, and building up available training over time. Without a credentialing and accreditation system that promotes professionalism and skills development, there is little demand and few incentives to deliver the necessary high quality education and training programs.



Part 2: A credentialing and accreditation system for AT practitioners and suppliers

In developing the framework for an Australian credentialing and accreditation system for AT we have been conscious of some of the constraints to any new system, the lessons learnt from research and other systems around the world, and the consultation process. The information garnered has been distilled into a framework for both the credentialing of AT practitioners and the accreditation of AT suppliers. In the framework below, options at key junctures are identified, and many of these options arose from the consultation. Additionally, views from the consultation are also embedded at various points throughout. This material should assist readers to identify the major points of support, disagreement and other concerns arising from the consultation. As noted in the introduction, we appeared to reach saturation in the consultation, indicating that most major issues have been identified. One of the central messages is that this is just the beginning, and much more work will need to be done if this system is to be successfully developed and implemented.

As discussed previously, with individualised funding and consumer control over resources, DisabilityCare Australia signals a major shift in the culture and language of service delivery. The role of AT practitioners will move away from 'prescription' with its inherent gatekeeping aspects, to one of 'advice', 'assessment' and 'implementation'. This shift in roles and language is reflected in the credentialing and accreditation options proposed below.

Part 2 of this options paper describes a range of options and issues to consider in the creation of a National AT Credentialing and Accreditation System (the System). Major topics covered are: foundation issues such as purpose, objectives and principles; issues and options regarding implementation fundamentals to consider including governance and evaluation; options for both AT practitioner credentialing and supplier accreditation; and finally a timeline with an outline of key tasks for establishing the System.

Foundations

This section describes the basic purposes, objectives and principles regarding the development and establishment of the System.

Purpose

The national credentialing and accreditation system will identify, develop and continually enhance high-quality practitioner and supply practices in the Australian AT sector that achieve the best outcomes for consumers and their families, and improve process and economic efficiency for funders, AT practitioners and suppliers.

Objectives

1. The System's influence over AT practitioner and supplier practices and behaviour is demonstrated to enhance AT-users' outcomes, and improve process and economic efficiency through reducing delays and wasted resources.
2. Credentialing and accreditation requirements are appropriate to the risk, cost and complexity of the AT service a practitioner or supplier provides.
3. At all times the System itself, and the expectations on those it credentials and accredits shall be accountable, transparent and just.
4. The System is effective, viable and sustainable at all stages of its development and operation.

Feedback from the consultation indicated strong support for the purpose and objectives as originally presented in the consultation paper. However, several responses indicated a need to broaden the purpose to include a focus on outcomes for other stakeholders. The final clause in the purpose statement has been added to reflect this, and a similar revision has been made to the first objective.

To fulfil this purpose and meet these objectives the System will need to be underpinned by a clear set of principles as well as to put into place structures and processes to achieve these objectives.

Principles

- 1. The System will evolve over time, to achieve an affordable and effective accreditation system**

Resources, both financial and human, are very limited within the AT sector. Although DisabilityCare Australia is investing substantial funding in preparing for the implementation, the formation of credentialing and accreditation systems are not within the scope of the Launch Transition Agency or the subsequent DisabilityCare Australia Agency. Consequently the proposed System should commence with modest requirements which will be enhanced and strengthened over time if needed. This will:

- a. make it affordable and achievable at each stage while maintaining the overall vision;
- b. avoid bottlenecks in assessment and provision of AT services as a result of any sudden imposition of restrictions on existing AT practitioners and suppliers; instead the work should transition existing approaches across, as well as building links to training/education/skills development necessary for the success of AT practitioners;
- c. target the minimum essential and achievable requirements initially, and over time it may incrementally increase requirements/structures/processes to deal with emerging issues/problems and evidence regarding effectiveness in achieving outcomes for consumers and other stakeholders if and when required.

- 2. Accreditation requirements should be appropriate to cost, complexity and context (e.g. risk)**

- a. In keeping with the 'right-touch' principles, credentialing and accreditation should always be clear about its purpose (what problem has to be solved). Where the cost, complexity and risk associated with AT provision is low, accreditation should be relatively simple or not required. Conversely, highly complex AT provision would

generally be undertaken by multidisciplinary teams incorporating T practitioners and suppliers who can demonstrate the necessary competence to work in partnership with consumers and their families. As noted by Eleasser and Bauer (2011), competence of both individuals and the organisations is required, i.e. credentialed (individual) practitioners and accredited organisations/businesses. At all levels, the System should ensure it does not create inappropriate barriers to highly skilled and experienced individuals, including consumers as experts regarding their own AT needs and what works.

- b. Utilisation of a matrix structure for AT practitioners and suppliers based on levels of skill and areas of practice, for defining individual practitioner and supplier competency. In keeping with 'right-touch' principles, these matrix structures usually recognise professional qualifications in relevant fields (allied health, rehab engineering, etc.) along with professional registration/ credentialing (for both registered and self-regulated professions) as appropriate and sufficient entry-level requirements for assessing and/or implementing basic AT, and require additional training/experience or other demonstrations of competence for more complex AT (see for example the SWEP matrix at <http://swep.bhs.org.au/sites/default/files/forms/SWEP%20Prescriber%20Registration%20and%20Credentialing%20Framework%207%20October%202011.pdf>).

3. The System's goal of good AT provision practice must be transparently validated as enhancing consumer outcomes and participation, and improving economic efficiency

The System will only be of value to consumers, their families, funders and other stakeholders if better outcomes for them are achieved through using credentialed practitioners and accredited suppliers. Thus the System must incorporate elements known to be vital to this success:

- a. collaborative practice between consumers, AT assessors and AT implementers (including suppliers)
- b. a foundation that is in keeping with the UNCRPD and the ICF, both in terms of respect for people with disability and recognition of the influence of environmental barriers/facilitators on their participation, and also the breadth of domains that constitute full human participation
- c. specialist and complex AT requires the combined expertise of all parties (consumer and family, practitioner(s) and supplier(s)), including multidisciplinary teams to address the different risks and requirements inherent in an optimal solution
- d. clear management of complex roles (including conflicts of interest):
 - i. AT practitioners working as assessors should not be unduly influenced to promote particular products through a close association with a supplier, including being employed by a supplier
 - ii. AT practitioners will in some instances be both the assessor and the supplier, as is common in relation to seating specialists, orthotists and prosthetists, and potential conflicts of interests must be carefully managed

- iii. Rural/remote settings where a practitioner and/or supplier needs to work under supervision/oversight of a more advanced practitioner/supplier (at a distance) when dealing with a complex AT solution
- e. recognition of the objective and subjective aspects of supporting a consumer to select the 'right' AT solution, and the central importance of consumer choice and control in the selection process (as per Figure 1)
- f. take into account cultural, environmental, social, family and contextual factors the decision-making processes and in considering outcomes.

Overall these principles were strongly supported during the consultation, and few problems, suggestions or options stated. Significantly, several respondents identified a wide range of details and issues that stem from or relate to these principles that will need to be worked through in establishing the credentialing and accreditation system, such as whether it will be sufficient to have one credentialed person in an organisation or a team, able to sign off on a decision. For example situations such as junior rural/remote practitioners accessing higher level skills elsewhere, and the complexities of responsibilities when there is no direct line management accountability between junior and senior practitioners working in separate organisations.

Implementation fundamentals

The establishment of any system, agency or activity requires basic structural and governance frameworks within which to operate, and the nature of these arrangements can have significant impact on both the costs and effectiveness of the credentialing and accreditation system. The main options that have been identified are outlined below.

Basis of authority and scope

Independent accreditation is deemed to have value because it is required either by law (statutory), and/or to do business (contractual), and/or to assist consumers to make more informed decisions (decision-making aid). Although making credentialing and accreditation a statutory requirement is possible, it appears to be difficult and unnecessary for the establishment of an effective scheme given experiences elsewhere.

Particularly in the context of DisabilityCare Australia, which is based on consumer choice and as open a market of services as possible, a more appropriate option would be to utilise credentialing and accreditation primarily as a decision-making and risk management aid. For example, DisabilityCare Australia could endorse the establishment and utilisation of credentialing and accreditation as a decision aid for consumers, and at the same time utilise credentialing and accreditation at a contractual level to support and manage the legislative requirement for AT practitioners and suppliers to be registered. Existing and future AT schemes (state/territory and federal) that currently rely on a matrix structure for prescribers and procurement programs, such as supplier panels or tenders, could utilise credentialing and accreditation in their contracts as part of these systems. This would increase uniformity and portability of requirements for practitioners and suppliers, and thereby increase clarity efficiency, and harmonisation across AT schemes (a long-standing Council of Australian Governments goal).

In terms of the scope of the System, should it cover all of AT practice or just certain categories, and how broad are those categories? Issues of scope are not dealt with in detail, as much of this will be determined by different AT funding agencies (such as DisabilityCare). However, the range of AT in relation to issues of complexity, risk and the concomitant competencies required is canvassed broadly in Table 2.

Existing legislative and other requirements may need to be reviewed where they impose contrary requirements, such as restrictions in state government legislation limiting AT prescription to certain professions, and potential impacts on individuals covered by industrial awards.

Clarity will also be required on how AT credentialing and accreditation intersects with other requirements (e.g. statutory registration for some professions, self-regulation for others, ASIC rules for companies, etc.). In particular, considerable work will need to be undertaken with relevant allied health professional bodies, both those regulated by the Australian Health Practitioner Regulation Agency (AHPRA), and those that are self-regulated, in relation to existing base-level competency requirements regarding AT, and more advanced levels of competency required when AT assessment and implementation risks increase to higher levels (see Tables 2 and 4).

The basis of authority and scope was also well supported during the consultation, and several suggested improvements are reflected above. Several responses also emphasised that very simple

AT such as modified cutlery should be outside of scope, and, in line with responses above. There were also comments on the intersection of existing professional credentials and AT.

Governance

1. Structure – at least three options are possible:
 - a. Auspiced by an existing registration agency (e.g. National Professional Engineering Board, AHPRA, etc.)
 - i. *Pro:* Already have systems, staff and protocols to operate such the System
 - ii. *Con:* May create professional tensions
 - b. As a sub-element of a government/statutory agency (e.g. DisabilityCare Australia)
 - i. *Pros:*
 - Many existing systems such as SWEP and Enable NSW are run by the AT funder
 - Provides strong links to available data on AT prescription/supply
 - Limited cost overheads – generally very low cost
 - ii. *Cons:*
 - Appear to be effective for practitioners but tends to create adversarial issues for suppliers
 - Requires a national agency (or mutual recognition) to achieve a single overall national system
 - c. New agency established jointly by practitioners and suppliers, or separate organisations for practitioners and suppliers
 - i. *Pros:*
 - Broader engagement through each body’s membership
 - The advantage of an exclusive focus on AT
 - ii. *Cons:*
 - Higher cost to establish
 - Requires consensus from founding bodies, including ARATA and ATSA, as well as professional bodies such as Occupational Therapy Australia, Physiotherapy Australia, Speech Pathology Australia, Engineers Australia and the Australian Orthotic and Prosthetic Association (and others)
 - iii. *Other issues:*
 - Agreement needed on terms of reference and accountability requirements
 - If joint, need for clarity on the two different elements to be created as being complementary and to be developed in parallel

2. Board – this may be an independent board(s) or a standards board/subcommittee of a government or statutory agency, or other organisation, but irrespective of that, there are also at least three options about the composition of the board:
- a. Skills-based board delivering ‘good governance’ practices, including legal and marketing (see extra requirements for the credentialing/accreditation oversight tasks below)
 - b. A ‘representative’ board from constituent bodies (this option can be problematic if members are not truly independent and committed to the best interest of the accreditation scheme itself)
 - consumers/families
 - AT practitioners
 - AT suppliers
 - community
 - funders
 - c. A combination of the two above approaches drawing together the strengths (and protections) of each – with a focus on skills and stakeholder input

In the consultation over 85% who responded to the question about appropriate structure believed that the System should be auspiced by (or run by) an existing body (either option ‘a’ or ‘b’ above). They noted that an existing body brought: experience, established systems and processes; skills in managing a credentialing/accreditation system; and the capacity to be more cost efficient.

However, people were split on which body this should be. Some felt a statutory body (e.g. DisabilityCare Australia or AHPRA) would have independence and authority; others suggested ATSA and/or ARATA, or an existing allied health professional association such as OT Australia; and others opposed links to funding bodies (such as DisabilityCare), registration bodies, or peak bodies such as ATSA because these risked being too restrictive in relation to professional disciplines and/or being used as gatekeeping mechanisms to the detriment of consumer access. Professional and sector-related organisations also face potential conflicts of interest and perceptions of a lack of independence and credibility. Those in favour of a new agency emphasised the importance of independence and a dedicated agency’s complete focus on AT.

It is not clear what the best way forward is regarding how to establish and implement additional credentialing requirements in relation to the intersection between existing professional registration and self-regulated professions (see Table 4 for an outline of proposed options for recognition of existing AT-related professional education and credentials). Some, but by no means all, options include:

- a. setting up a national accreditation agency (independent, or part of an existing organisation) to establish and run a credentialing system;
- b. establishing a national working group to develop AT competency standards/requirements and work with the registered and self-regulated professions to establish and manage their own ‘advanced AT’ practice credentialing programs;

- c. a combination of (a) and (b) with a single national AT accreditation framework that incorporates recognition of the advanced AT credentialing done by the professions.

Nearly everyone favoured a single system for both practitioners and suppliers, and most favoured a skills-based board (or a combination of skills and representation). Accountability to consumers was a major issue in the literature, and several responses noted its importance in relation to board composition and governance generally. Importantly, about 75% also indicated the board should have good links to the sector, particularly to ensure appropriate expertise and knowledge informed decisions. Several noted the importance of managing conflicts of interest, and differences between suppliers and practitioners, and a few indicated that these sorts of problems are why suppliers and practitioners should have separate boards and/or separate systems.

Financial sustainability

The financial sustainability of the System is essential. The basic proposal in the consultation paper was that initial development and establishment costs (first 3 years) would be required to get the System established. It will be difficult to self-fund this stage of the process and external funding needs to be sourced. For instance a government grant helped create the framework for RESNA's ATP, and implementation incentives significantly assisted the implementation of the Pharmacy Guild's accreditation system. There may be potential for funding support under the DisabilityCare Australia transition process. It was also proposed that the System should be self-funded after it is established through accreditation and credentialing fees. In the consultations there was almost unanimous support for self-funding, with many also noting the need for an injection of funds to build and implement the System. See more detailed discussions on funding below.

Operational requirements and linkages

Basic operational requirements and relevant linkages to other organisations and systems are briefly outlined below. Note that like other aspects these will need more work and detail in the next stages of development.

1. Development and validation of credentialing/accreditation standards and rules, based on the above objectives and principles, right-touch framework and other research/evidence. The scheme must engender positive behaviours, improved practice, and value add. Ongoing evaluation of effectiveness will be essential to transparency, improvement over time and effectiveness.
2. Encourage the establishment of related education/training/skills programs – there are essentially two options here: the System should do this, or it should be done separately (previous work by the Productivity Commission (2005) on regulating health professions argued for separation of these functions)
3. Will require infrastructure and staff to implement
4. Systems and protocols (or outsource) to:
 - a. administer credentialing/accreditation
 - b. web systems, marketing and promotion of the System and members
 - c. receive feedback, complaints and undertake investigation/enforcement role

- d. monitor and review all elements of the System and publish relevant data
5. Links to:
- a. consumer and professional associations, suppliers and funders
 - b. potential to negotiate reduced cost indemnity and public liability insurance for registered members. An opportunity to offer added value for those who gain credential/accreditation.

During the consultation, other than some very significant emphasis on the achievement of ‘right-touch regulation’, in this instance to take into account existing professional credentialing that incorporates basic AT competencies (and this issue is dealt with in detail elsewhere), there were few comments made about this section. Of the few comments made in relation to who should establish the related education/training programs, most were in favour of it being done separately from practitioner credentialing and supplier accreditation.

Outcomes and process evaluation

Independent and ongoing work needs to be funded by the System to assess efficiency, effectiveness, and sustainability, especially in relation to gradually improving outcomes for consumers. The assessment must include in-built/ongoing data collection processes, and the development and monitoring of key performance indicators. A clear, demonstrably effective and easily accessible complaints and resolutions pathway is a critical part of the task. It is also a vital component of transparency. Additionally, process and outcome evaluation will be important throughout the implementation stage, particularly to inform and resolve areas of uncertainty about the best options for some elements of the System. Some of these areas for particular evaluation focus are noted below in relation to credentialing and accreditation.

In the consultation few comments were made about this section, although parts of several responses noted the need for and the importance of evaluation. Consequently evaluation components have been strengthened here and elsewhere. The CATOR group in North America has expressed interest in engaging with the developing systems in Australia to continue working on enhanced, consumer-relevant feedback (outcome and participation) mechanisms, and to identify systemic factors that enhance consumer outcomes. This international collaboration would offer a swift way to build ongoing evaluation processes.

AT practitioner credential

This section outlines the fundamental structures and processes for an AT practitioner credential, and includes its purpose; whether it should be a single credential or two (e.g. a separate credential for those working in supplier settings); categories of practice; levels of credentials; eligibility; credentialing requirements; and linkages.

Purpose

The primary purpose of the AT practitioner credential is to provide a robust and clear evidence-based assessment of an AT practitioner's competence.

The credential will be an invaluable guide for both consumers and planners within DisabilityCare Australia (and others in individualised funding schemes) to assist in selecting the appropriately qualified AT practitioner. Such a guide is essential given the nature of DisabilityCare Australia's proposed processes, with a first stage involving an initial consumer-centred assessment/planning/funding allocation stage. The second stage appears to offer a market-based approach of consumer choice and control in meeting their needs to achieve their goals by selecting and purchasing appropriate goods and services. For both planners and consumers it will be an important decision-making aid when selecting appropriate sources for advice and services.

One or two streams

The consultation paper proposed a single all-encompassing AT practitioner credential structure based on a matrix structure of different levels of expertise and different areas of practice. The ambit proposal was that credentialed individuals could practise anywhere in the supply chain:

- providing specialised assessments;
- assisting consumers and their families in determining their specific AT needs and likely solutions, operationalising broad plans into specific requirements;
- working within supplier organisations to provide specialist advice, fitting, initial training in using the AT device, and expert knowledge about available products and what is likely to be the best match at a detailed level relative to the consumer's goals, strengths and environment (social and built).

It is important to understand that consumers may go directly to suppliers to operationalise their broad plans into specific requirements (that is, combine elements 'b' and 'c' above).

There is also the additional issue of credentialing in relation to supplier's back-of-house staff requiring specialist technical skills required for building, modifying, programming, maintaining and repairing AT. This is not about professional rehabilitation engineers who are covered in 'a', 'b' and 'c' above, but rather it is focused on trade-level qualifications such as Cert III to Diploma level. However, this specialist technical credential is not a part of this options paper, except to note that it is needed (and has broad support of suppliers as noted in several consultation responses), and is likely to be addressed using existing systems within the vocational training education and credentialing systems. It should ultimately form part of the supplier accreditation framework.

Consultation responses were split about whether two or three (primary, secondary and tertiary) levels of credentialing were required. These comments are reflected in the options outlined in Table 4. While having three levels was seen as linking more closely with associated risks and complexities of AT, and having two levels was seen as simpler and more cost effective to implement.

Responses from the consultation generally supported a single AT practitioner credential structure, although there was also some interest and support for splitting this into two credentials. Thus, there appear to be two main options for the structure of the AT practitioner credential(s):

1. A single AT practitioner credential that covers 'a', 'b' and 'c' outlined above, with a matrix covering different levels and areas of practice.
2. Two different AT practitioner credentials: one focused on specialised assessments and operationalizing advice for consumers, intensive and ongoing support and training; and one focused on supplier staff/consultants.

Within the context of these two options it is useful to note that the RESNA ATP credential initially had separate categories similar to option 2 above (assessment and supply), but these were eventually amalgamated into a single credential. In the consultation process, several respondents noted that there are significant differences in the skill sets required for these two related and overlapping roles. For example, practitioners working within suppliers are expected to have extensive and detailed product knowledge. There were other perceived differences, but these appear to be quite variable in relation to individual practitioners, the particular type of AT, and the systems and organisations in which they are working. Particular attention is also required regarding the need for flexibility in rural and remote communities.

The major strengths of a one-stream credential appear to be:

- clarity and simplicity for consumers and at an administrative level in running the System;
- portability for practitioners who do move from setting to setting;
- less complexity around provision of training/education and other support systems; and
- potentially more economically sustainable – at least initially.

The major strength of a two-stream credential structure appears to be the greater specificity regarding the different roles and some of the concomitant differences in competencies in relation to working on the assessment or supplier sides of the AT provision process. Determining whether one stream or two streams is preferable, particularly in regards to feasibility and value might be more obvious after: (a) the details of actual competency requirements are more fully developed; (b) the economic modelling regarding the System's running costs and credentialing fees are undertaken; and (c) the decisions regarding levels and areas of credentialing and their related competencies are finalised.

Areas of practice

The nature and structure of categories or areas of AT practice are not likely to vary significantly whether a one-stream or two-stream option for credentialing is pursued. Likely categories of practice are listed below, and are based on the literature, including existing matrix systems, but could be combined based on common practice linkages (e.g. mobility and seating).

It is proposed that practitioners would be required to show evidence to justify the categories of AT in which they wish to be credentialed as one or more of:

- Communication
- Sensory
- Mobility
- Posture, seating and lying (including tissue integrity management)
- Prosthetics and orthotics
- Activities of daily living
- Built environment modification/adaption
- Transport
- Information and communication technology and environmental control
- Product expertise (this competency option may be particularly relevant if a single stream of practitioner credentialing is selected, to provide specific focus on supply-side competency for practitioners and may need to be expanded to include other specific supply-side competencies).

Specialist categories could also be developed for: paediatrics, education; recreation; and workplace adaption.

There was concern expressed in the consultation process that having to demonstrate competence across multiple areas that are often interrelated would be onerous, expensive and unrealistic. Whether the System requires the detail in the above categories, or broader categories of specialised practice will require further consideration. This will need to be done in conjunction with decisions about the appropriate number of levels for credentialing as outlined below. One option would be to utilise self-assessment and self-identification of areas of expertise (such as environmental control), with the credentialing then focusing primarily on establishing an individual's level of competence as demonstrated within those areas.

Credentialing multiple levels of competence

Throughout the consultation process, the issue of credentialing multiple levels of competence generated the most concern and discussion, particularly in regards to the intersection with existing professional credentials such as occupational therapy, physiotherapy, speech pathology, rehabilitation engineering, and orthotics and prosthetics. Additionally, there were many comments about what might constitute the appropriate number of levels in a tiered credentialing system.

Utilising Table 2 as a starting point, which outlined some of the issues in relation to different levels of risk (in relation to potential for good/bad outcomes, complexity and costs), four levels are identified regarding AT credentialing in Table 4.

Three different credentialing options are proposed in Table 4, and reflect different perspectives presented in the consultation process. All three options are the same for Level 1 and Level 2 AT. It is proposed that no credential be required for Level 1. These routine and low-cost/low-risk AT solutions would most likely be self-selected by consumers, or through advice sought from generalists in clinical and advanced technical practice (with experience in AT). Such providers could include peer advisors, pharmacy assistants, and others who had completed relatively straightforward training and induction courses.

For Level 2 AT it is also proposed in all three options that a relevant undergraduate degree and credentialing evidenced through registration (where that exists) and/or good standing with the relevant professional association is likely to be sufficient and appropriate as a 'primary' credential. This proposal is in recognition that these professions and the associated education include some requirements to be familiar with AT, and their codes of ethics/practice also explicitly require that registrants/members not practice outside or beyond their areas of competence.

The major differences in the three options, and the major challenges, arise in relation to levels 3 and 4:

- Option 1 proposes that there are additional AT competency requirements, and therefore additional (secondary) AT credentialing, only at the very highest level of AT – Level 4.
- Option 2 is similar to Option 1, except that it identifies the need for additional competencies and (secondary) AT credentialing that covers both levels 3 and 4.
- Option 3 proposes that there are additional competencies required at Level 3, and still more at Level 4, with each of these requiring credentialing (secondary and then tertiary) to demonstrate the achievement of those competencies.

These options as presented are not detailed nor do they fully reflect the inherent complexities – this is a broad-brush framework to provide an indication of the general nature of what is needed and possible. Much work remains to be done, including defining specifics regarding competencies and sorting out the boundaries between levels of risk and related competencies and credentials.

Additionally, one major issue with the credentialing options outlined in Table 4 is that the foundation requirement some form of undergraduate education and professional standing 'primary' credential. This requirement is problematic, as there are some very capable and highly experienced AT practitioners without these formal qualifications and professional standing. Consequently, pathways for them into credentialing will need to be considered and included. It appears that most of these people are working within suppliers, and this situation may be an additional argument for a two-stream approach to credentialing as outlined above. The outline below regarding eligibility and credentialing requirements incorporates a pathway for these individuals, and an entry-level AT

Table 4: Options for levels of AT credentials

Option 1	Option 2	Option 3	Level of AT risk	Description of type of AT matching the level
Requires additional (secondary) AT credentialing, above existing entry-level undergraduate education and professional credentialing	Requires additional (secondary) AT credentialing, above existing entry-level undergraduate education and professional credentialing	Requires additional (tertiary) AT credentialing, above that required below for Level 3 AT	Level 4	<p>AT devices where:</p> <ul style="list-style-type: none"> - intrinsically complex features or adjustments require expertise (skill, qualifications) to fit or tailor device to the participant, task and environment - choice and personalisation require thorough clinical assessment - where wrong choices expose the participant to significant clinical risk (e.g. deformity, injury or death)
'Primary' undergraduate education and professional body credentialing (e.g. occupational therapy; speech pathology, etc.)	Requires additional (secondary) AT credentialing, above existing entry-level undergraduate education and professional credentialing	Requires additional (secondary) AT credentialing, above existing entry-level undergraduate education and professional credentialing	Level 3	<p>AT devices where potential contraindications related to human variation of the participant limit outcomes and present some risk, for example:</p> <ul style="list-style-type: none"> - bed equipment and limited mobility/high posture support required (risk of asphyxiation) - mobility appliances and altered muscle tone / altered visual field / impaired cognition (reciprocal tone changes; safety concerns) - hoists, environment of use and carer health (manual handling considerations)
'Primary' undergraduate education and professional body credentialing (e.g. occupational therapy; speech pathology, etc.)	'Primary' undergraduate education and professional body credentialing (e.g. occupational therapy; speech pathology, etc.)	'Primary' undergraduate education and professional body credentialing (e.g. occupational therapy; speech pathology, etc.)	Level 2	<p>AT where:</p> <ul style="list-style-type: none"> - the clinical risk related to wrong choices is less critical - where the range of AT that can be considered for the choice is broad and varied (so there are different alternative ways to build up the assistive solution) - where installation/configuration require technical rather than clinical competencies
No credential required	No credential required	No credential required	Level 1	<p>AT which:</p> <ul style="list-style-type: none"> - augments daily living activities, usually in the home - is often 'low-technology', low-cost and including everyday technologies/consumer products - can be readily identified and trialled by AT users, to ascertain their likely value based on daily experience

Source: right-hand column adapted from Layton, 2013 and Hammel & Angelo, 1996

credential may also be needed to provide appropriate certification of their AT competencies at the primary level (for Level 2 AT), in addition to secondary and tertiary credentials as indicated in the Table 4. More consultation and work will need to be done on this specific issue to determine what is appropriate. For example, for prosthetists and orthotists AT is central to their training and practice, whereas for speech pathologists it is one element in one of six areas that describe their entry-level 'range of practice'.

Irrespective of whether one or two streams of credentialing (i.e. one for assessors and one for suppliers) are embarked upon, eligibility and other requirements are likely to be similar as outlined below. Note that if a 'two-stream' approach is adopted, some potential areas of difference will need to be identified and worked through accordingly, such as a requirement for high level of specific product knowledge for those working with suppliers.

Eligibility to apply

A person will be eligible to apply to be credentialed if that person has:

1. Professional qualifications (Graduate or subsequent) OR
Cert III (with 2yrs experience in disability practice) OR
Experienced practitioners with a minimum of 3 years equivalent full-time practice

In the consultation several people noted that they did not believe that a Cert III was adequate for eligibility to apply, although fewer people seemed concerned by the utilisation of 'experience' as an eligibility avenue. This issue will need to be worked through in future consultation and negotiation processes, but it is important to note that this only denotes who is eligible to *apply* to be credentialed, not who will be credentialed. Additionally, the issue may shift if two streams are utilised, with the assessment stream requiring professional allied health qualifications as criteria for application, and the supplier stream being more open and inclusive with Cert III or 'experience' as eligibility criteria.

In keeping with previous discussions of minimising bottlenecks and gradually increasing requirements, the consultation indicated support for an option to implement some additional eligibility criteria *after* the credentialing system has running for three years, along the lines of the following:

2. Training/experience in assistive technology use and assessment (min. 20h training & 20hr practical)
3. Training in life sciences and pathology (incl. anatomy, physiology, common disabling conditions) – min 30hr
4. Training/experience in interpersonal communication with people with disability (min 14hr).

Requirements for credentialing

Initial requirements

A person may become credentialed if that person demonstrates:

Either:

1. Currency on a recognised AT practitioner system (e.g. RESNA ATP; and potentially equivalents in relation to 'advanced AT practice' if these are implemented in the future by relevant professional bodies such as Australian Physiotherapy Association); OR
2. Successful completion of post-graduate qualifications in AT practice (min Graduate Certificate level); OR
3. A portfolio of demonstrated AT practice competence in categories of interest (min 300hrs) (includes competency-based workshops/courses in AT, and up to 50hrs in disability care/communication); OR
4. Completion of an approved examination (written). In the consultations this criterion was generally supported, but concerns were raised by some about its adequacy to determine competence. These concerns may be reduced in the context of: (a) additional proposed requirements outlined below; (b) the quality and nature of the written exam; and (c) a better understanding post-implementation of the number of people who chose this option and their background/experience, and ability to deliver outcomes for consumers (that is, through evaluation of the value and effectiveness of this pathway).

And:

5. A structured interview with an expert AT consumer and advanced AT practitioner that explores the candidate's ethics, communication skills and 'insightfulness' into their own ability and limitations in AT practice. Importantly, responses in the consultation were divided on this issue. Many if not most felt that this was important and valuable, but many of these same people and others were concerned about costs and feasibility. Several responses questioned the value and availability of evidence of the effectiveness of this approach.

And:

6. Agreement by the candidate to abide by:
 - a. Professional/Association code(s) of conduct that may apply (including any sanctions that may be imposed)
 - b. Any limitations or supervision requirements of their credential
 - c. Ongoing proactive participation in the 'insightful practitioner' requirements of the System, or the development and implementation of other methods for promoting and monitoring reflection as a key component of meeting credentialing requirements (see more details below)

The above credentialing criteria incorporate a number of additions/changes/comments as a result of the consultation. In the consultation there was broad support for these elements, although they will need more refinement and development. Responses from the USA noted that the RESNA ATP was a

‘base level, do-no-harm’ competency framework, and is much lower than post graduate qualifications. Importantly, more detail needs to be developed to sit behind these basic elements in the next stage of development, and the material will need to incorporate the specification of competencies required and evidence on the best ways to measure the achievement of these. The details will also need to include specifics related to the matrix structure, and cover both levels of competence and areas of practice.

In relation to levels of competence and credentialing, as flagged in Table 4, one option is to go beyond the ‘secondary’ AT credentialing requirements described above and also to develop a ‘tertiary’ AT credential. This level will require additional competencies to be identified and another set of eligibility and credentialing requirements to be developed and implemented.

An additional option is the establishment of a ‘primary’ credential level (see Table 4), and with this option comes the need to establish another set of eligibility and credentialing requirements. Although most AT practitioners will already meet this primary level requirement through their undergraduate education and professional registration/standing (and no additional credentialing should be required for these individuals), there may be a need for this option if there are sufficient numbers of existing very experienced and competent practitioners (including expert AT users) without relevant professional qualifications. It may be that existing highly competent AT practitioners without a professional qualification will easily fit into ‘secondary’ and/or ‘tertiary’ credentialing levels, and there will be little need for a primary credential level for them. Also, whether or not this option is needed, and what it should contain will also in part be determined by whether or not a single- or two-stream credentialing system is created (e.g. a separate stream for practitioners working in supplier settings).

Ongoing ‘insightful practitioner’ requirements

Reflective practice is increasingly being identified as an essential element of best practice in professional practice (Cross, Liles, Conduit, & Price, 2004; Paterson & Chapman, 2013; Roberts, 2002; Vachon, Durand, & LeBlanc, 2010). It can contribute to improving consumer outcomes, managing risks, and incrementally and affordably improving AT practice. Central to achieving such benefits is supporting practitioners to develop insight into their strengths and limitations, and proactively utilise training, mentoring and other tools to enhance their AT competence.

Development/support could include:

1. Requiring practitioners to routinely collect anonymous client feedback (preferably through a web-based or other portal) – quality assurance.
2. The practitioner to undertake an annual self-assessment review of their AT practice with feedback from at least one peer, an agency which they undertake work for and/or their employer. Following on from this self-assessment, the practitioner would prepare a two-page ‘Professional Strategic Plan’ that identifies their:
 - a. Strengths, weaknesses (and rates them in importance) – including progress in implementation of the previous strategic plan
 - b. Their objectives in their AT practice for 1yr & 5yrs

- c. Their strategies to deliver on their objectives, including continuing professional development/education and other tools (e.g. mentoring/exchanges), timelines for implementation and a means of evaluating their progress/success.
3. At intervals to be determined, undertake a formal interview (or group session with other AT peers) with an Accredited Facilitator to present and critique their proposed Professional Strategic Plan. At the end of the formal review, the Accredited Facilitator would rate the practitioner as:
 - a. insightful and sound (2–3 years before a further formal review is required)
 - b. developing insight (repeat the process after 1 year, and phone follow-up on the progress of the Plan at 6mths)
 - c. limited insight (recommendation for mentoring support to address weaknesses)
 - d. suspension (credential suspended/downgraded until competence is demonstrated. Training and mentoring facilitated while practitioner works under supervision of a nominated AT Professional or Specialist).

During the consultation people were divided on the value and feasibility of the insightful practice requirement. Some believed quite strongly that it was an important element of strengthening practice, lifting competence, and improving outcomes for consumers, while others questioned whether there was evidence to demonstrate the value of such a resource-intensive and costly requirement. Importantly a number of responses identified the role of employers and workplaces to monitor and support practitioners, and noted that in some workplaces these processes were regularly utilised; they felt that attempting to incorporate this aspect into credentialing was therefore unnecessary. Some professional standards and codes of practice also identify reflection as essential, but typically provide no processes to support or monitor it. Its presence in standards and codes would appear to validate the importance of reflection as a critical part of professional practice, but there is uncertainty about providing these processes in workplaces where they are not the norm, and for independent practitioners.

Other suggestions included the use of self-review/self-audit; journal clubs; and case discussion groups to support insightful practice.

More consultation and work will need to be done on the best way to support and monitor reflection/insightful practice for AT practitioners. Additionally given this is a relatively new development in relation to professional practice, evaluation of some small-scale methods of doing developing and supporting insightful practice will help to identify the best way to minimise compliance and monitoring costs, while at the same time maximising the impact on practitioners and consumers.

Typical cost

In the consultation paper a range of possible options for fees was outlined:

- initial registration: \$200–750
- ‘insightful practitioner’ review: \$150–500

- annual registration entitling access to a trademarked™ credential and feedback portals, etc.: \$150-650
- reduced public indemnity and public liability insurance negotiated.

Feedback from the consultation identified some key issues.

- Most respondents were keen for costs to be at the lower end, and in particular often cited existing costs already associated with their professional registration and related continuing education and other compliance costs.
- Most acknowledged the tension between the need to fund the System adequately, and the need to keep costs as low as possible.
- Several comments indicated that there was support to try to use credentialing to reduce insurance costs, but also queried whether this was realistic or possible.
- Finally, it was noted by several people that it was not possible or appropriate to comment on what the fees should be in the absence of cost modelling for operating the System (cost modelling is listed as essential work in future stages of the establishment process after there is more clarity and certainty about how the System would actually operate).

Linkages

The Register of AT Practitioners would be publicly available via the web with location and practice category search capacity.

The feedback system would facilitate input from AT funding agencies relating to outcomes performance for each practitioner.

AT supplier accreditation

The basic elements of AT supplier accreditation are outlined below and include: purpose, eligibility, requirements for accreditation including ongoing requirement, possible typical costs and linkages.

Purpose

The primary purpose of accrediting suppliers is to provide consumers with a clear indication of which suppliers have the skills and reliability to meet their particular AT needs, especially in relation to more complex AT.

Supplier accreditation will also be vital to ensuring efficiency within DisabilityCare Australia in identifying appropriate suppliers to be 'registered providers', and more broadly for AT provision if adopted by other funders beyond DisabilityCare. It will also help to manage risks and improve outcomes for consumers.

Eligibility to apply

- An organisation will be eligible to apply for accreditation providing it: is an Australian registered business or trust that is trading in AT provision in Australia and wants to be a quality recognised supplier;
- meets basic Australian Securities & Investments Commission (ASIC) or Australian Charities and Not-for-profits Commission (ACNC) requirements for operation in their location.
- employs sufficient staff with experience/expertise in AT (min 1yr) to meet customer's AT implementation requirements, and train new staff.

Note that suppliers who are already registered through an existing accreditation agency (such as the Pharmacy Guild) would be eligible to apply, but should not be required to have AT supplier accreditation. Their existing accreditation must include relevant components relating to the provision of AT, and more work will need to be done to match the appropriate level of such existing accreditation to the Levels of AT 1–4 as described in Table 4.

In the consultation the purpose and the eligibility criteria were broadly supported, and a few minor changes have been made to reflect some suggestions that were made. However, some concerns were raised about what the accreditation would mean for consumers who wanted to purchase AT from overseas sources, including items such as iPad applications, as well as broader concerns regarding restricting choices for consumers. As with other aspects of this System more consultation and investigation will need to be undertaken. It would appear that supplier accreditation will have some inevitable limitations in its reach and what is appropriately covered (for instance suppliers of low-cost/low-risk items at Level 1 would not be expected or required to be accredited). It is also important that accreditation is not used to restrict consumer choice but instead functions as a decision-making aid and risk-management tool for consumers and others regarding who has the skills, experience, capacity and appropriate business model to assist them in implementing their preferred AT solutions.

Also in relation to eligibility, the consultation raised concerns that any accreditation system put into place must not be overly restrictive and prevent or discourage new entrants into the marketplace, nor should it be a barrier to smaller operators with specialist, proven expertise but limited resources.

It is essential not to curtail development and expansion, and, as with all other elements of the System, the openness of the market should be covered in ongoing evaluation activities to ensure the System is not simply a means of protecting current suppliers from competition or promoting only larger, more sophisticated organisations.

Requirements for accreditation

Initial requirements

An organisation may be accredited providing it meets established minimum expectations relating to:

1. Presence of a physical address in Australia
 - a. Appropriate clinic space to ensure privacy during consultations and storage of product (or suitable alternative). It was observed in the consultation process that not all AT products require consultation (e.g. some software), and consideration should be given to making it possible to waive this requirement when it is not necessary.
 - b. Australian contact details (postal, email, telephone and mobile phone). Similar to 'a' above, some concerns were raised about this requirement in relation to restricting consumer choice, particularly for internet and overseas purchases. Given that within DisabilityCare consumers are likely to be able to purchase AT from sources other than accredited AT prescribers this requirement should present no substantive problems, but it will be important for consumers to be aware that overseas purchases are not covered by Australian consumer protection laws.
2. Systems in place to:
 - a. adequately record and document client requirements
 - b. offer current and adequately detailed information about AT products supplied
 - c. have formal agreements with distributors for products, and/or formal agreements with manufacturers/overseas suppliers who have the documentation necessary to fulfil all TGA requirements as a sponsor
 - d. administer and monitor the AT provision process – from first interview with the consumer, through the assessment, trialling, delivery and training, and follow-up.
3. Sufficient capacity and insurance to:
 - a. protect consumer and funder interests, including deposits
 - b. ensure adequate stock, with delivery timeframes (including on repairs/spare parts) that are clearly presented to customers and funders prior to purchase of a solution
 - c. comply with any requirements of distributor/ACCC/TGA with regard to product safety (including recalls; and custom-made device requirements via TGA), and voluntarily ensure that where possible and appropriate, all supplied AT meets current Australian/international product requirement standards.
 - d. ensure that maintenance and repair is available for at least the nominal service life of the AT being sold, at a reasonable cost given the location of the consumer.

4. Employment of appropriately qualified people for the level of AT risk and complexity being provided and:
- a. ensure that all staff have knowledge and skills in communicating with and assisting the organisation's typical clients (and their family, advisors and carers) in meeting their AT requirements, including evidence of ongoing training in new products sold by the supplier
 - b. for basic AT (Level 1), ensure that staff have appropriate experience, knowledge and qualifications including a sound knowledge of dealing with people with disability and of the products being offered.
 - c. for suppliers of AT levels 2–4, the organisation must ensure that:
 - i. there is capacity to provide or source (via consultants or contractors) appropriately credentialed AT practitioners in relation to the AT being offered by the organisation
 - ii. staff (or consultants/contractors) have the verified competencies necessary as indicated by the credentialed AT practitioner structure outlined above (or ready access to such) to appropriately advise on and deliver the AT they provide to consumers. Staff (or consultants/contractors) must have the credentials appropriate to the level of the AT solution they are implementing.

In the consultation significant concerns were raised by some in relation to the requirement to have appropriately credentialed AT practitioners available as outlined above. It was felt that this requirement was unrealistic for many suppliers, and although some will be able to comply, many will not. It was seen as reducing consumer choice and the number of available suppliers, and posing particular challenges in rural and remote communities. This criterion will need more investigation and negotiation, and some of the issues and options for consideration are outlined here. As described above, suppliers need only to have access to an appropriately credentialed AT practitioner – that practitioner does not have to be on staff (and so telehealth/internet and options are possible). And, depending on which option is chosen overall for the competency requirements and level of credentialing for AT practitioners relative to different levels of AT risk, it is not yet clear what level credential (primary, secondary or tertiary) will be required for which AT. Also, as noted above under 'credentialing', one option is to create a two-stream AT practitioner credentialing process, with different requirements for those working in supplier settings. In working through these issues, it is important to remember that within DisabilityCare consumers are not likely to be restricted in where they can purchase their AT.

- iii. it can provide (directly or by a contracted service) basic instructions on the use of the AT being sold to the consumer.

The initial proposal in the consultation paper included a requirement for suppliers to provide ongoing training and support. Some responses indicated that this ongoing requirement is inappropriate, while others believe it is essential. Responses indicate that suppliers do take responsibility for and provide basic

instructions on how to use the AT they sell. However, when more intensive and ongoing supports are required, the responsibility for providing them currently rests with the therapist/practitioner in most Australian government-funded AT schemes. Within DisabilityCare there will be increased opportunities for consumers to go directly to suppliers. Therefore, the development of clearer funding and cost structures for more intensive and/or ongoing support and training will be required. The need to clarify responsibilities and funding for intensive and ongoing support/training also has relevance for other funding programs utilising individualised funding structures.

- iv. it has staff with or access to technical knowledge on options that may enhance the AT being offered, or integrate it with other AT used by the consumer. And it has the capacity over time to look to developing/supporting technical staff involved in repair/maintenance/construction of AT to become credentialed through courses such as the Certificate III in Engineering Mechanical Trade (maintenance) (MEM30205FT) and the Certificate IV in Rehabilitation and Assistive Technology (HLT43606).
- 5. Adherence to a code of conduct (such as the ATSA Code of Practice) that prevents any 'forced selling' and instead relies on ensuring the consumer is provided with the optimum AT to meet their requirements, even if that requires referral to another supplier.
- 6. Effective customer follow-up/feedback system that includes complaints management that facilitates continuous quality improvement.

Accreditation requirements received broad support, and some particular issues/concerns are noted above. In addition to the notes above about consultation results, several responses outlined a series of important issues and details that will need to be considered in the next stage where more specificity regarding compliance and monitoring will need to be established. For instance, how will suppliers determine what is the reasonable life expectancy and maintenance of a product; what are reasonable timeframes for repairs and supply of spares; and so forth.

Ongoing requirements

As with AT practitioners, fulfilment of the proposed objectives and principles will require a set of ongoing activities to ensure good consumer outcomes are being achieved, and opportunities to incrementally increase the skills and capacities of suppliers are utilised. One possible option for this is outlined here.

Accredited suppliers should be subject to regular audits against the accreditation requirements. Following the initial audit, accreditation may be for a period between 1 and 3 years (depending on risk and any concerns).

The accreditation agency should:

- 1. be able to receive concerns/complaints from consumers or funders about any member and have a means to seek further information, investigate, audit and take remedial action as needed;

2. encourage and publicise innovative approaches to enhance service delivery and outcomes for consumers and AT funders;
3. protect and promote the accreditation descriptor/trademark and search portal;
4. monitor and liaise with its members, funders (particularly national funders), professional bodies and other agencies on aspects of the accreditation system that are:
 - a. unnecessarily complex or restrictive,
 - b. no longer of relevance to achieving the objective of the accreditation, or
 - c. failing to address emerging issues or concerns to consumer/funder outcomes caused by AT practitioners.

In the consultation these ongoing requirements were generally supported. However, it was noted that it will be essential to link these requirements with existing quality assurance systems that are already in place with many suppliers, such as ISO 9001:2008. More consultation and development will need to be done to find the best means of incorporating/linking AT accreditation with existing business and quality accreditation systems already in use.

Typical cost

As with credentialing a range of fee options were outlined in the consultation paper, and these are presented below. The consultation paper also noted that it would also be necessary to develop some kind of tiered structure or sliding scale that takes into account the scale and complexity of the suppliers' business. For example in the USA's Centre for Medicare and Medicaid accreditation structure for AT funded through Medicare, one of the independent accreditation agencies has a set rate, and then an additional amount for each additional site.

- initial registration: \$500–1500 plus accreditation audit \$1000–4000
- routine reaccreditation audit: \$500–2000
- annual registration: \$200–1000
- reduced public liability insurance negotiated.

Feedback during the consultation again supported the notion of keeping the fees as low as possible, but recognising the need to make the System self-funding and sustainable. Several responses from practitioners and suppliers noted that many AT retailers were already struggling to meet their existing costs, and imposition of additional costs must be carefully considered to ensure their ongoing viability. It was again observed by several people that without cost modelling for the System it is difficult to determine appropriate fees, and noted that it was important to build a lean System to keep costs low. There was some debate about whether fees should be tiered in relation to complexity and risk levels of the AT being supplied, as higher fees for higher level AT could deter businesses from entering the complex end of the AT market. A few suggested fees should be linked to turnover or status (e.g. commercial, not-for-profit, etc.).

Linkages

The register would be publicly available via the web with locations served and AT product category search. Random feedback questionnaires would be sent to customers of accredited members.

The feedback system would also facilitate confidential input from AT funding agencies relating to outcomes performance for each practitioner.

Establishing the System

This section outlines a series of stages for the further development and establishment of a national AT credentialing and accreditation system.

Importantly, this options paper is only the first small step towards establishing a system, and much more detailed work, consultation and negotiation must be undertaken before a credible and effective system can be put in place.

There are three stages of work to be undertaken (all dates refer to the financial year July to June):

1. Development and establishment (from now to 2016)
2. Early operations (from 2016 to 2018: ongoing evaluation and modification as required)
3. Ongoing operations (July 2018 onwards: regular evaluation and occasional changes as required)

The first stage – Development and Establishment – is outlined below over the course of three years. Working backwards from the need to have a sufficient number of AT practitioners credentialed and AT suppliers accredited before July 2016 when DisabilityCare Australia is expected to begin rolling out beyond the current launch sites, some key tasks/milestones are described below.

Stage 1 timeline

Year 1: Foundations (2013–14)

- | | |
|---------|--|
| 2013 | Secure funding to set up group/agency to undertake further development and undertake initial implementation steps. Ideally there will be a commitment of sufficient resources for three years to do this work, with funding tied to achieving key milestones |
| 2013 | Establish a governance structure for Stage 1 (this might be a single board for an independent agency or separate/combined Standards Boards if auspiced by existing body) |
| 2013–14 | Establish a workforce for Stage 1 |
| 2013–14 | Commitment by Disability Launch Transition Authority to support and promote AT practitioner credentialing and supplier accreditation (likely to be part of process of securing funding) |

Year 2: Development resources for a AT Credentialing and Accreditation System (2014–15)

- | | |
|---------|---|
| 2014–15 | Agreed credentialing requirements for AT Practitioners and accreditation requirements for suppliers |
| 2014–15 | Development (2014), testing (2015) and implementation (2016) of processes to credential practitioners and accredit suppliers, and means to measure related outcomes |
| 2014–15 | Establish links and agreements with education/training sources to underpin credentialing of AT practitioners |

- 2014–15 Develop website for communication and delivery of system, with ongoing work as the System progresses
- 2014–15 Develop and implement marketing to ensure engagement and uptake by practitioners and suppliers, and information to consumers, funders and broader community
- 2014–15 Encourage other AT funding schemes to adopt the National AT Credentialing and Accreditation System

Year 3: Manage transition to full implementation (2015–16)

- 2015–16 Do economic modelling regarding fee structures and estimated ongoing operational costs to ensure self-sufficiency and financial sustainability for Stage 2, and put that fee structure in place in July 2016 to create independent revenue stream as soon as possible
- 2015–16 Review and planning for Stage 2, including formal independent evaluation for Phase 2
- 2015–16 Finalise governance arrangements for stages 2 and 3

Costs for stage 1

Costs for the Development and Establishment stage will need to be secured, with the expectation that the System will become financially self-sufficient as DisabilityCare Australia becomes fully implemented.

Determining costs for Stage 1 will require more detailed consideration of the work required and relevant costs for this work. Costs are uncertain as they are very dependent on decisions that need more investigation and negotiation. For instance if it is decided to proceed through an existing organisation already involved in credentialing, costs may be substantially lower to establish the scheme than if a new independent organisation is established. Costs for the first year to work through the immediate requirements are likely to be in the order of \$150,000 to \$200,000. This would enable an equivalent of approximately 1 to 1.5 full-time consultants to begin the negotiations and move the project forward, including consumer, carer, professional and supplier engagement.

During the consultation most people and organisations that commented on this part of the proposal indicated that the overall outline of work was ‘about right’, and some made similar comments about the timeline and the costs. However, others indicated that the timelines and potentially the funding were optimistic and that it would probably take more time and resources.

Several responses indicated that given that there are already existing credentialing and accreditation systems and organisations, and quality assurance systems and organisations, there should be capacity to work with and/or leverage off these to make the ambitious timelines achievable. This will be an important aspect of negotiations and decisions around the intersection of existing professional credentials and AT credentialing.

The importance of building in evaluation measures and processes throughout the System was also emphasised, as was time and cost of doing this.

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Appendices

Appendix A: Consultation

The project team undertook numerous interviews and email conversations with many people in the course of this project. Initial discussions were held with key stakeholders (AT funding agencies, practitioners, professional groups, suppliers and researchers) that proved invaluable in forming up the initial consultation draft paper, and these conversations continued until the end of the project.

Over 65 people and organisations provided feedback on the consultation paper. In addition around 100 people attended briefing sessions at the ATSA Daily Living Expos in Sydney and Brisbane in May 2013 following the closure of the formal consultation period.

We have listed all the organisations who responded to the consultation paper and provided feedback. In some cases this was through an interview process, for others it was a formal email or submission.

Individuals who provided feedback have not been identified below as some were doing so informally, and others specifically noted that their comments were their own, and not endorsed by their organisation. To ensure no inferences are drawn, we have thus summarised individual respondents in relation to their profession or status, and their location demographic (when this information was available).

Organisation	Location
Australian Federation of Disability Organisations	National
Australia Rehabilitation & Assistive Technology Association (ARATA)	National
Assistive Technology Suppliers Australasia (ATSA)	National
Australian Physiotherapy Association	National
Australian Orthotic Prosthetic Association	National
Consumers' Health Forum	National
Independent Living Centres (WA & ACT)	WA & ACT
MND Victoria (<i>Motor neurone disease</i>)	Vic/National links
Novita Children's Services	South Australia
Occupational Therapy Australia	National

The Pharmacy Guild of Australia	National
Rehabilitation Engineering & Assistive Technology Society of North America (RESNA)	North America
Speech Pathology Australia	National
Spinal Injuries Association	Queensland
Vision Australia	National
WA Country Health	Western Australia
Suppliers & related organisations	Location
Ability Technology	NSW
AidaCare	National
Chemtronics Biomedical Engineering	National
Home Safety & Comfort	NSW
Invacare	National
Magic Mobility	Victoria
Mobility Matters	NSW
Tunstall Healthcare	Queensland
Walk on Wheels	Qld NSW,

Individual Respondents and Contributors (n=63), this does not include approximately 100 participants in the ATSA Daily Living Expo Briefings in May

Discipline/Role		Work Environment		Location	
Consumer	5	Government	10	ACT/NSW/Vic	Metro 29
Occupational Therapist	26	AT supplier	14		Rural 4
Physiotherapist	3	NGO	6	Qld/SA/WA/ Tas (0 from NT)	Metro 18
Speech Therapist	7	University/Research	6		Rural 5
Technical (Designer/ Rehab Engineer)	7	Private practice	4	International	7

Appendix B: Project Advisory Group

Over the life of the project, the Advisory Group met three times to provide advice and input. Additionally, many members met with and/or spoke to the project team in detail about various aspects of the project. This group influenced the direction and content of the report.

Structured interests represented	Organisation Representing	Person	Role
Consumers	Spinal Cord Injury Australia (SCIA)	Greg Killeen	Senior Policy & Advocacy Advisor for SCIA, and AT user
Carers	Carers Australia	Elena Katrakis	CEO, Carers NSW
Consumers, carers, AT practitioners, AT suppliers	AGOSCI (complex communication needs)	Charlene Cullen	Victorian State Representative for AGOSCI; speech therapist
Consumers, AT practitioners, AT suppliers	Australian Rehabilitation & Assistive Technology Association (ARATA)	Desleigh De Jonge	Board member ARATA
AT suppliers	Assistive Technology Suppliers Australasia (ATSA)	Chris Sparks	EO, ATSA, and AT user
AT practitioners	Allied Health Professionals Australia (AHPA)	Leigh Clarke	Board member of AHPA, and EO, Australian Orthotic Prosthetic Association
AT practitioners	Occupational Therapy Australia (OTA)	Desleigh De Jonge	Member of OTA; Digital Transition Project Officer, LifeTec, QLD
AT practitioners	Australian Physiotherapy Association (APA)	Yvonne Duncan	Representative and member of APA; Senior Clinician & Education Coordinator Independent Living, at Yooralla, VIC

Appendix C: A Short history of accreditation and credentialing of AT professionals

In 1998, the Rehabilitation Engineering and Assistive Technology Association of North America (RESNA) issued the first credentials for AT prescribers (ATP) and suppliers (ATS). Over time the ATP credential became 'Assistive Technology Professional, and the ATS credential was subsumed under that in 2008. Additionally, funding to establish RESNA's Professional Standards Program came through a grant from the USA government's National Institute on Disability Research and Rehabilitation and the 'assistive technology content areas encompassed by the ATP/ATS certifications includes wheeled mobility, seating, computer access, work site accommodation, augmentative and alternative communication (AAC), and environmental control units (also known as Electronic Aids to Daily Living, or EADLs)' (Lenker, 2000, 13). RESNA has introduced advanced credentials (Seating & Mobility Specialist; Rehabilitation Engineering Technologist) since that time, and since 2010 the ATP has been a recognised requirement for prescribers under the Medicaid and Medicare funding systems in the USA.

Foundations for RESNA's work in this area began with the work of the Rehabilitation Engineering Centers (established through the 1960s), which was followed by the formation of a professional association (RESNA) and its associated conferences and professional development opportunities, and finally the launch of a peer reviewed journal (Assistive Technology in 1989). This professional development activity was mirrored in Europe by Association for the Advancement of Assistive Technology in Europe and its journal Technology and Disability in 1992.

In most other jurisdictions there has not been consensus on an assistive technology credential, and no statutory requirements outside of individual discipline registration (where required for relevant allied health professionals). This has resulted in most AT funding schemes specifying particular allied health disciplines as eligible to prescribe/authorise the scheme's funded AT products. Some schemes simply require ongoing evidence of registration with the relevant professional association or Board (e.g. Ontario, Alberta) but increasingly this is only the entry point, and further evaluation, experience requirements or training modules are required to be fully approved (and often with tiers of authority resulting, see for example SWEP requirements in Victoria:

<http://swep.bhs.org.au/sites/default/files/forms/SWEP%20Prescriber%20Registration%20and%20Credentialing%20Framework%207%20October%202011.pdf>).

Also, in the USA there have been substantial developments in the last 10 years around the supply of AT in relation to federally funded programs (driven by several major scandals), particularly new regulations regarding Medicare funding of DMEPOS (Durable Medical Equipment Orthotics/Prosthetics and Supplies). As a consequence extensive accreditation requirements for suppliers are gradually being rolled out there, with 10 independent accreditation agencies empowered in 2006 to undertake accreditation and ensuring standards are met. Full accreditation has not yet rolled out nationally, and copies of the standards and other information can be found at <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/MedicareProviderSupEnroll/DMEPOSAccreditation.html>.

In other jurisdictions there are often voluntary supplier codes of conduct (such as in the UK and Australia), and some voluntary accreditation such as CEDAB in the UK. Regarding the purchase of AT with public funds, the supply side requirements are often managed through procurement contracting arrangements. Tenders or Expressions of Interest documents are prepared that stipulate normal business and ethics requirements, and with varying levels, the standards, outcomes and monitoring that are to be met or will form the basis of evaluation of the competitive bidding process. In general this primarily applies to the supply of products, but the recent release of Clinical Standards for several Specialist Services under the NHS Commissioning Board has extended the approach to complex AT service delivery.

Appendix D: Summary of international AT accreditation/credentialing schemes

Australia/NZ – Major publicly funded AT programs – SWEP (VIC), Enable (NSW), MASS (QLD), EnableNZ – certify prescribers utilising a matrix structure (levels of expertise & areas of practice) based on background, qualifications, and ongoing monitoring. Suppliers are covered through procurement processes. For example in SWEP system there has been a substantial reduction in errors since introduction, with monitoring of performance critical to identifying those in need of assistance and utilisation of advisory panel (of currently practicing senior professionals) to assist prescribers. LTCSA/Enable NSW have developed the "Guidelines for the prescription of a seated wheelchair or scooter for people with a traumatic brain injury or spinal cord injury" with a supplement that includes "standing wheelchairs" to inform and set the benchmark for practitioner practice. Qld MASS runs semiregular AT practitioner seminars on topics relevant to AT practice.

USA – Medicare & Medicaid (the two major national public funding programs that include AT) require both prescribers and DME (durable medical equipment) vendors to be accredited through one of several private/NFP agencies (e.g. RESNA ATP for prescribers). Strict control of the 'coding' of AT and these codings are linked to authorization levels of both prescriber and vendor. CMS (Centers for Medicare & Medicaid Services) determine which organisations will be authorised to do accreditation, and also require special provisions for complex AT, prosthetics that require extra credentialed staff (including technical) for vendors. Proposed 'Complex Rehab Tech Act' (<http://www.access2crt.org>) is before Congress seeking to draw complex AT out of 'competitive tendering.' The bill stipulates several key requirements including standards and accreditation.

Canada – generally operates using an approved list of categories of approved AT. Funding hinges on a scheme approved 'authorizer' (who requires accreditation by one of several professional bodies), and vendors are required to be registered with key requirements. Have detailed conflict of interest rules, and some complex AT is restricted to certain specialist centres (who may get funding from other sources) and/or is covered by guidelines (sometimes very extensive). Some centres are themselves accredited.

Nordic Countries – mix of approaches. All require an approved authorizer (though several trialling or introduced 'free choice' for expert consumers). Some have a list of approved products (and negotiated pricing in each region), others have accredited suppliers or an reduced amount for vouchers at non-accredited suppliers (consumer choice).

UK – Has been in a constant state of flux for a few years with several schemes being developed and changing at a rapid pace, with take-up and impact difficult to pin down. For low cost items under £100 (Social Services funded) the government created a 'national list' (TCES) with the aim of offering them through retail outlets – pharmacies/shop fronts (previously everything was provided through NHS and council authorities). They have struggled to transition to the retail model, and this is all still in process. The retail model initially intended to use a single national system for retailer accreditation (CEDAB), but that was abandoned and now each council authority is responsible for enforcing an agreed national set of minimum requirements. NHS has Any Qualified Provider (AQP) an ongoing development to set up the requirements for suppliers for most non-TCES AT items

(though still list based under the NHS). Other systems for accrediting suppliers are also available and/or being developed (such as CEDAB and also BHTA Office of Fair Trading (OFT) approved Code of Practice). More available at www.pmguk.co.uk/aqp.html (note it is wheeled mobility focused), and see also www.cedonline.org.uk. There continues to be discussions on credentialing practitioners, and we believe BHTA through its AT Society is planning to have the Society's ATP system endorsed by the Professional Standards Authority (PSA) as an Accredited Self-Regulating System.