PERSPICACIOUS

RESEARCH REPORT: THE BENEFITS AND RISKS OF ASSISTIVE TECHNOLOGY LOAN POOLS

Final Report, 24 June 2025

Prepared for:

atsa assistive technology suppliers australia

ACKNOWLEDGEMENT OF COUNTRY

Perspicacious acknowledges Traditional Owners of Country throughout Australia. We pay our respect to Aboriginal and Torres Strait Islander Elders past and present, and to all Aboriginal and Torres Strait Islander people including members of the Stolen Generations.

KEY TERMS AND CONCEPTS

Assistive Technology (AT): *"any item, piece of equipment or product that is used to help a participant to do things more easily or complete activities they can no longer do independently."* (Department of Health and Aged Care, 2025, p. 138)

AT services: *"AT services refers to services delivered by a suitably qualified professional such as prescription, advice and wrap-arounds which help to match a person, their goals and their particular environments with specific products."* (Department of Health and Aged Care, 2025, p. 138)

Capped price rental/hire: Capped price rental/hire is used to describe an AT provision model where the client hires the AT up until paying a capped amount. In contrast to hire to buy models, the item remains the property of the supplier/funding body even after the rental/hire fee has reached the capped price amount. This allows these items to be recollected and re-issued by the supplier and therefore sometimes leads to comparisons to an AT loan pool. However, in contrast to an AT loan pool, the client/funding body must pay the rental/hire fee each time the AT is re-issued.

Hire to buy: Hire to buy is used to describe an AT provision model where the client hires the AT up until paying a capped amount, at which point the client is considered to have 'bought' the item.

Loan pool: An AT loan pool is a model by which there is a single episode of purchase of AT products into the loan pool, often funded by governments or NGOs. After this initial purchase cost, there is no cost to clients/funding bodies to re-issue the AT. However, AT loan pools require significant ongoing investments in wrap-around services and technologies to be successful (including logistics and cleaning/sanitisation/repair technologies).

Wrap-around services: Wrap-around services include services to initiate, assess, select, authorise, implement and manage AT, including through AT modification, maintenance and repair (Layton and Brusco, 2022).

CONTENTS

Background 3

Research Methodology 3

Analysis approach and structure of this report 4

Executive Summary of Key Findings 5

PESTEL Narrative Review of Key Themes 8

- Political AT loan pool considerations 8
- Economic AT loan pool considerations 10
- Social AT loan pool considerations 13
- Technological AT loan pool considerations 17
- Environmental AT loan pool considerations 20
- Legal AT loan pool considerations 22

Reflections on the Australian Government's current AT Loan Scheme Trial 25

The Preferred Model for an AT Loan Scheme in Australia 28

Case Study: Norway's Assistive Technology Loan Scheme 30

Case Study: England's Community Equipment Service Model 32

Case study: Brighton and Hove, UK Community Equipment Service 36

Case study: New Zealand's Equipment and Modification Services 38

Appendix A: ATSA survey of ATSA members Methodology and Findings 42

- Methodology - ATSA member survey 42
- Findings - ATSA member survey 42

Appendix B: ATSA workshops with ATSA Members Methodology and Findings 50

- Methodology - ATSA member workshops 50
- Findings - ATSA member workshops 50

Appendix C: ATSA workshops with Consumer, AT and Aged Care Peaks Methodology and Findings 53

- Methodology – Consumer, AT and aged care peaks workshops 53
- Findings – Consumer, AT and aged care peaks workshops 53

Appendix D: Systematic Literature Review Methodology and Findings 56

- Methodology - Systematic Literature Review 56
- Findings- Systematic Literature Review 59
- App.D1: List of publications identified in Systematic Literature Review with Summaries of evidence types, quality and findings 60
- App.D2: List of publications excluded from the Systematic Literature Review by reason for exclusion 71

References 79

BACKGROUND

Perspicacious was engaged by ATSA to undertake a critical analysis of AT loan pool models based on a variety of evidence sources. This work was commissioned in the context of the Australian Government Department of Health and Aged Care partnering with NSW Health to trial the delivery of an AT Loans Scheme. People residing in South West Sydney and Riverina/Murray were able to participate in the trial delivered by EnableNSW which had experience of providing a state-based AT loan pool (EnableNSW, 2024). ATSA members had raised concerns about this trial and the Department of Health and Aged Care had reported that they would not be making any preliminary research into the efficacy of the trial, or any findings following the conclusion of the trial, public. ATSA therefore sought to commission their own research to better understand the potential risks and benefits of an AT loan pool in Australia, in particular one funded by the Federal Government and delivered by state/territory governments.

RESEARCH METHODOLOGY

The research approach involved seeking and synthesising multiple forms of evidence, through:

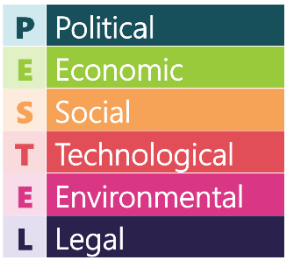
- A survey with ATSA members conducted by ATSA (see Appendix A for ATSA member survey methodology and findings).
- Two workshops with ATSA members developed and conducted by ATSA (see Appendix B for ATSA member workshop methodology and findings).
- Three workshops with consumer peaks, AT and aged care peaks conducted by ATSA (see Appendix C for consumer AT, and aged care peak workshop methodology and findings).
- A Systematic Literature Review by Perspicacious (see Appendix D for methodology and findings of the Systematic Literature Review).
- Confidential one-on-one interviews by Perspicacious with 20 key stakeholders, representing:
  - Australian and international government AT loan pool representatives,
  - Australian AT suppliers with experience of AT loan pools,
  - International provider peaks,
  - AT loan scheme provider accreditation and regulatory bodies, and
  - Academic experts.
- A review of publications in English, Swedish and Norwegian identified through the interviews and consultations with stakeholders, as well as through searching the reference lists of publications identified.
- An extensive narrative review of the qualitative findings from the interviews, consultations and reviewed literature.

ANALYSIS APPROACH AND STRUCTURE OF THIS REPORT

This report presents a narrative synthesis of key findings from the publications identified through the Systematic Literature Review, the interviews, ATSA members survey, ATSA member and consumer, AT and aged care peak workshop consultations. The report also references other publications identified through the interviews and consultations with stakeholders, as well as through searching the reference lists of publications identified.

Unless otherwise stated, the findings of the research interviews aligned with those of the cited literature. Where no research is cited, the information presented is from the interviews or consultations with the relevant experts/representatives of the program or service being described. Any conclusions/summaries/reflections by the report authors are clearly stated as such.

Guided by the key themes arising from the findings, an adaptation of the 'PESTEL' approach is used to provide an analytical framework exploring: Political, Economic, Social, Technological, Environmental, and Legal dimensions. The PESTEL framework is used to look at the macro picture of an industry or entity's environment. The PESTEL analysis focusses on issues of relevance to the development of an AT loan scheme in Australia, with a particular focus on the provision of a national scheme, potentially by local government or private providers.



Three countries' approaches to AT loan pool service provision were repeatedly referred to by those consulted, and identifiable in the literature, as particularly relevant to the Australian aged care AT provision context: namely New Zealand, England and Norway. Four case studies are presented: 1. the New Zealand model, 2. the Norwegian model, 3. the English model, and 4. a deep dive into the experiences and decision-making process that led a local government (Brighton and Hove City Council) to shift from an in-house to outsourced model of service delivery by a private provider.

EXECUTIVE SUMMARY OF KEY FINDINGS

There is very limited academic research published on the benefits and risks of AT loan pools. However, the Systematic Literature Review and other publications identified through the interviews showed that there was literature published by government bodies, leaders at public and private AT loan pool suppliers, and disability advocates internationally. None of this literature presented high-quality research evidence, with most being descriptions of services delivered and expressions of opinion on barriers and enablers of AT loan pool service delivery.

PESTEL REVIEW OF KEY THEMES

The PESTEL narrative review of key findings revealed the following considerations in the establishment and delivery of AT loan pools by governments:

P POLITICAL AT LOAN POOL CONSIDERATIONS

- There needs to be a robust AT market with private and government suppliers across all sectors.
- There needs to be alignment in political agendas across sectors.
- State/regional/local government delivery of national/federal government-funded AT loan pools is problematic due to competing political agendas.

E ECONOMIC AT LOAN POOL CONSIDERATIONS

- AT loan pools may reduce costs to governments.
- The economics of AT loan pools are dependent on technological and environmental factors.
- The largest possible AT loan pool is required to achieve economies of scale.
- Detailed consideration of the economics of loaning different types of AT is required.
- Inappropriate AT provision reduces the financial benefits of AT loan pools.

S SOCIAL AT LOAN POOL CONSIDERATIONS

- There are potential social benefits of AT loan pools through offering low- or no-cost options to people who are eligible.
- There is a risk that AT loan pools promote a 'race to the bottom' in the quality of AT products and wrap-around services driven by environmental and financial pressures.
- Wrap-around services are required to realise the potential social benefits of AT loan pools.
- There are risks for inequities in client outcomes when AT loan pools are provided at the state/regional/local level.
- There are risks that Aboriginal and Torres Strait Islander people and people living in rural and remote areas will be disadvantaged by a government delivered AT loan pool.
- AT loan pools are not unique in providing the opportunity to trial AT before buying, as many private providers already offer generous trial- or hire- before you buy options.

T TECHNOLOGICAL AT LOAN POOL CONSIDERATIONS

- AT loan pools risk stifling innovation in AT products and wrap-around services, through the 'race to the bottom'.

- There is a need for innovation in AT design to promote Circular Economy principles.
- Advanced logistics technologies are required for successful delivery of an AT loan pool.
- With appropriate investment and other incentives, AT loan pools do not need to hinder innovation.

E ENVIRONMENTAL AT LOAN POOL CONSIDERATIONS

- AT loan pools reduce waste associated with short-term AT use by reducing the amount of product purchased that ends up disposed of while it can still be reused or refurbished.
- However, across all sectors re-use, repair and refurbishment are some of the more challenging Circular Economy elements to achieve.
- The environmental impacts of AT loan pools must extend beyond waste reduction to also consider refurbishment/sanitisation impact, and warehousing, transport, and production impacts.

L LEGAL AT LOAN POOL CONSIDERATIONS

- Public procurement is key to achieving the potential political, economic, social, technological and environmental benefits of an AT loan pool.
- There is an opportunity for federal/national governments to promote AT services standards through contracts with AT loan pool suppliers.
- Federal/national governments contracting state/regional/local governments to delivery AT loan pools is problematic.

REFLECTIONS ON THE AUSTRALIAN GOVERNMENT'S AT LOAN SCHEME TRIAL

There are potential social, economic and environmental benefits of a national AT loan pool for certain high-use and low-customisation AT categories and for certain client groups.

However, it was noted that for each AT product category, it must carefully be considered if the AT was suitable for the loan pool from a range of economic, social, technological, environmental and legal perspectives.

On a fundamental level, there appears to be a misalignment between the principles and cited motivations for establishing an AT loan pool and aims of the broader aged care reforms in Australia with a focus on prevention and reablement and supporting people to remain living, and wherever possible dying, at home.

The exclusion of people living in residential aged care from the proposed AT loan pool is perplexing and it is unclear why people living in aged care should be excluded from the potential social benefits of access to loan AT.

The step towards integrating a national AT loan scheme for aged care at home with state/territory health and disability AT loan schemes could have positive impacts. However, the proposed model for a national AT loan scheme currently being trialled in Australia, i.e. the Federal Government only contracting state/territory governments to deliver the AT loan pools, may lead to a range of issues and risks to older people.

THE PREFERRED MODEL FOR AN AT LOAN SCHEME IN AUSTRALIA

A consistent suite of recommendations regarding the preferred model for an AT loan pool in Australia emerged from the research presented in this report.

The Norwegian rights-based AT loan pool with AT procured and owned by the Federal Government best aligned with the Statement of Rights and Statement of Principles in the Aged Care Act 2025, the ability for the Federal

Government to set and ensure standards were consistent across Australia, and the potential social, economic and environmental benefits. However, in Australia, the Federal Government is not involved in direct procurement and provision of product and services in other aged care or disability programs which meant this was considered an unlikely model to be adopted.

The components of the preferred model for a national AT loan scheme in Australia that emerged from the research are:

- **Component 1.** National contracts direct with multiple AT suppliers.
- **Component 2.** A robust AT market that ensures high-quality AT is available for all.
- **Component 3**. National consistency in the range and quality of AT available through the loan pool.
- **Component 4.** Accreditation of suppliers required through contractual agreements with suppliers.
- **Component 5.** Integration between the rest of the aged care system and the AT loan pool.
- **Component 6.** Measurable rights-based outcomes for older people.

P POLITICAL AT LOAN POOL CONSIDERATIONS

THE NEED FOR A ROBUST AT MARKET WITH PRIVATE AND GOVERNMENT SUPPLIERS ACROSS ALL SECTORS

In a system such as Australia's where AT is provided within the health, disability, community and social service sectors, and involves a mix of private insurance, public funding and private purchase, it is crucial that all sectors are engaged in any AT loan system for economic, social and environmental benefits. It was repeatedly raised during the interviews and stakeholder consultations that in policy settings such as Australia's where there is not universal AT supply by the government for all citizens (e.g. Norway or New Zealand), there is also a need to consider how the establishment of an AT loan pool will impact the private AT supplier network providing AT into other government funded programs and to privately funded AT users. Following research to inform a policy for the re-use, refurbishment and recycling of AT in Quebec, Canada, which has a similar mix of organisations and sectors involved in AT provision as Australia, Vincent (2000) stated:

> *"One of the propositions from this research is to favour the emergence of integrated and intersectoral regulation concerning AT [re-use, refurbishment and recycling] without the domination of any one of the commercial, health and community sectors."* (Vincent, 2000, p. 42)

AT loan pools must operate alongside a robust private AT market to ensure that people are able to purchase AT that meets their specific needs should it not be available through the loan pool (Johnson, 2008) and to ensure AT is available through other government funding streams. Significant concerns were raised by private Australian AT suppliers that the Federal Government only contracting state/territory governments to deliver AT loan pools in Australia would negatively impact their business (see Appendix A – Findings of ATSA member survey, Appendix B – Findings of ATSA member workshops and Appendix C – Findings of consumer, AT and aged care peaks workshops). Participants in the Australian Government's 2022 co-design process regarding access to AT and home modifications in Australia and ideas for a new program also called for private AT loan suppliers to be included in the market. In the report on the codesign process it was explained that participants thought this may avoid barriers to access to AT resulting from the perceived bureaucracy of large government-run loan schemes (Department of Health and Aged Care, 2022).

Competitive neutrality concerns were also raised in the Australian Federal Government establishing a closed tender process with state/territory providers for the AT loan scheme in Australia. With the potential market advantages this may create over private AT suppliers potentially extending beyond the Australian Government's loan scheme and into the provision of AT into other sectors and markets.

THE NEED FOR ALIGNMENT IN AT POLITICAL AGENDAS ACROSS SECTORS

In countries such as Australia where AT is funded by different schemes for different needs, life stages and purposes (e.g. ongoing employment versus rehabilitation), the impacts of one program on another as well as variations between programs leading to inequities between individuals and different life stages must be considered (Cullen *et al.*, 2012).

It was noted that in Australia, significant work has been undertaken by researchers, disability and AT peak bodies, the National Disability Insurance Scheme (NDIS), and the Department of Health and Aged Care to ensure that AT is delivered in the Australian aged care system according to the key product management components addressed

in the WHO medical device technical series (World Health Organization (WHO), no date), explored in more detail in the section on Legal AT loan pool considerations. However, there were concerns that these efforts were not integrated and that the establishment of an AT loan pool risked being at odds with the broader political agendas to improve access, quality, and use of AT in Australia. By integrating local government and national priorities for health, disability and other social services regrating AT provision, there is the opportunity to have a significant positive impact on achieving the priorities of these programs (Audit Commission, 2002). There is also the need to consider services to support older people to navigate government-funded AT loan pools and AT available to older people through private health insurance, or other insurance such as traffic accident insurance (Cohen and Perling, 2015).

STATE/REGIONAL/LOCAL GOVERNMENT DELIVERY OF NATIONAL/FEDERAL GOVERNMENT-FUNDED AT LOAN POOLS PROBLEMATIC DUE TO COMPETING POLITICAL AGENDAS

State/territory/province provision of services funded at a federal/national level was repeatedly raised as problematic. A common theme throughout the interviews and consultations was that competing political agendas across different levels of government often leads to conflicts between the federal/national program objectives and principles and state/local level AT delivery. The risk is that differing policies, funding streams and political agendas between federal/national governments and state/local governments may contribute to inequities in AT loan provision.

One example of competing political agendas and policies repeatedly raised was when one level of government had responsibility for AT provision in the home, while another had responsibility for AT provision in care homes. In Devon County in England, the AT loan service (Devon County Council Community Equipment Service) decided to cease to provide short-term AT loans to care homes [residential aged care] in order to cut the AT loan pool spending (Cambridge and Deakin, 2016b) (see Case study: England's Community Equipment Service model for more information).

Another example of competing political agendas is in Norway, with its nationally funded AT loan pool, where there are also competing priorities at the local municipality level and the national and regional levels. For example, local municipalities have the responsibility to provide AT for people living in supported living. To shift these AT costs to the national budget, some local municipalities have restructured their supported living services from council-owned homes to 'rental' arrangements with private housing owners (see Case study: Norway's assistive technology loan scheme for more information). On the other hand, local municipalities reported in one study on AT provision in Norway expressed that they were given more and more responsibilities by the regional AT centres ('hjelpemiddelsentral') without the local municipalities getting more resources (Skøien and Hoem Kvam, 2005). These cost-shifting political manoeuvres can negatively impact AT delivery for clients and create significant gaps in the AT system.

E ECONOMIC AT LOAN POOL CONSIDERATIONS

AT LOAN POOLS MAY REDUCE COSTS TO GOVERNMENTS

AT loan pools present an opportunity for savings on costs associated with the purchase of new AT (Audit Commission, 2002). In one regional AT centre (Drammen) in Norway in 2022, AT products to the value of 6 million Euros were refurbished, and their operating budget was 5 million Euros, which meant that refurbishment resulted in a saving of 1 million Euros (Stølen (2023), see Case study: Norway's assistive technology loan scheme for more information). Enable New Zealand (NZ) estimates that their Equipment and Modification Services refurbishment and reissue activities save the NZ Government approximately NZ$10 million per year when compared to equivalent costs for purchase of the AT (Enable New Zealand, 2021). These estimated savings take into account the costs associated with refurbishment of equipment (including labour and parts) before reissue but not costs associated with return logistics (see Case Study: New Zealand's Equipment and Modifications Services).

Potential costs savings are also evidenced by the AT return and re-issue rates for AT loan pools. Providers of AT loan pools stated statistics ranging from AT provided to clients valuing over 4 times the AT purchase costs in Liverpool England (Moran, 2008). In 2022, Norway's AT loan scheme provided 489,880 individual AT items to 162,889 users to a total value of 300 million Euros. Refurbished products made up a total of 90 million Euros (30% of the total AT expenditure on AT items under the scheme). At the local authority level in England AT return rates for re-issue were reported as 65% (Moran, 2008), 54% (Brighton and Hove City Council, 2022), 75% (O'Hagan, 2015), 54% (Sandiford, 2006). However, caution must be taken when extrapolating cost savings from AT return and re-issue rates as a direct function of savings on new purchases, as these do not take into account the costs related to logistics, cleaning, refurbishment, repair and sanitisation of returned AT.

These savings are on top of the savings to governments that can be achieved through AT provision. The *Australian Assistive Technology Equity Studies* published in 2022 calculated the conservative estimate that:

> *"An annual spend of $16 billion dollars can save $32 billion dollars. For every dollar spent on assistive technology and home modifications, there is a conservative two-fold return on investment relating to savings on the cost of paid carers, support service and medical services."* (Layton and Brusco, 2022, p. 35)

The role of AT loan pools in providing short-term loans for people in the palliative stages enabling them to die at home was raised by many as a dual economic benefit as it not only meant that people did not need to purchase AT that they would only use for a short period, but also reduced the need for admission into hospitals and residential aged care in the palliative stages (Jackson, 2015; Seabrook, 2016).

THE ECONOMICS OF AT LOAN POOLS ARE DEPENDENT ON TECHNOLOGICAL AND ENVIRONMENTAL FACTORS

It was noted that the economic benefits of AT loan pools also depended on consideration of the factors outlined under the section on Environmental loan pool consideration. In particular, for low-cost AT items, costs associated with logistics and refurbishment/sanitisation may mean that it is not economically feasible to loan and re-loan. Or, for some items, the costs associated with repair and refurbishment may outweigh the value of the AT. (Stølen (2023), see also Case Study: New Zealand's Equipment and Modifications Services)

THE LARGEST POSSIBLE AT LOAN POOL TO ACHIEVE ECONOMIES OF SCALE

AT loan pools are best operated with the largest 'pool' possible for any given AT item to leverage economies of scale and reduce the 'layers of cost' associated with the chain to deliver AT to clients. Therefore, integrated national procurement of AT is described as the preferred model and has several advantages including:

- Discounts on costs incurred due to purchasing AT in bulk (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).
- Stock on hand to respond to fluctuations in/changing AT demand without needing significant contingency margins.
- Reducing unnecessary AT purchases through the ability to nationally track and monitor AT provision and use this as a basis for forecasting future need.
- Saving resources and increasing efficiencies and expertise of procurement teams by reducing unnecessary duplication of procurement teams and processes across state/local governments (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).
- Reduced unnecessary duplication of machines and processes required to refurbish/sanitise the AT and associated costs.
- Saving resources and increasing efficiencies relating to logistics costs and wrap-around services (including warehousing, delivery, and installation of the AT) through optimised national networks (Sandiford, 2007; World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).
- Sufficient breadth and depth of associated internal staff expertise (including allied health and technical skills) required for wrap-around services such as selecting AT for the client, refurbishment/sanitisation of AT, training the client and support workers in the use of AT, and maintaining/repairing AT (including across logistics, allied health, and technical skills) (Audit Commission, 2002; Donnelly, 2009; Cullen et al., 2012).

DETAILED CONSIDERATION OF ECONOMICS OF LOANING DIFFERENT TYPES OF AT REQUIRED

The people interviewed and consulted as part of this study urged caution in the Australian Federal Government intervening in the AT market for aged care recipients in Australia without careful consideration of the economic, social and technological ramifications. They pointed to the work of the Australian National Disability Insurance Agency (NDIA) in considering whether to engage in sourcing AT so that NDIS participants could choose to purchase from the NDIA, which concluded:

> *"In the face of such diversity on both the demand and supply sides, the opportunity for NDIA is to select the level of market intervention for the right categories of AT (rather than adopt a universal approach to the role it plays in the market). The guiding principle for that selection is to maximise value for participants and economic returns for the scheme. In addition, the role selected must be congruent with NDIA's first two strategic priorities: to support the development of an innovative AT market and participants' ability to exercise informed choice and control in that market. In that context, any market intervention should be the minimum necessary to meet the objectives of participant and scheme value."*
>
> (National Disability Insurance Agency, 2015, p. 18)

To determine the estimated costs, benefits, risks and risk mitigation strategies, the NDIA grouped 375 AT items into 33 marketable parcels, which the NDIA will monitor outcomes of an adjust sourcing models if required (National Disability Insurance Agency, 2015). Those interviewed and consulted as part of this research with knowledge of the NDIA and aged care systems in Australia noted the same detailed consideration would be

required for product selection into a federally funded AT loan pool, with the added layers of the economic impacts of technological, social, and environmental factors associated with re-issuing used AT through a loan pool.

INAPPROPRIATE AT PROVISION REDUCES FINANCIAL BENEFITS OF AT LOAN POOLS

The significant financial costs associated with inappropriate provision of AT were calculated by (Donnelly, 2009) in their review of AT loan pool services at the local authority level in England and Wales (commonly known as Community Equipment Services), including due to unnecessary health care services being required and delays in providing AT.

Having specialist AT knowledge amongst employees of AT loan pool services was argued by managers of these services to significantly reduce costs resulting from inappropriate AT provision and increase the economic benefits of an AT loan pool. For example, managers at a local authority AT loan service in England argued that there were significant economic benefits, while still meeting the needs of clients, through the effective management and monitoring of the use of high-risk pressure-relieving AT (Berry and Clarke, 2007). Another AT loan service in England increased funding to the local Independent Living Centre (ILC) which then provided training to prescribers (which include OTs, GPs and aged/social care assessors) and reviewed their prescriptions. The Community Equipment Service management (Cambridge and Deakin, 2016a) and ILC OTs (Clark and Greenslade, 2016) reported significant savings through the ILC staff identifying non-AT solutions, maximising re-issue of stock and targeted spend using less expensive alternative AT. These experiences were echoed by other Community Equipment Service managers that highlighted the need for specialist knowledge in prescribing AT, including OTs, to achieve cost savings (Equipment Services Editorial, 2006a; Hampson, 2013; Seabrook, 2016).

Concerns were raised by interview participants and stakeholders consulted with knowledge of Australia's history of AT provision that Australian state and territory AT loan programs had not been financially sustainable in the past and had therefore ceased to lease or refurbish AT (Australian Healthcare Associates, 2020a, 2020b). It was argued that this was due to a lack of specialist knowledge in AT provision, warehousing, and logistics in particular.

S SOCIAL AT LOAN POOL CONSIDERATIONS

POTENTIAL SOCIAL BENEFITS OF AT LOAN POOLS

It has been argued that AT loan pools may support greater access to AT by offering a low- or no-cost option to people who are eligible, in the absence of other funding opportunities for AT. The role of AT loan pools in providing short-term loans for people in the palliative stages enabling them to die at home was raised by many as both a social and economic benefit (Jackson, 2015).

It was noted that some AT loan pool service models have complementary services for privately-funded AT users which support them to self-assess, seek professional assessment for and purchase AT that is safe and meets their needs (see, for example, the Brighton and Hove case study) (Hardy and Hughes, 2008; Johnson, 2008; Cullen *et al.*, 2012). This may also include government collaborations with NGOs, such as those that already exist in Australia and Ireland (Cullen *et al.*, 2012).

THE RISKS OF A RACE TO THE BOTTOM FOR AT LOAN POOLS

It was raised by those interviewed and consulted through the survey and workshops in this research that the potential social benefits of AT loan pools can only be realised if the Political, Economic, Technological, and Legal considerations outlined in this report are addressed.

> *"It is essential to remember that community equipment is provided to some of the most vulnerable members of our society e.g. disabled, elderly, sick and in some cases dying; it is therefore our legal duty, if not moral obligation, to ensure appropriate safeguards are in place so that these service users are in receipt of a safe and good quality service."* (Donnelly, 2011, p. 5)

Concerns were repeatedly raised that there is a risk, and prior experience of, AT loan pools becoming overly focussed on re-use of AT for environmental and/or financial reasons with little or no focus on client outcomes. This scenario was described as having created a 'race to the bottom' amongst AT loan pool suppliers in England (Audit Commission, 2002; Donnelly, 2009). There is therefore a need to ensure that loan pools are assessed against nationally standardised client outcome measures that not only captured benefits to clients in terms of 'restoring' function following a crisis, but also prevention of further decline or preventable incidents (e.g. falls) (Audit Commission, 2002). Otherwise, there will be large inequities in the quality and appropriateness of AT provided to people receiving AT under the loan scheme when compared to people able to purchase AT outright privately or using other government funding.

THE NEED FOR WRAP-AROUND SERVICES TO ACHIEVE SOCIAL BENEFITS OF AT LOAN POOLS

There was universal agreement that it must also be ensured that wrap-around services are provided to AT loan pool clients, which the WHO and UNICEF define in the context of AT as related services including "assessment of an individual's needs; product fitting, maintenance and repair; and follow-up for preventive and corrective purposes." (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020, p. 7). WHO and UNICEF recommend that local AT Centres are established at the district level and be attached to existing health/care or rehabilitation centres to ensure that clients and their prescribers can view and trial AT (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).

While WHO and UNICEF recommend that wrap-around services are all provided through AT centres, they note that in some systems this is not possible and that wrap-around services must be delivered by the product supplier directly, for example because:

- *"appropriate competence on a specific assistive product is not otherwise available;*
- *the supplier´s service centre is closer to the user than other service centres;*
- *the supplier can provide a more efficient service (e.g. availability of spare parts) to the user."*(World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020, p. 7)

Others argued for the importance of specialist knowledge for specific types of AT that could only feasibly be ensured by engaging specialist suppliers. The importance of a specialist knowledge of the appropriate cleaning, disinfection, sterilisation and maintenance procedures for different types of AT was highlighted, noting that this often required input from manufacturers in addition to following their guidelines (Equipment Services Editorial, 2006a; Foster, 2011). In New Zealand, contracted providers of Equipment and Modification Services (EMS) subcontract AT suppliers and repair and maintenance services (see Case Study: New Zealand's Equipment and Modification Services). This ensures that any specialist knowledge required for AT provision can be provided to the client directly by the contracted AT supplier, if needed.

The importance of the ability for the system to enable therapeutic connections between Occupational Therapists (OTs) and AT users was noted as crucial to successful AT provision under a loan scheme (Chester, 2017; Pousada *et al.*, 2021). The role of OTs being central to ensuring that AT loans were appropriately prescribed and effective were raised by OTs, managers of loan services, researchers and AT industry leaders (Vincent, 2000; Brighton and Hove City NHS Teaching Primary Care Trust and Brighton and Hove City Council, 2010; Cambridge and Deakin, 2016a; Clark and Greenslade, 2016; Seabrook, 2016).

Different types of wrap-around services are required for different types of AT and it requires specialist knowledge to be able to identify efficiencies in the system (Dyne K, 2009; Hampson, 2013). For example, in some AT loan pools in England they have a phone service where OTs can assess if a person's needs can be met by simple AT that the person can fit themselves after the AT is delivered to them, or if they require a more comprehensive assessment by an OT and then specialist installation and training in the use of the AT by a loan pool staff member or other specialist supplier of AT (Dyne K, 2009). Others have trialled systems where OTs can request an in-home assessment by a trained technician for basic, low-risk AT, with the same technician then providing the delivery, installation and training in any AT supplied, and identifying if there is need for a more comprehensive assessment by an OT (Hardy and Hughes, 2008; Jefferies, 2015). Indeed, it was noted that it was important to free up OT time for reablement initiatives rather than using it on the prescription of simple AT (Moran, 2008). Under New Zealand's Equipment and Modification Services (EMS), logistics partners may be trained and able to assemble/disassemble simple AT. However, specialist AT suppliers or the EMS Provider are required for more complex AT and ultimately the responsibility for ensuring the client can safely use the AT lies with the EMS Assessor (see Case Study: New Zealand's Equipment and Modification Services).

However, academic publications highlighted that it was difficult to verify the duration of contact, and therefore forecasting budgets for AT service contact for community OTs and Social Workers (SWs) (Curtis and Beecham, 2018; Williamson *et al.*, 2023). This was described as partly because much input does not involve direct client contact, for example time spent sourcing AT, and that little research literature exists on the estimation of staff time in such roles. (Williamson *et al.*, 2023) found that OT input into aged care was often episodic, ending once the AT or home modification was supplied, but sometimes also extending for the duration of the home care 'package of care', ranging from 1 to 132 (mean 22) months. The *Australian Assistive Technology Equity Studies* published in 2022 attempted to estimate costs associated with such wrap-around services, but this was difficult due to the small number of fundings schemes reporting on the costs of these services and where estimates were available they were related to high-cost AT only (Layton and Brusco, 2022).

RISKS FOR INEQUITIES IN CLIENT OUTCOMES BETWEEN STATES/REGIONS/LOCAL AREAS

Many raised the risks that state/local procurement teams will vary in their expertise and procurement processes, thereby leading to inequities in client outcomes and potential risks to clients (Audit Commission, 2002; World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020). For example, in England where joint federal/local authority funded AT loan pools are commissioned at the local authority level, the AT loan pool service offerings and standards differ from council to council. Commonly included AT in the English local authority AT loan pools are those often defined as 'daily living aids' AT such as toilet seats, shower chairs, crutches, back rests, sock aids, walking frames, and kitchen trolleys. However, even for the same type of AT (e.g. a toilet seat), there are differences between local authorities in the preferred model and brand procured, based largely on the preferences of prescribers and/or the commissioners' preferring to replace 'like for like' so that there weren't variations over time (and between clients) in the product catalogue (see Case study: England's Community Equipment Service model for more information). Furthermore, there were differences between local authorities in the availability, service delivery models, and quality of wrap-around services including access to allied health and technicians (Vincent, 2000; Brighton and Hove City NHS Teaching Primary Care Trust and Brighton and Hove City Council, 2010; Cambridge and Deakin, 2016a; Clark and Greenslade, 2016; Seabrook, 2016).

The people interviewed and consulted expressed concern that the current and historical state/territory AT loan services in Australia had not delivered AT to meet the needs of their clients in a safe or timely manner, concerns also expressed in the consultations undertaken by ATSA (see Appendix A – Findings of ATSA member survey, Appendix B – Findings of ATSA member workshops and Appendix C – Findings of consumer, AT and aged care peaks workshops). For example, inefficiencies in the state/territory run Australian AT loan pools and resulting risks to clients were evidenced by the significant wait times people faced. Under the Victorian Aids and Equipment Program, it was reported that there was an average of 208 days between assessment by OT and delivery of AT (Wilson, Wong and Goodridge, 2006). These concerns were also raised in the Australian Government's 2022 co-design process regarding access to AT and home modifications in Australia and ideas for a new program (Department of Health and Aged Care, 2022). Participants in the co-design process felt that their negative experiences with the Australian state/territory programs may have been due to the bureaucracy of large government-run schemes and therefore called for private supplier loan arrangements as well (Department of Health and Aged Care, 2022).

While it was noted state/local procurement is sometimes argued as required to ensure that the needs of clients that were specific to that area arere met, it was noted that in Australia and similar countries there is rarely differences in client needs that are best explained by the state/territory the client resides in. Instead, it was noted that in Australia most variations in client needs and associated services required to meet these is better explained by other socioeconomic factors than state/territory of residence such as: metro/regional/rural/remote locations, household income, and cultural/ethnic/language background - with Aboriginal and Torres Strait Islander people and people living in rural and remote areas being particularly disadvantaged.

RISKS THAT ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE AND PEOPLE LIVING IN RURAL AND REMOTE AREAS WILL BE DISADVANTAGED

In the Australian context, it was raised by many that the large geographic distances would lead to potential inequities between people living in metro and regional areas and those living in rural and remote areas if there was government delivery of AT loan pools (see also Appendix A – Findings of ATSA member survey, Appendix B – Findings of ATSA member workshops and Appendix C – Findings of consumer, AT and aged care peaks workshops). This would compound the inequities in AT provision already faced by Aboriginal and Torres Strait Islander people. It was argued that there is currently a nation-wide network of private suppliers of AT which service even rural and remote areas and have specialist knowledge of disadvantaged communities. As explored in the sections on Political, Economic and Legal AT loan pool considerations, there were concerns that this national network of suppliers would be negatively impacted by an AT loan pool provided solely by government providers in Australia (see also Appendix A – Findings of ATSA member survey, Appendix B – Findings of ATSA member workshops and Appendix C – Findings of consumer, AT and aged care peaks workshops).

New Zealand's Equipment and Modifications Services (EMS) Providers subcontract AT suppliers, logistics providers, and repair and maintenance services. This means that logistics, repair and maintenance services can be provided across NZ, even in remote areas within the required timeframes (e.g. for Band 1 EMS AT, 90% of AT must be delivered to clients within 5 working days of the EMS Assessors making the request, (Disability Support Services Group, 2015)) (see Case Study: New Zealand's Equipment and Modification Services).

It is noted by the authors of this research report that it was difficult to draw comparisons between Australia and other countries with established AT loan pools run by national/state/local governments as none were required to service the large geographic distances with corresponding low client numbers as in some parts of Australia.

AT LOAN POOLS NOT UNIQUE IN OPPORTUNITY TO TRIAL BEFORE BUYING

AT loan pools were mentioned by some as an opportunity for people to trial and therefore find the best AT solutions before committing to buying them (either privately or using Government funding) (Australian Healthcare Associates, 2020a; Mahmood *et al.*, 2024). Others argued that an AT loan pool was not the best lever to meet this need, which was better met through having local services where people, their supporters and assessors/prescribers could come and view and trial AT together, for example at local AT retailers/providers or AT Centres (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020). It was noted that most private suppliers of AT in Australia already offer generous trial terms for AT over and above the minimum required by consumer laws, in addition to hire-to-buy options.

T TECHNOLOGICAL AT LOAN POOL CONSIDERATIONS

AT LOAN POOLS RISK STIFLING INNOVATION

AT loan pools risk stifling innovation in AT, including wrap-around services, as explored in the 'race to the bottom' discussion under the section on Social AT loan pool considerations.

It was described by many people interviewed that in the UK some AT keeps on being purchased even though new, improved, options are available as local government commissioners prefer that loan service providers replace 'like for like' in the loan pool. Sometimes this was perceived as being due to the preferences of local prescribers in their products, sometimes due to the lower cost of the 'older' design option, and other times due to commissioners not wanting some clients to be receiving better AT than others through differences in the quality of types of AT products purchased at different times in the loan scheme. In New Zealand's Equipment and Modification Services (EMS), EMS Providers made decide to add different AT models and makes to the AT list following a tender process. However, this decision is only made after careful consideration of the potential client and/or financial benefits and the risks associated with creating unnecessary complexity in the system or inequities between clients (see Case Study: New Zealand's Equipment and Modification Services).

The Norwegian national procurements model was mentioned by some as a good approach that aims to promote innovation in loan pool products through short-term (two-year) procurement processes which include reviews of the product catalogue and multiple suppliers for different types of products to ensure that the best supplier for that class of product is secured (see Case Study: Norway's Assistive Technology Loan Scheme and World Health Organization (WHO) and United Nations Children's Fund (UNICEF) (2020)). However, a research survey of 78 AT suppliers in Norway showed that nearly half of them thought that the current procurement processes promoted innovation only a little, with just over 20% saying that it promoted innovation to a very or extremely high degree (Olso Economics, 2016). The length of the contract period was also questioned as potentially hindering innovation as there wasn't time to develop new products in the contract period. On the other hand, it was argued that if there were longer contracts then suppliers would be forced to leave the market as the Norwegian Government was the largest AT customer, therefore reducing competition drivers of innovation. Nonetheless, it was concluded that the Norwegian procurement model did not hinder innovation that occurred regardless of their procurement processes due to international market drivers (Olso Economics, 2016).

It was noted that if the Economic AT loan pool considerations discussed in the previous sections are addressed, there may be sufficient profit margins for suppliers of AT to allow them to invest in innovation. This, of course, also requires investment by government funding bodies in innovation to improve client outcomes and efficiencies in AT service provision, rather than a sole focus on increasing re-use rates and/or cost-cutting.

THE NEED TO PROMOTE INNOVATION IN AT DESIGN TO PROMOTE CIRCULAR ECONOMY PRINCIPLES

It was noted that there is a current lack of research and design principles for AT to promote Circular Economy principles which can have environmental, social and economic benefits across the supply chain (see Box 1). A similar situation exists for medical devices, but a recent review sought to address these gaps by exploring circularity barriers, opportunities and best practices for active medical devices (i.e. medical devices powered by a source other than the human body) (Hoveling *et al.*, 2024). Some AT suppliers noted that they are starting to explore designs that promote Circular Economy principles for high cost AT items requiring customisation. For example, innovative technological solutions may enable the item to be broken down into 'base' components suitable for a loan pool, and customisable components suitable for purchase.

ADVANCED LOGISTICS TECHNOLOGIES REQUIRED

Advanced logistics technologies, including individual item tracking throughout its lifespan, are required for a successful AT loan pool (Connolly R, 2005; Morris N, 2005; Swift, 2005; Weatherall, 2005, 2013; Sandiford, 2006, 2007; Henry, 2007). Different models for the provision of logistics services and arrangements between AT loan pools and logistics suppliers were identified (which sometimes included local governments or local private AT suppliers providing logistics services). An overview of the 'PL' breakdown of outsourcing logistics is provided in Figure 1 to assist readers in navigating the extensive logistics literature, should they seek to undertake further reading.

In England and Norway, the lack of tracking of all AT across its journey makes it impossible to assess client outcomes as a result of assistive technology provision (see section on Social AT Loan Pool Considerations) (e.g. Audit Commission (2002); Stølen (2023), see also Case Study: Norway's Assistive Technology Loan Scheme for more details).

A lack of tagging and tracking of assistive technology means that it is unable to be scheduled for regular maintenance or recalled, which poses a significant risk to clients and any people providing support to them (Equipment Services Editorial, 2006b; Donnelly, 2009).

Tagging and tracking also increases the return rates of used AT. A 2002 audit by the UK Government concluded that introducing IT systems that allowed for tracking of every piece of assistive technology throughout its cycle increased recycling rates from around 20 or 30 per cent to at least 60 or 70 per cent (Audit Commission, 2002).

The benefits of being able to accurately track AT and its loans in budget forecasting was raised by English local authority AT loan pool Managers (Swift, 2005; Equipment Services Editorial, 2006b).

The science of reverse logistics is a complex and evolving field, with third-party return logistics providers (3PRLP) assessment against KPIs requires complex collection and analysis of data not only direct re-use rates of product, but also remanufacturing, recycling, repair and land filling (e.g. Govindan *et al.* (2012)). The role of manufacturers in logistics and refurbishment cycles is also a topic that requires careful consideration of all parameters including carbon emissions from the different stages (e.g. Karmakar and Das (2022)).

The importance of specialist health technology/device warehousing requirements (including legal requirements) was raised, as these need to meet higher sanitisation, product life tracking, and health and safety standards than other warehouses (Connolly R, 2005). In New Zealand, logistics partners engaged by Equipment and Modification Services (EMS) Providers were only engaged if the EMS Providers were able to ensure the quality and safety of the logistics services. The logistics subcontractors employed all delivery staff directly and the EMS Providers were able to train and set requirements on their staff, including regarding AT specific handling requirements, assembly/disassembly and client service (see Case Study: New Zealand's Equipment and Modification Services).

In Australia, participants in the Australian Government's 2022 co-design process regarding access to AT and home modifications in Australia and ideas for a new program suggested a centralised IT system for loan items that was accessible by all so that available items could be viewed and ordered, as well as stock barcoded and tracked so that maintenance and repair could be undertaken (Department of Health and Aged Care, 2022). The authors of the report on the co-design process concluded that the existing state/territory schemes had the IT infrastructure and track and tracing of all AT in their loan pools already in place (Department of Health and Aged Care, 2022, p. 27). However, the people interviewed and stakeholders consulted in this research study questioned whether that was the case. Some reflected on having visited Australian state/territory warehouses of AT loan products in the past decades and that the warehousing facilities were out of date, and that not all items were barcoded and traceable.

2PL	Domestic transportation
	International outbound freight forwarding
	International inbound freight forwarding
3PL	Warehousing and storage
	Compliance and auditing
	Customs clearance
	Inventory management
	Order fulfillment – Pick and pack
	Reverse logistics – Collection and transport of returned orders
	Reverse logistics – Return of packaging
4PL	Supply chain design and optimisation
	Management of multiple 3PL providers
	Purchasing, stockpiling and responsibility for others' product
	Strategic planning and consulting
5PL	End-to-end supply chain management
	Management of all logistics partners
	Customer service – Order receipt
	Customer service – Order returns
	Use of advanced data analysis to optimise client's business imperatives

Figure 1. Terms and key services commonly referred to in descriptions of outsourced 2nd to 5th party logistics functions.

E ENVIRONMENTAL AT LOAN POOL CONSIDERATIONS

AT loan pools reduce waste associated with short-term AT use by reducing the amount of product purchased that ends up disposed of while it can still be reused or refurbished. AT loan pools therefore attempt to achieve positive environmental impacts by addressing elements of the 9Rs framework for a Circular Economy that could be promoted through AT loan pool provision (see Box 1):

- Re-use
- Repair
- Refurbish
- Recycle

It is noted that during the interviews, stakeholder consultations, and literature reviews, the term 'recycling' was often incorrectly used to describe 're-use', or both concepts were conflated with equating to the Circular Economy. Key Circular Economy principles, terms and concepts are therefore provided in Box 1.

Across all sectors re-use, repair and refurbishment are some of the more challenging Circular Economy elements (see, for example, Thakuri, Alkki and Aarikka-Stenroos (2024) and references therein).

The environmental impacts of AT loan pools must extend beyond waste reduction to also consider refurbishment/sanitisation impact, and warehousing, transport, and production impacts. Therefore, for each AT item, consideration needs to be given to whether recycling of raw materials is preferable to refurbishment and re-use. For example, one study found that the use of disposable bedpans was preferable to reusable bedpans from an environmental perspective, with the key factors determining this being energy use for washing the reusable bedpans and the energy recovery from waste incineration rather than wastewater treatment of the organic excreta (Sørensen and Wenzel, 2014).

Government entities overseeing AT loan pools overseas described that clear financial incentives and controls must be put in place to ensure that providers of AT loan pools promote a Circular Economy, in particular through re-use, repair, refurbishment, and recycling of AT. For example, one government entity described that their contract with a private provider of an AT loan pool can only remove an item, regardless of its cost, from the loan pool after approval by the local government. Another described that they have specified a list of specific AT that should be recycled rather than sanitised and refurbished for client safety, environmental (including logistics impacts), and/or client safety reasons.

Box 1. The Circular Economy

The CE [Circular Economy] is considered a value-retaining economic system in which 'resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops'
Thakuri, Alkki and Aarikka-Stenroos (2024) citing Geissdoerfer *et al.*, (2017) and Russell and Nasr (2019)

Basic Definition

The circular economy offers an alternative to the traditional and linear economy model of "take-make-dispose" (i.e. extracting raw resources, manufacturing products, and then throwing them away). It is a regenerative system aiming to minimise waste and maximise resource utilisation, creating a closed loop where materials circulate continuously, rather than ending up in landfill. This approach extends beyond mere recycling, impacting every stage from raw material sourcing to end-of-life management. This is an important point as the terms 'recycling' and 'circular economy' are often used interchangeably. This highlights a gap in public understanding of the circular economy's systemic nature. While recycling is a crucial component of circularity, it is often perceived as the entirety of the circular economy, neglecting the upstream changes in design, production, and consumption that are equally essential.

Core Principles

The circular economy's core principles permeate the entire supply chain, and include:

- **Designing out waste and pollution:** This necessitates a shift in design thinking at the very beginning of the supply chain. It requires collaboration with raw material suppliers to choose sustainable inputs, minimising waste generation during manufacturing, and designing products for durability, repairability, and recyclability. This means considering the entire product lifecycle during the design phase, from material extraction to end-of-life processing.
- **Keeping materials in use:** This principle impacts every stage of the supply chain. It requires businesses to implement strategies for reuse, repair, refurbishment, remanufacturing, and recycling throughout their operations and across their supply networks. This may involve establishing take-back programs, partnering with recyclers, or developing closed-loop supply chains where materials are recovered and reintroduced into the manufacturing process.
- **Regenerating natural systems:** This principle influences sourcing decisions at the beginning of the supply chain. It requires businesses to adopt sustainable sourcing practices, minimising resource depletion and promoting biodiversity. This can involve working with suppliers who adhere to sustainable forestry or agricultural practices, or investing in regenerative agriculture.

Key Strategies and Frameworks – Supply Chain Implications

Several frameworks operationalise the circular economy across the supply chain:

- **The 9Rs:** 1. Refuse, 2. Reduce, 3. Re-use, 4. Repair, 5. Refurbish, 6. Remanufacture, 7. Recycle, 8. Recover, 9. Rethink.
- **Cradle to Cradle:** This philosophy encourages collaboration between material suppliers, manufacturers, and recyclers to create closed-loop systems where materials are continuously cycled.
- **Performance Economy:** This model encourages businesses to offer services rather than products, shifting responsibility for product maintenance and end-of-life management to the supplier, thereby impacting the entire supply chain.
- **Sharing Economy:** This model necessitates new logistics and distribution models within the supply chain to facilitate the sharing and access of goods.

Benefits of the Circular Economy – Supply Chain Wide

Transitioning to a circular economy can offer numerous benefits across the supply chain:

- **Environmental benefits:** Reduced environmental impact at every stage of the supply chain, from raw material extraction to end-of-life management.
- **Economic benefits:** Cost savings through reduced material consumption, new revenue streams from circular business models, and greater supply chain resilience.
- **Social benefits:** Improved working conditions and social equity throughout the supply chain.

L LEGAL AT LOAN POOL CONSIDERATIONS

PUBLIC PROCUREMENT KEY TO ACHIEVING POLITICAL, ECONOMIC, SOCIAL, TECHNOLOGICAL AND ENVIRONMENTAL BENEFITS OF AN AT LOAN POOL

Appropriate procurement of AT into a loan pool was raised by all as key to ensuring that the Political, Economic, Social Technological and Environmental benefits of AT loan pools were achieved.

> *"One aspect concerns value for money for the public system. Public procurement can play an important role in this [...] Experience from some of the other countries suggests that one of the challenges in this is to get value for money in terms of price and quality, not just the lowest price. There is also the need to develop an approach that helps to nurture an innovative and vibrant supply side."* (Cullen et al., 2012, p. 160)

The importance of specialist AT knowledge across all types of AT and funding bodies' objectives during procurement/supplier tender processes was raised by many and that, without this, the potential benefits from economies of scale would not be realised and there may be significant risks to clients (Henry, 2007; Lambie, 2013). This aligned with the findings of the Australian Government's 2022 co-design process regarding access to AT and home modifications in Australia and ideas for a new program which suggested an expert committee could oversee the AT included in the loan pool (Department of Health and Aged Care, 2022).

It was repeatedly noted that procurement must include not only the AT products themselves, but also related wrap-around services explored under the Social AT Loan Pool Considerations section (Olso Economics, 2016; World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).

Direct national procurement, i.e. contracts directly with suppliers of AT and wrap-around services, was described as preferable to state/local procurement by all interviewed. This was not only due to the benefits of economies of scale explored in the Economic and Social AT Loan Pool Considerations sections, but also because it increases competition between suppliers and therefore can contribute to the national/federal government achieving optimal contract terms with suppliers of AT and wrap-around services (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).

PROMOTING AT SERVICE STANDARDS THROUGH CONTRACTS WITH AT LOAN POOL SUPPLIERS

The opportunity for the federal/national government to enforce nationally consistent standards through leadership in procurement strategies and governance, as well as through contractual agreements directly with AT suppliers was noted by many. AT product management under the loan pool should, at a minimum, address the WHO medical device technical series to ensure improved access, quality and use of medical devices which covers:

- Global atlas of devices,
- Guidance on policies and human resource considerations,
- Integration with the national regulatory framework for devices,
- Lists of priority devices for specific needs/purposes,
- Management of devices including needs assessments, procurement, device donations, inventory management, maintenance programs, computerise maintenance management systems, and decommissioning of devices. (World Health Organization (WHO), no date).

Furthermore it was noted that some AT products are classified as medical devices in some jurisdictions with specific legislation guiding their procurement and sale, and many AT products and services must comply with other standards such as those issued by the International Organization for Standardization (ISO) (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).

Interview respondents noted that the WHO and UNICEF guidance on assistive technology product management is still under development and is not as developed as the WHO medical device technical series that has been extensively reviewed and resourced over the past decade. A recent Scoping Review by (Layton *et al.*, 2024) found that there currently are no established guidelines for AT service provision. The WHO and UNICEF 2020 *manual for public procurement of assistive products, accessories, spare parts and related services* was repeatedly described as particularly relevant to AT loan pools and touches on many of the above product management issues and is referenced where relevant throughout this report (World Health Organization (WHO) and United Nations Children's Fund (UNICEF), 2020).

In England and Wales, Donnelly (2018) developed and published the *Code of Practice for Disability Equipment, Wheelchair and Seating Services: A Quality Framework for Procurement and Provision of Services* with 47 Standards across the areas of Commissioning and Governance, Service Provision, Clinical and Professional Responsibilities, and Peripheral Issues and Specialist Areas. The independent not-for-profit CECOPS was established by the author of the Code of Practice – Donnelly – to fill the gap of a lack of national oversight of AT loan pool service provision in England. CECOPS offers accreditation of individual services/contracts against one of four grades (Standard, Silver, Gold and Platinum) after assessment against ten themes:

1. Organisational Learning & Continuous Improvement
2. Compliance with CECOPS Standards
3. Customer Experience
4. Leadership
5. Governance & Risk Management
6. Quality, Safety and Performance
7. Staff Competence
8. Efficiency & Effectiveness
9. Innovation
10. Integration (where applicable) (CECOPS, 2022)

This accreditation framework is complemented by the more detailed Standards outlined in the *Code of Practice for Disability Equipment, Wheelchair and Seating Services: A Quality Framework for Procurement and Provision of Services* with 47 Standards across the areas of Commissioning and Governance, Service Provision, Clinical and Professional Responsibilities, and Peripheral Issues and Specialist Areas (Donnelly, 2018). However, this NGO voluntary accreditation scheme is not enough. The English model of local government commissioning of AT loan pool suppliers has led to significant variation in the accreditation standards being met by suppliers, which is further compounded by some local governments requiring a minimum CECOPS accreditation grade and others not (see Case study: England's Community Equipment Service Model for more details).

In Scotland, a *Good Practice Guide for the Provision of Community Equipment Services* and *Self Evaluation Toolkit* were published in an attempt to raise standards of AT loan pool provision by joint local authority and National Health Service commissioned AT loan pools known as Community Equipment Services (Scottish Government *et al.*, 2010). Draft guidance for all AT and home modifications services were published in 2022 and managed plans to update the guidance for Community Equipment Services (Scottish Government, 2022).

FEDERAL/NATIONAL GOVERNMENTS CONTRACTING STATE/REGIONAL/LOCAL GOVERNMENTS PROBLEMATIC

When national/federal-government funding is used to deliver AT loan pools at a state/regional/local government level, it can become difficult to legally enforce nationally consistent AT delivery, including due to:

- Variations in procurement standards and tender processes including bid evaluation criteria required to ensure wrap-around services are provided from assessment, to prescription, delivery, training, review, maintenance and repair.
- Contracts between state/regional/local governments and suppliers setting different expectations for wrap-around service responsibilities and interactions with the federal/national services in the same sector (e.g. integration between assessment and AT provision and client follow-up/review under the Australian aged care system).
- A lack of ability to track and monitor AT throughout its journey, including through to client use and impacts, due to it moving between different government entities' IT systems.
- A lack of ability for national/federal government to act if state/regional/local government subcontractors breach contracts with state/territory/local governments.

These difficulties have been highlighted as an area of significant risk in terms of both the liability of state/regional/local governments and the safety and health of their clients (Audit Commission, 2002; Donnelly, 2011). It also contributes to a lack of certainty on liability for client harm resulting from a breakdown in wrap-around service deliver. For example, the legal responsibility when an incident of client harm resulting from the use of a piece of AT supplied and installed by a state/local government contracted supplier where the follow-up and training is conducted by a federally contracted assessor or aged care provider. A 2009 review highlighted the significant risks to clients and liability risks to local governments resulting from the lack of regulation of, and therefore low quality and safety of the joint federally/locally funded AT loan pools delivered at the local authority level across England (Donnelly, 2009). This report cited many concerns, including the 30 fatalities and 1,482 reported incidents to the Medicines and Healthcare products Regulatory Agency related to assistive technology supplied by local authority AT loan pools in England and Wales (see Case study: England's Community Equipment Service Model for more details).

REFLECTIONS ON THE AUSTRALIAN GOVERNMENT'S CURRENT AT LOAN SCHEME TRIAL

During the period the research presented in this report was commissioned, the Australian Government Department of Health and Aged Care was partnering with NSW Health to trial the delivery of an AT Loans Scheme. People residing in South West Sydney and Riverina/Murray were able to participate in the trial delivered by EnableNSW which had experience of providing a state-based AT loan pool (EnableNSW, 2024).

This section reflects on the Australian Government's current AT loan scheme trial by exploring the research findings presented in this report from the:

- survey of ATSA members developed and conducted by ATSA (see Appendix A),
- workshop consultations with ATSA members conducted by ATSA (see Appendix B),
- workshop consultations with consumer peaks and aged care peaks conducted by ATSA (see Appendix C),
- interviews by Perspicacious with 20 Australian and international experts in AT loan pool regulation, commissioning and delivery, and
- literature identified through the Systematic Literature Review, recommendations of experts, and targeted searches to inform the case studies (see Appendix D).

There are potential social, economic and environmental benefits of a national AT loan pool for certain high-use and low-customisation AT categories.

However, it was noted that for each AT product category, it must carefully be considered if the AT was suitable for the loan pool from a range of economic, social, technological, environmental and legal perspectives. It was unclear to which extent these factors had been considered in deciding which AT products to include in the national AT loan scheme trial to date in Australia.

Furthermore, on a fundamental level, questions arise as to how the provision of AT through a loan pool aligns with the aims of the broader aged care reforms in Australia that focus on prevention and reablement and supporting people to remain living, and wherever possible dying, at home. Ideally, to achieve these aims, people should be receiving AT not only in a crisis or following a complete loss of function, but long before. This may mean that people are using their AT for decades, rather than a small number of years. However, AT in a loan pool must only be loaned for a relatively short period and with minimum wear for it to be able to be returned to the pool for re-issue to another client. Careful consideration of which older people the AT loan pool is predicted to benefit is therefore required. Then it must be considered if the investment it would require to establish and deliver the AT loan pool would be realised in returns due to short-term AT loan use.

The exclusion of people living in residential aged care from the proposed AT loan pool is perplexing and it is unclear why people living in aged care should be excluded from the potential social benefits of access to loan AT. Being able to retain AT from the loan pool would aid the transition to residential aged care. Furthermore, people in Australia live in residential aged care on average for 21 months (GEN Aged Care Data, 2024), making those people who first access AT from residential aged care ideal candidates for the loan of AT.

The step towards integrating a national AT loan scheme for aged care at home with state/territory health and disability AT loan schemes could have positive impacts. The joint delivery and commissioning of AT loan schemes across sectors (e.g. health disability, social services, employment schemes) can contribute to:

- A broader eligible client base requiring short-term AT loans for AT suitable for inclusion in a loan pool, and therefore economies of scale.
- A better understanding of the need for assistive technology, including unmet need.
- A reduction in inequities in AT access across sectors and programmes.
- Reduced complexity for AT users and contracted suppliers to navigate.

- Knowledge- and resource-sharing amongst providers and commissioners across sectors.
- Financial benefits resulting from economies of scale.

However, the proposed model for a national AT loan scheme currently being trialled in Australia, i.e. the Federal Government only contracting state/territory governments to deliver the AT loan pools, may lead to a range of issues and risks to older people, including:

- Lack of ability to reap the benefits of economies of scale through the bulk procurement and supply of AT. Noting that some larger states may reap these benefits to a certain degree, but smaller states and territories will not.
- Inequities between states and territories in the quality of AT products and wrap-around services they currently provide and have done in the past. This included significant concerns about the warehousing, delivery, installation, training in the use of, maintenance, repair, refurbishment, and re-use of AT under state/territory AT loan schemes.
- Lack of specialist knowledge in emerging AT technologies or specialised technologies in the state/territory government bodies.
- The lack of publicly available data, which many interviewed and consulted suspected wasn't being collected, on the operation of the state/territory AT loan programs and their impacts on AT users and staff.
- Many anecdotal and some documented reports of significant wait times, a lack of wrap-around services, and other significant risks to AT users and staff in the delivery of these programs.
- A lack of innovation in AT products and wrap-around services to ensure maximum benefits to AT users resulting from a lack of competition for contracts.
- Negative impacts on the AT market in Australia, with the established and well-functioning network of private AT suppliers extending into rural and remote areas potentially not being viable in the future if excluded from delivering services under a Federal AT loan pool.
- Disjointed IT systems leading to gaps in data and a lack of ability for the Federal Government to understand and evaluate the risks and benefits of the national AT loan pool.
- Lack of ability for Federal Government to enforce outcomes of AT loan pools delivered by state/territory government bodies.
- Potential misalignment between the strategic and operational priorities of the state/territory provider as set out in the relevant state/territory instruments, and those of the Federal Government under the *Aged Care Act 2024*.

Questions were raised as to how OT, nursing, allied health and other aged care worker time in prescribing, trialling and sourcing AT would be funded and ensured under the Support at Home program for aged care due to be implemented on 1 November 2025 across Australia. It was asked whether payment for these services would come from the AT and home modifications budget, or another source, or be expected to be part of the AT loan pool provision. If allied health and other wrap-around services (e.g. repairs and maintenance) were proposed to be provided by separate providers to those of the AT loan pool providers, there were concerns about how integrated these services would be and that clients may fall through the gaps.

The research revealed both positives and negatives of local government (e.g. state/territory) providers of aged care being able to join competitive tenders with private suppliers for national AT loan pool provision. Some people described that this may contribute to ensuring the future viability of state/territory AT services and therefore the availability of AT loans in other sectors that were the state/territory government's responsibility (e.g. health). It was considered that some, but definitely not all, state/territory AT loan services had resources and infrastructure that may make them competitive in such an open market approach. However, the potential for

market advantages resulting from being government-owned, and therefore competitive neutrality concerns, was also raised.

The Department of Veterans' Affairs capped price rental/hire options under the Rehabilitation Appliance Program (RAP) was raised by many AT suppliers in Australia and their clients as a well-functioning Federal AT programme that could be considered as an alternative or even equivalent to an AT loan pool (see Appendix A – Findings of ATSA member survey and Appendix B – Findings of ATSA member workshops). However, some international experts noted that while capped price rental/hire may seem like a viable alternative model which was comparable to an AT loan pool, it was likely not going to have the same positive environmental impacts and cost savings for government. This is because while providers may be incentivised to collect and re-issue AT once it is no longer in use, this is not necessarily the case or a contractual requirement. Therefore, there is a risk that low-cost items, or those with higher cleaning and refurbishment costs, may not be collected. Also, capped price rental/hire may provide savings for people who only need AT for a short period, but for those that need it for longer periods it may exceed the price of purchasing the AT outright, even when rental/hire fees are capped (Winkler *et al.*, 2010). Also, the rental/hire fee must be paid by government funds each time the AT is provided to a client, rather than once when the AT is purchased into a loan pool. Nonetheless, the RAP may provide valuable insights into the most commonly rented AT and how the Federal Government can interact with private suppliers of AT, including through contractual requirements and networks of subcontractors, as well as IT infrastructure for tracking and monitoring of AT products (see Appendix A – ATSA member survey findings and Appendix B – ATSA member workshop findings).

THE PREFERRED MODEL FOR AN AT LOAN SCHEME IN AUSTRALIA

"Public procurement can be impacted by a wide range of risks that can affect the procurement process itself, as well as broader risks to projects or service delivery. Risks do not occur only during the tendering process, but over the life of the contract or the life of the procured asset. Initially focusing on integrity threats, in recent years countries have paid increasing attention to other risks to public procurement outcomes, including information technology (IT), financial, reputational, social and environmental risks. Many of these risks impact the fundamental purpose of procurement, ensuring that goods, services or works are delivered to the right place at the right time." (Organisation for Economic Co-operation and Development (OECD), no date)

A consistent suite of recommendations regarding the preferred model for an AT loan pool in Australia emerged from the research presented in this report.

The Norwegian rights-based AT loan pool with AT procured and owned by the Federal Government best aligned with the Statement of Rights and Statement of Principles in the Aged Care Act 2025, the ability for the Federal Government to set and ensure standards were consistent across Australia, and the potential social, economic and environmental benefits. However, in Australia, the Federal Government is not involved in direct procurement and provision of product and services in other aged care or disability programs which meant this was considered an unlikely model to be adopted. Indeed, as a percentage of total government expenditure, Australia had the highest general government procurement spend globally in 2021 (Organisation for Economic Co-operation and Development (OECD), no date).

A Federal Government procured and owned loan pool would also face potential risks and barriers that may outweigh any benefits of direct procurement of AT into a loan pool by the Federal Government in Australia. While it may be able to administer the procurement and warehousing of a national pool, given the geographic size of Australia, the Federal Government would still need to enter into contracts with local partners to have local warehousing sites and to deliver, install, maintain, repair and collect the AT.

This section presents the components of the preferred model for a national AT loan scheme in Australia that emerged from the research.

COMPONENT 1. NATIONAL CONTRACTS DIRECT WITH MULTIPLE AT SUPPLIERS

- Contracts directly between the Federal Government and accredited suppliers of loan products, which may include existing state/territory government AT providers which wish to enter a competitive tender process.
- Evaluation and selection of suppliers based on the quality of the products, sustainability (including refurbishment, reuse and recycling) considerations, and value for money for Federal Government.
- Benefits of economies of scale through procurement of AT to meet nation-wide demand.
- Potential for different suppliers for different types of AT to ensure specific product knowledge and therefore older person's needs are addressed.
- Increased competition between suppliers wishing to enter the loan pool and within the loan pool, simultaneously fostering innovation and lower prices.
- Short-term contracts (2-3 years) with regular review of contractual requirements, including product to be available and loan prices, ensuring AT in loan pool is contemporary and best-practice, and fostering innovation.
- Ability to enforce national service delivery standards and KPIs through direct contractual agreements with suppliers of services spanning AT procurement, to delivery and installation, to maintenance and refurbishment.

COMPONENT 2. A ROBUST AT MARKET THAT ENSURES HIGH-QUALITY AT IS AVAILABLE FOR ALL

- Private supplier involvement to support a broader AT market in Australia ensuring that AT is available for aged care recipients with AT needs not covered by loan pool products, people funded through other government programs, and private purchasers of AT.
- Leverage and maintain existing network of AT suppliers in Australia which includes an established network of sub-contracts between suppliers extending to rural and remote areas of Australia.
- Ensure that AT is available to be viewed, trialled, installed, maintained, repaired and refurbished by the appropriate local AT stores and professionals with knowledge specific to that type of AT.
- Contractual requirements of loan pool suppliers could include public education initiatives and AT available for testing and trials by AT users who fall outside the loan pool.
- Possibility for other AT funding programmes (e.g. NDIA, DVA, employment programmes) to buy into loan pool system.

COMPONENT 3. NATIONAL CONSISTENCY IN THE RANGE AND QUALITY OF AT AVAILABLE THROUGH THE LOAN POOL

- A nation-wide consistent range of products in the loan pool at capped pricing.
- AT range in loan pool ensured through contractual agreements between Federal Government and suppliers.
- AT products in loan pool, and contracts with suppliers, regularly reviewed in consultation with consumer peaks, suppliers and other experts.

COMPONENT 4. ACCREDITATION OF SUPPLIERS REQUIRED THROUGH CONTRACTUAL AGREEMENTS WITH SUPPLIERS

- Accreditation of suppliers in AT loan pool a contractual requirement.
- Accreditation standards may be set by Federal Government.
- Preferred, and most consistent with other sectors/programmes in Australia, is accreditation by an independent peak body/joint venture between peaks and/or governments.
- Ability to extend accreditation requirements to suppliers of AT to aged care recipients outside of the loan pool.

COMPONENT 5. INTEGRATION BETWEEN THE REST OF THE AGED CARE SYSTEM AND THE AT LOAN POOL

- Private AT loan pool suppliers required to integrate with the Federal Government IT system, ensuring an ability to integrate and collaborate between teams (e.g. assessors, other providers of care, and AT suppliers) from assessment, to supply, to installation, to training in the use of AT for older people (i.e. wrap-around services).
- Federal Government maintains line of sight over the entire AT journey.
- Allows Federal Government and supplier collaboration on the collection and reporting of data across the entire AT journey.

COMPONENT 6. MEASURABLE RIGHTS-BASED OUTCOMES FOR OLDER PEOPLE

- Ability to set contractual requirements with AT suppliers in the loan pool for the standardised collection and reporting of outcomes that relate to the rights-based Aged Care Act 2025.

CASE STUDY: NORWAY'S ASSISTIVE TECHNOLOGY LOAN SCHEME

Norway established a single nationally coordinated system for the provision of AT for people with long-term reduction in functional capacity (defined as more than 2-3 years) in 1995. Short-term use of AT, for example for rehabilitation purposes, is provided by local governments. (Stølen, 2023)

In Norway, the provision of AT to meet the needs of individuals of all ages with a long-term reduction in functional capacity is a right and funded through an insurance model, as opposed to other social services which are rationed (Cullen *et al.*, 2012; Stølen, 2023). The establishment of the social insurance model followed a 2001 Norwegian Government Official Report *'Fra bruker to borger [From service users to citizens]'* (Sosial- og helsedepartementet, 2001) which was followed by anti-discrimination legislation in 2008 (Arbeids- og sosialdepartementet, 2017) in line with the recommendations that functional limitations should cease to be seen as individual 'problems' and instead be seen as societal barriers to full and equal participation by all citizens. For people over the age of 26 who are seeking AT for a hobby/recreation, a means-tested co-contribution is required.

Norway's AT loan ('låne hjelpemidler') scheme has been described as one of the most unified internationally, with national coordination by the Norwegian Labour and Welfare Service ('Ny arbeids- og velferdsforvaltning' – Nav) of AT provision across home/community, employment and education all being provided under a single agency (Cullen *et al.*, 2012). A network of 14 AT centres ('hjelpemiddelsentral') at the regional government ('fylker') level together with the 357 local municipalities ('Kommuner') provide the services to clients. The local municipalities have expertise in high-frequency and low-risk AT, while the regional AT centres have extensive professional expertise in AT (including allied health professionals, medical professionals, technicians, and legal decision-makers) and can support the local municipalities to assess and meet the AT needs of complex clients. The national government department (Nav) provides training and guidance for the regional AT centres and municipalities in their legislated responsibilities, the AT system, and products. The local AT centres also run training for local municipality staff and health, allied health and education professionals in the prescription, maintenance and refurbishment of AT (Stølen, 2023).

A range of health or allied health professionals, and education professionals, can prescribe the appropriate AT, after consultation with the individual. An application is then sent to the regional AT centre for evaluation and approval. If the AT required is not available in the pool, the individual can apply to have a specific device purchased for them. For experienced users of AT seeking an upgrade or repair, and for 'low risk' AT, there are streamlined processes (Cullen *et al.*, 2012).

Nav operates the national pool of AT which is procured centrally for the whole country. Professionals from the 14 regional AT centres participate in the procurement process and evaluation of products. The evaluation process involves ranking potential products based on quality (60% of score and defined as functional and suitable for refurbishment and/or personalisation), and cost (40% of score). In order to be successful, the provider must also agree to provide spare parts for refurbishment/repairs for five years after the procurement agreement has expired. In 2023, Nav had approximately 30 two-year procurement agreements for different groups of products. (Stølen, 2023)

AT is transported from the central Nav procurement centre to the regional AT centres where it is stored until it is transported to the local municipalities for delivery (Stølen, 2023). The local municipalities have the responsibility for delivering and assembling/installing (if needed) the AT and supporting the client to appropriately use the AT (Stølen, 2023). Some municipalities have these delivery services in-house (often delivered by the local municipality's AT technicians or allied health/social care staff), while others outsource this to private logistics providers. The local municipalities also have the responsibility for ongoing follow-up with the client, evaluating

the effectiveness of the AT, and assessment of whether any changes are required (Stølen, 2023). The local municipalities also have technicians who are responsible for the repair and maintenance of the AT in the client's home, with major repairs requiring the AT to be returned to the regional AT centres.

In 2022, Norway's AT loan scheme provided 489,880 individual AT items to 162,889 users to a total value of 300 million Euros. Refurbished products made up a total of 90 million Euros (30% of the total AT expenditure on AT items under the scheme). In one regional AT centre (Drammen), AT products to the value of 6 million Euros were refurbished, and their operating budget was 5 million Euros, which meant that refurbishment resulted in a saving of 1 million Euros. (Stølen, 2023)

When deciding whether or not to refurbish an AT item or recycle its components through the country's waste management system, Nav considers both the cost of purchasing the item new compared to the costs of refurbishment, as well as the environmental impacts (both of the refurbishment procedure itself and impacts of the collection and return of the AT). For example, some walkers and wheelchairs may come at low cost, but they are able to be refurbished (including sanitisation) for a low cost and with low environmental impact. Other items that are commonly refurbished include hospital beds and powered wheelchairs.

AT that is to be refurbished by Nav is tagged and traceable by Nav's IT system to the regional AT centre (Stølen, 2023). However, once the AT is shipped to the local municipalities for delivery, it is no longer able to be tracked using the IT system and a paper trail must be established. For high-tech AT (hoists, powered wheelchairs etc.), there is a six-digit code and serial number so each individual item can be tracked and traced to the individual(s) who use it, which also allows for scheduled maintenance and recalls. For low-tech AT, a six-digit code only is used which allows the number and type of a type of AT in the pool to be tracked, but not the individual items. The process for entering the paper documentation into Nav's national-regional linked IT system, as well as the local municipality's IT system, is resource intensive. This means that there are gaps in Nav's ability to track the AT once it is received by the local municipality.

For AT that is not identified as suitable for refurbishment by Nav due to cost or environmental considerations, it is able to be returned into the local municipality loan pool for short-term use, or recycled, at the local municipality's discretion. This includes products such as toilet raisers, shower chairs etc.

The divide between a nationally and regionally coordinated pool of AT, and service delivery at the local municipality level contributes to a number of barriers in the delivery of the AT loan scheme (Arbeids- og sosialdepartementet, 2017). For example, as local municipalities are responsible for the delivery, installation, evaluation and follow-up of AT provided to clients, Nav does not have any oversight of the impacts of its program on client outcomes. Due to the differing IT systems, they also have limited visibility into the client profiles of users of low-cost AT. There are also competing priorities at the local municipality level and the national and regional levels. For example, local municipalities have the responsibility to provide AT for people living in supported living. To shift these AT costs to the national budget, some local municipalities have restructured their supported living services from council-owned homes to 'rental' arrangements with private housing owners. There were also administrative inefficiencies and unnecessary complexity created due to short-term AT loans being the responsibility of the local municipalities, while loans of similar AT (especially the 'simple' high frequency AT) for people with long-term needs were the responsibility of the national government. The 2017 external expert committee review of the AT scheme in Norway *En mer effektiv og fremtidsrettet hjelpemiddelformidling – for økt deltakelse og mestring. [A more effective and future-focussed AT scheme - for increased participation and independence.]* was divided when it came to whether responsibility for simple high frequency AT should shift to be the sole responsibility of the local municipalities (Arbeids- og sosialdepartementet, 2017).

CASE STUDY: ENGLAND'S COMMUNITY EQUIPMENT SERVICE MODEL

Assistive technology loan programs in the United Kingdom are most commonly outsourced to private providers by commissioning and care coordination partnerships involving local county councils (responsible for public health and social services including aged care, Sandford (2024)) and local National Health Service (NHS) bodies. As of 2022, these commissioning partnerships comprise local councils and one of the 42 statutory NHS Integrated Care Boards established by NHS England under the *Health and Care Act 2022 (UK)* (Powell (2023), see Figure 1), and may also include local NHS Trusts and Foundation Trusts (e.g. York (2023)).

The integration of the national health and local government social care (including aged care) assistive technology programmes in England followed a series of reports by the UK Government's Audit Commission in the early 2000s, the first titled '*Fully Equipped*' (Audit Commission, 2002).

> *"Fully Equipped showed that the organisation of equipment services was a recipe for confusion, inequality and inefficiency. It found that many equipment services were small and fragmented, characterised by a lack of clinical leadership and senior management involvement, and that they were failing to meet the demands of clinical governance. Users did not always get equipment of a reasonable quality meaning that some of the money spent was wasted. Poor clinical outcomes were found to combine with a waste of public money when services did not meet users' needs first time."* (Audit Commission, 2002, p. 4)

The UK Government's Department of Health released plans to reform the NHS and guidelines to local governments and NHS commissioning groups on how to integrate community equipment schemes in 2000 and 2001 (Audit Commission (2002) citing Department of Health (2000, 2001)). These plans were then further developed in 2006, in part to address the Government's agenda for 'independence, choice and control' (still ongoing, see (Department of Health and Social Care, 2024)), under the UK Government's 'Transforming Community Equipment Services (TCES) programme' which concluded that the then model for delivery of community equipment by largely local government health providers:

- *"Struggles to meet the needs of the population who would benefit from equipment*
- *Does not meet the needs of the whole population*
- *Will not meet the needs of increased demographics*
- *Is at risk where local budgets are under pressure*
- *May not promote independence, choice and control for all"* (Donnelly (2011) citing Care Services Efficiency Delivery (CSED) branch (no date))

The TCES programme proposed to address these issues through pooling health and social care funding for AT at a national and local model and developing a service delivery model known as the 'retail model' which involved increased involvement of third-party private providers of services:

- *"Developing the local retail market to supply health and social care funded service users through a prescription mechanism for approximately 85% of equipment currently prescribed and considered as standard (simply aids to daily living – SADLs) e.g. aids for moving, eating, toileting and sensory needs. The DH [UK Government's Department of Health] considers items costing less than £100 to be a SADL. Service users will continue to receive a needs assessment for equipment, but they will receive a prescription, to redeem at a local retail outlet, rather than being directly provided with the equipment. The prescription will provide the basic style of equipment for free, and the service user will have the option to top up the prescription to buy a different model/style of equipment. The equipment will then be owned by the service user.*

- *Developing a national supply chain for loan equipment, which would cover the remaining 15% of items which are large, expensive, economical to reuse and generally considered more complex (complex aids to daily living – CADLs). This will cover larger items of equipment which may need to be specifically designed or fitted in the service users home, e.g. hoists, bath chairs, pressure mattresses and rise/recliner chairs. This type of service will generally need to be provided to the service users by a home delivery service. Maintenance contracts will be required, and the equipment will be loaned to the service user for as long as necessary."* (Brighton and Hove City NHS Teaching Primary Care Trust and Brighton and Hove City Council, 2010)

The prescription and retail purchase model for low-cost SADLs was not adopted or sustained by many Councils due to risks, costs and a lack of alignment with other strategic priorities, although some do have such a service (Age UK, 2024). The strategic objectives to continue to loan and reuse AT wherever possible for sustainability and financial considerations was also at odds with the prescription and retail purchase model (Johnson, 2008). Furthermore, it further fragmented service delivery, as single users were required to purchase their SADLs from a retailer, with all other CADLs provided through the local government's Community Equipment Service store (Donnelly, 2011). This was contradictory to the primary UK Government objective to integrate Community Equipment Services across sectors. Private providers also exited the scheme, with many concluding that it did not provide sufficient profit margins (Johnson, 2008). The large retail pharmacy chain Boots commenting *"For a national retailer, meeting the different requirements that each local authority naturally has brings operational complexity."* (Donnelly, 2011).

However, the commissioning of private providers to deliver Community Equipment Services which included both SADLs and CADLs has become the most common model since the TCES programme recommendations were released. This is a significant shift from the largely internal local government providers of Community Equipment Services during the 2000s (Donnelly, 2009). Clients are also often provided with service options to self-assess for, or pay for a private assessment for, low-cost SADLs and then purchase these privately (see the Brighton and Hove Case Study for an example of such a service offering).

Donnelly's (2009) review highlighted the significant risks to clients and liability risks to local governments resulting from the lack of regulation of, and therefore low quality and safety of, the Community Equipment Services across England. This included citing the 30 fatalities and 1,482 reported incidents to the Medicines and Healthcare products Regulatory Agency related to assistive technology supplied by Community Equipment Services in England and Wales. The report also calculated significant financial costs related to the inappropriate provision of assistive technology, including due to unnecessary health care services being required and delays in providing AT (Donnelly, 2009). The need for national minimum standards was highlighted and further explored in the context of the Transforming Community Equipment Services programme (Donnelly, 2011).

The Community Equipment Dispenser Accreditation Body (CEDAB) was established to accredit retailers under the TCES programme. CEDAB was originally established together with the UK Government's Department of Health, British Healthcare Trades Association (BHTA) and National Association Equipment Providers (NAEP). However, the Department of Health then withdrew its support of CEDAB in 2009, stating that *"most [local] authorities prefer to undertake accreditation and monitoring of retailers within their localities using existing supplier vetting procedures"* (UK Parliament, 2010). At the time of writing this report (February 2025), there was no publicly available current information on the CEDAB and whether it was currently operating on a voluntary basis was unknown by those interviewed.

In response to the concerns outlined in these reports and reports of the Audit Commission (Audit Commission, 2002; Donnelly, 2009, 2011) and the lack of ability for the national government to set standards for jointly commissioned services at the local level (Donnelly, 2011), Donnelly authored a Code of Practice (Donnelly, 2018).

Donnelly then founded a not-for-profit to accredit Community Equipment Service providers against the voluntary Community Equipment Code of Practice Scheme (CECOPS) that was launched in 2011 (Equipment Services Editorial, 2011; Russell, 2011). The aim of CECOPS is to provide minimum standards for Community Equipment Service provision in England and Wales, and the significant resulting risks to clients and costs to national and local governments. CECOPS accredits individual services/contracts one of four grades (Standard, Silver, Gold and Platinum) after assessment against ten themes:

1. Organisational Learning & Continuous Improvement
2. Compliance with CECOPS Standards
3. Customer Experience
4. Leadership
5. Governance & Risk Management
6. Quality, Safety and Performance
7. Staff Competence
8. Efficiency & Effectiveness
9. Innovation
10. Integration (where applicable) (CECOPS, 2022)

This accreditation framework is complemented by the more detailed Standards outlined in the *Code of Practice for Disability Equipment, Wheelchair and Seating Services: A Quality Framework for Procurement and Provision of Services* with 47 Standards across the areas of Commissioning and Governance, Service Provision, Clinical and Professional Responsibilities, and Peripheral Issues and Specialist Areas (Donnelly, 2018).

As the terms of the commissioned service are decided at the local authority level, the Community Equipment Service loan pool service offerings and standards differ from council to council. However, commonly included AT in the Community Equipment Services are those often defined as 'daily living aids' AT such as toilet seats, shower chairs, crutches, back rests, sock aids, walking frames, and kitchen trolleys. However, even for the same type of AT (e.g. a toilet seat), there will be differences in the preferred model and brand procured, based largely on the preferences of prescribers and/or the commissioners' preferring to replace 'like for like' so that there weren't variations over time (and between clients) in the product catalogue.

These Community Equipment Services may run alongside loan programs for other AT such as wheelchairs and IT-based technologies such as augmented communication technologies (NHS England/Specialised Commissioning, 2016). Some local authorities have combined their Community Equipment Services and wheelchair services to be able to better provide wrap-around services to clients and meet all their AT needs. However there are barriers to this as wheelchair services are solely funded by the NHS, while Community Equipment Services are jointly funded in NHS and local council partnerships (Sandiford, 2007; Foster, 2011).

In addition to variations in the service quality, there are variations in the quality of services across Councils, including within the same private provider. For example, the voluntary Community Equipment Code of Practice Scheme (CECOPS) list of accredited providers show that the accreditation grades (Standard, Silver, Gold and Platinum) awarded for the same private company in different councils differs (CECOPS, 2025a). At the time of writing this report (February 2025), the three commonly commissioned private providers of Community Equipment Services are Nottingham Rehab Services (NRS) Healthcare, Medequip and Millbrook Healthcare. Looking at one of these – NRS Healthcare – it can be seen that in February 2025 21 of their services had Standard accreditation grading, 6 had Silver, and 2 had Gold (with 5 services Not Yet Graded) (CECOPS, 2025a).

Many local authority Community Equipment Services are yet to tag and trace all AT under their loan program and there remains many other formal and informal 'loans' of AT in their municipality (e.g. on discharge from hospital

from hospital supplies). This leads to difficulties in efficiently tracking and coordinating the return of AT into the loan pool. In some cases, local authorities have partnered with private providers to run drives for the return or donation of AT to the Community Equipment Services (see, for example, Barnett (2020a, 2020b); Sarsby (2022); York (2022)).

Each council uses a separate IT system for the loan pool, even across councils with the same private provider. This means that individuals cannot easily transfer their AT from one Council to another when they move, and there is not national oversight of loan products.

CASE STUDY: BRIGHTON AND HOVE, UK COMMUNITY EQUIPMENT SERVICE

In 2010, the assistive technology loan scheme commissioning partnership of Brighton and Hove City Council and the then Brighton and Hove National Health Service (NHS) Teaching Primary Care Trust began considering the best approach for commissioning the delivery of the Integrated Community Equipment Scheme (ICES - integrated across health and social care). Since 2004, the government health organisation South Downs Health (SDH) was commissioned to deliver the ICES in Brighton and Hove. Key concerns leading to the reconsideration of SDH as the provider of the ICES in 2010 were:

- Four years of overspend under the ICES, with £150-200,000 overspend despite a 40% increasing in funding by the commissioning partners and forecasted £200-250,000 overspend in 2010 (total spend 2008/0 £1,397,731).
- SDH had expressed that it was not financially viable for them to renew their contract and it did not align with their strategic priorities.
- The warehousing and sanitation/refurbishment facilities were in urgent need of significant upgrades.
- The logistics capabilities of SDH staff were limited.
- The IT system of SDH did not allow for reporting of AT loans, access by prescribers, or tracking of AT. For example, AT was not tagged and traceable.
- The location of the warehouse was not in central Brighton, which made it difficult for prescribers and clients were not able to view or collect/return items. There was a Daily Living Centre for viewing of AT, but this was not run by SDH and the assistive technology catalogue differed.
- SDH were unable to meet the KPI's relating to delivery of 91.5% of items within 7 days.

(Brighton and Hove City NHS Teaching Primary Care Trust and Brighton and Hove City Council, 2010)

A feasibility study in 2010 explored options further, including the 'retail model' proposed under the UK Government's then 'Transforming Community Equipment Services (TCES) programme' which included a mixture of outsourced loan program and a 'prescription model' where people could receive a prescription to purchase low-cost and low-risk AT from participating retailers (Vaithamanithi, 2010).

In 2015, the Brighton and Hove Council and the Clinical Commissioning Group decided to commission Nottingham Rehab Services (NRS) Healthcare to deliver the Brighton and Hove Community Equipment Service (CES) for five years (Brighton and Hove City Council, 2022). In 2020, the contract was extended for a further 2 years. Funding is via the Better Care Fund, which spans the NHS and local governments (NHS England, no date). The commissioners reflected in 2022 that:

> *"The current service operates well and is popular with both prescribers and service-users. It is not proposed that any significant changes are made but there are a few areas that would benefit from some further development:*
> *- Greater use of technology to enable service-users to book and amend deliveries, collections, repairs and maintenance;*
> *- Greater emphasis on the loan element of the service with increased tracking and retrieval of equipment to enable more recycling;*
> *- Improved communication and technical support for prescribers."* (Brighton and Hove City Council, 2022)

Furthermore, it was recommended that an Occupational Therapist (OT) be recruited to *"help manage the spend on equipment, reduce the risk of harm, and support prescribers and commissioners"* (Brighton and Hove City Council, 2022).

NRS Healthcare (a subsidiary of Nottingham Rehab Limited, Coalville) were recommissioned in 2023 to continue to deliver the Brighton and Hove CES following an open tender (BidStats, 2023). The commissioned service includes the NRS Healthcare 'Safe and Well'[1] online offer of self-assessments, private bookings for OT assessment, and private purchase of assistive technology from NRS Healthcare or other online retailers.

> *"The CES supplies equipment to Brighton & Hove residents and those out of the city who are registered with a Brighton & Hove based GP. The equipment, that includes a range of health and social care items, such as beds, hoists, bath lifts and small adaptations such as rails and ramps, are provided on a loan basis. The service is available to children and adults and equipment is 'prescribed' by 675 health and social care professionals who work for the Council and Health Trusts in a number of different roles such as occupational therapists, nurses, physiotherapists and social care staff."* (Brighton and Hove City Council, 2022)

In 2022, the Brighton and Hove's population was estimated to be 278,000, with 8,750 individuals receiving 47,909 pieces of assistive technology under the CES. The actual spend on the contract with NRS Healthcare between October 2015 and March 2021 was £14.756m (excluding VAT). All AT in the Brighton and Hove CES is tagged and traced to enable re-use. In 2021, 65.3% of the CES budget was spent on reused stock. (Brighton and Hove City Council, 2022)

NRS Healthcare is a subsidiary company with 100% ownership by Nottingham Rehab Limited which last filed Full accounts with the House of Commons for the financial year ended 31 March 2023. These show a £1,470,000 before-tax profit, and their annual report states *"The market for the provision of outsourced healthcare contracts continues to grow and there remains a strong pipeline of new opportunities to provide ICES, Wheelchair, Telecare and Clinical Services"* (Nottingham Rehab Limited, 2024).

The NRS Healthcare CES service in Brighton and Hove has Gold accreditation with the CECOPs (CECOPS, 2025b). A 2022 independent evaluation of 343 service users and 92 prescribers' perceptions of the Brighton and Hove CES were largely positive (Coleman, 2022).

[1] https://www.safeandwell.co.uk/brighton-hove/services/where-can-i-buy-daily-living-aids

CASE STUDY: NEW ZEALAND'S EQUIPMENT AND MODIFICATION SERVICES

New Zealand (NZ) has a 'Equipment and Modification Services (EMS)' for people of all ages living in NZ who:

- *"have a disability as defined by the Ministry; either physical, intellectual, sensory (vision and/or hearing) or a combination of these, or an age-related disability, which is likely to:*
    - *remain after the provision of treatment and/or rehabilitation*
    - *continue for at least six months, and*
    - *impact on their ability to do some everyday tasks, resulting in a need for ongoing support."* and
- *Are "under 65 years of age who have very high needs requiring ongoing support services as a result of a chronic health condition and have been confirmed as eligible for Long Term Supports".* (Disability Support Services Group, 2015, p. 6).

The EMS is a single AT provision service which incorporates the loan of both new and refurbished AT, with the Government Ministry retaining ownership of the AT provided to clients. The contracts with EMS Providers set minimum benchmarks for the refurbishment and reissue of AT, with at least 35% of all AT provided currently needing to be reissued AT (i.e. not new purchases). If a refurbished AT item is available, the EMS Assessors must recommend this to the client, however, clients are able to request that a new item be purchased with justification as to why.

It was noted by experts interviewed that the EMS is currently an anomaly within NZ disability services as it provides for people of all ages with a disability, whereas many other NZ disability services are only provided to people up to the age of 65 years, after which they transferred to the health system for aged care services.

People can keep the AT received under the EMS on entry into residential care services (including rest homes, private hospitals, residential care or community residential support services) as long as the AT is for their personal use only. Any AT that would be shared by other residents must be returned to the EMS Provider and instead provided for by the residential care service. (Disability Support Services Group, 2015).

The provision of AT under the EMS to those with long-term needs is not means or asset tested and the client does not pay for the AT from their personal private or government funds, except for some housing and vehicle modifications or AT requests over and above that available through the EMS where are co-payment may be determined to be appropriate.

The NZ Accident Compensation Corporation (ACC) established under the NZ *Accident Compensation Act 2001* is responsible for the provision of AT to people who have long-term AT needs due to an accident including, but not limited to, work-related and motor-vehicle accidents. While the EMS funds only 'essential' AT, the ACC may extend the funding of AT to non-essential items (e.g. for hobbies/recreation) to promote the client's quality of life.

Experts interviewed by Perspicacious explained that the EMS, short-term AT programs and ACC all require contracted service providers to meet minimum AT refurbishment and reissue rates and therefore have a loan pool component. However, this case study focusses on the refurbishment and reissue activities of the EMS program as EMS clients and their needs most closely align with those eligible for the Australian Government's proposed AT loan pool under the aged care Support at Home program.

The EMS was developed to contribute to the realisation of *The New Zealand Disability Strategy: Making a World of Difference - Whakanui Oranga* published in 2001. The NZ Disability Strategy 2001 is grounded in international human rights instruments and the NZ Bill of Rights Act, Human Rights Act and the Privacy Act (Ministry of Health, 2001).

"We live in a disabling society. The New Zealand Disability Strategy presents a plan for changing this."
(Ministry of Health, 2001, p. 3)

The Disability Support Services (DSS) Group is responsible for the administration of the EMS. The DSS an associated program funding has sat under a number of NZ Government ministries since its establishment, including the Ministry of Health (prior to July 2022), the Ministry of Disabled People (2022-2024) and now currently the Ministry of Social Development (since September 2024).

The EMS are provided by contracted EMS Providers. The process for selecting EMS Providers is an open tender process managed by the DSS. When managing the tender process for the EMS Providers, the DSS must uphold principles relating to the human rights outlined in the United Nations Convention the Rights of People with Disabilities and the NZ Disability Strategy and also support the Ministry to fairly allocate resources (Disability Support Services Group, 2015).

There are currently two contracted EMS Providers in NZ: 1. Enable NZ and 2. accessable. Enable NZ delivers the EMS to people residing in the South Island of NZ and the lower part of the North Island, meeting the AT needs of about 2/3 of EMS clients. accessable services the remaining 1/3 of EMS clients residing in the upper part of NZ's North Island. Enable NZ is wholly owned Crown entity subsidiary of Health New Zealand - Te Whatu Ora. accessable is a NZ Limited Company. Both Enable NZ and accessable are also contracted to provide AT to NZ ACC clients, allowing economies of scale and shared learnings to be realised across these programs.

The administrative services EMS Providers must deliver are:

> *"a) **Management of Service Requests;** the end-to-end processing of Service Requests for equipment and housing modifications received from EMS Assessors.*
> *b) **Relationship management;** the provision of advice and education to primarily support EMS Assessors.*
> *c) **Management of annual budget and service demand;** the management of the annual budget allocated by the Ministry of Health (the "Ministry") and the demand for services.*
> *d) **Recording and reporting;** the establishment and operation of an efficient and effective system to record and report on the financial administration and service utilisation.*
> *e) **Information technology;** the establishment and operation of a suitable information technology system.*
> *f) **Asset management;** the establishment and operation of equipment stores, and systems to support refurbishment and repairs and maintenance of equipment.*
> *g) **Logistics;** the establishment and operation of a freight and delivery service for equipment."*
> (Disability Support Services Group, 2015, pp. 1–2)

The EMS Providers must report on refurbishment and reissue rates to the DSS. It is a decision of the EMS Provider as to whether or not it is economically feasible and safe to collect, refurbish and/or reissue an AT item (Disability Support Services Group, 2015).

Enable NZ estimates that their EMS refurbishment and reissue activities save the NZ Government approximately NZ$10 million per year when compared to equivalent costs for purchase of the AT (Enable New Zealand, 2021). These estimated savings take into account the costs associated with refurbishment of AT (including labour and parts) before reissue but not costs associated with return logistics.

Enable NZ and accessable both have their own AT lists, with AT being categorised according to three bands defined in the EMS Service Specification (Disability Support Services Group, 2015, pp. 44–45):

- Band 1 AT: Generally low-cost (less than NZ$1,000) and low-risk AT that is suitable for most people with similar needs (e.g. personal hygiene equipment such as bath boards, standard shower commodes and over toilet frames; standard walking frames; chair raisers; standard pressure cushions and kitchen trolleys).

- **Band 2 AT:** Generally commonly requested AT that costs less than NZ$3,000 and does not have high specifications or not complex to use or customised for a person (e.g. hoists, standing frames and some wheelchairs).
- **Band 3 AT:** Generally complex to use and/or has high specifications or features, and may also be customised that costs more than NZ$3,000, low volumes. These items often require a higher skill level and experience from EMS Assessor as there is a higher consequence of risk to a Service User for inappropriate recommendation (e.g. power wheelchairs, customised standing frames, highly specialised pressure care equipment, communication devices with high specifications).

AT is procured by EMS Providers following a formal tender process or – for Band 2 and 3 AT only – through preferred supplier agreements, panel contracting or other procurement arrangements (Disability Support Services Group, 2015, pp. 44–45). This means that different AT is available to clients depending on where they live and whether they are eligible for EMS AT from Enable NZ or accessable. However, the DSS does work with Enable NZ and accessable to ensure that the AT provided is equivalent and clients are not disadvantaged based on where they reside.

The agreed EMS AT lists grouped by the three Bands are made publicly available on the websites of Enable NZ (Whaikaha - Ministry of Disabled People and Enable New Zealand, 2024) and accessable (accessable, 2025a, 2025b, 2025c). Experts interviewed agreed that the key to high refurbishment and reissue rates was the set AT lists and the tracking of AT provided to clients. Enable NZ tag all AT provided to clients, whereas accessable do not tag some low-cost, high-volume items. For EMS AT list items, percentage reissue rates were in the double digits, while off the list items were only in the single digits. It was noted that specified lists of AT with only one model and make of each type of AT available may be considered to limit choice and control by the client. However, it was noted that the client could request AT that was not on the list if they could justify why it was needed.

There is a national database of registered EMS Assessors who are able to submit EMS Service Requests into either the Enable NZ IT system or the accessable IT system where they are able to see all available AT. EMS Assessors may, or may not be, NZ Government employees (Disability Support Services Group, 2015). EMS Assessors have qualifications in health or allied health and have training in how to undertake assessments and recommend AT under the EMS AT lists (Ministry of Health, 2015).

Enable NZ has three warehouses across its service region: The Hamilton and Christchurch warehouses where high-volume basic disability equipment is stored, refurbished and reissued, and the Palmerston North warehouse where more complex equipment is refurbished and reissued, with a specialise wheelchair technician team on site (Enable New Zealand, 2025). accessable has a main warehouse in Auckland (accessable, no date).

Both Enable NZ and accessable contract AT suppliers, logistics providers, and repair and maintenance services under the EMS. This ensures that any specialist knowledge required for AT provision can be provided to the client directly by the contracted AT supplier, if needed. It also means that logistics, repair and maintenance services can be provided across NZ, even in remote areas within the required timeframes (e.g. for Band 1 EMS AT, 90% of AT must be delivered to clients within 5 working days of the EMS Assessors making the request, (Disability Support Services Group, 2015)).

The tender process for AT suppliers occurs across categories of equipment called panels. For example, in 2023 Enable NZ awarded the tender for Panel Power Wheelchair to four Suppliers: Allied Medical Ltd, Invacare NZ, Medifab Ltd, and Morton and Perry Ltd (New Zealand Government, 2023). EMS assessors, AT users, warehouse staff and refurbishment, maintenance and repair teams are involved in assessing the responses and selecting the suppliers. Potential AT suppliers are assessed against a range of criteria including whether the AT will meet the

needs of most clients (especially for Band 1 and 2 equipment), suitability and quality of equipment, and ability to repair and refurbish equipment for a longer-term return on investment in the initial purchase. Different AT models and makes may be added to the list following a tender process. However, this decision is only made after careful consideration of the potential client and/or financial benefits and the risks associated with creating unnecessary complexity in the system or inequities between clients. If an old AT model and make and a new AT model and make is available in the system, the EMS assessor may choose the old item or the new.

It is a business decision of the EMS Provider which AT to repair and refurbish with their own staff/at their own facility or subcontract out to suppliers and repair and maintenance services. However, this decision must ensure they are able to meet the required refurbishment and reissue targets and all other contractual requirements. EMS Providers charge the Ministry per service for the repair, maintenance and refurbishment of AT (including parts and labour). For complex AT such as power wheelchairs, this charge is based on the labour and parts per AT item. For simpler AT such as knee scooters a time standard is used. The ability to manage staff and costs when subcontracting repair and maintenance services was reflected on by those interviewed as being complex, as neither the client nor repair and maintenance service have a vested interest in keeping the costs to a minimum. The EMS Providers therefore need to educate repair and maintenance services on how to decide if it is economically feasible to repair a product.

In 2024, Enable NZ awarded Flyway Transport Ltd the tender for logistics distribution services that *'facilitates the delivery and collection of outbound and returning equipment, effective coordination and management of this logistics service, and the provision of outstanding client experience'* (New Zealand Government, 2024). It was described by experts interviewed by Perspicacious that the employment of delivery staff by Flyway was key to the success of this arrangement. This allowed Enable NZ to train Flyway staff in how to handle and assemble/disassemble simple AT, and in appropriate client service noting that often collection of AT is occurring at a difficult time following the death of a client. It was noted that while logistics partners may be trained and able to assemble/disassemble simple AT, specialist AT suppliers or the EMS Provider were required for more complex AT and ultimately the responsibility for ensuring the client can safely use the AT lies with the EMS Assessor. accessable's logistics services are provided by accessable employees, with the exception of some small and simple AT for which a dedicated courier service which is co-housed in the main accessable warehouse is used.

APPENDIX A: ATSA SURVEY OF ATSA MEMBERS METHODOLOGY AND FINDINGS

METHODOLOGY - ATSA MEMBER SURVEY

In February 2025 ATSA conducted an online survey of ATSA members to provide feedback on a national AT loans scheme for the Support at Home program, currently in development and to be rolled out on 1July 2025.

ATSA asked for feedback on:

- the EnableNSW AT Loans Scheme trial currently operating in the Riverina/Murray and South West Sydney aged care planning regions.
- State-based, DVA Rehabilitation Appliance Program and other loan programs.
- Expected impacts of a national loans scheme and reasons why it shouldn't be supported.
- The critical design features of a national loan program, if it is to go ahead.

FINDINGS - ATSA MEMBER SURVEY

ATSA received 59 responses to the survey.

The summary of responses presented below was developed by ATSA and shared with Perspicacious for inclusion and consideration in this report.

PART 1: OPPOSITION TO A LOAN SCHEME AND IMPACTS ON BUSINESS

Reasons for not supporting a national loan pool scheme

Many respondents to the survey do not support a national loan pool program as part of AT-HM for Support at Home. Reasons include:

- Replaces a model suited for local communities with a unified solution suiting nobody in particular
- It is not the most economical or efficient way to support people with ongoing needs.
    - Inefficient way to trial products, especially for regional clients with higher delivery costs. Local providers offer in-store and in-home trials with local delivery.
    - Hidden overheads not immediately visible and giving inaccurate total cost of supply.
    - In low value items, the economic costs of reprocessing may outweigh the benefits.
    - Government operated programs are less efficient than private.
    - The ongoing costs of refurbishing, storing, and redistributing AT may make a loan system less sustainable compared to direct funding for new AT. Loaned AT requires rigorous cleaning, refurbishment, and safety checks between users, which can be costly and time-consuming, potentially causing service disruptions.
- It would concentrate the supply of AT products to a few large suppliers, effectively establishing a closed artificial market - leading to less competition, less innovation, less choice.
- Duplicates the national loan and hire infrastructure already in place, established by private businesses
- Inability to meet demand - Existing state loan pools have shown already that they are completely ineffective at dealing with the small number of clients that fall outside of major schemes such as homecare and NDIS. Demand for AT can be unpredictable, and a loan system may result in shortages or long wait times, delaying access to essential AT for those who need it most.
- More opportunities for fraud, collusion and overcharging.
- Reduced AT quality and safety due to:

- Ill-fitting AT and modifications – may result in accidents, injury. Flow on effect of carer burn out, stigma and social exclusion.
- Lack of time and attention to trial, fitting, instructing on safe operation from trained and experienced technicians.
- Lack of accountability to manufacturer specifications on refurbishments.
- Second-hand loan items are not maintained or treated in the same manner as purchased items by clients
- Delays in AT supply can put end users at risk of accidents and physical harm.

- Under servicing of regional, rural and remote clients. They face additional challenges in accessing loaned AT, as distribution and collection logistics would be more complex compared to urban areas. Long waits for goods to come from a metro location that won't necessarily be right in the first instance, compounding wait times. Those in rural and remote areas may face additional challenges.
- Impact on the Private Market. A shift to a loan-based model could reduce demand for AT suppliers and service providers, potentially stifling innovation and competition in the sector.
- Risk of Underfunding and Service Decline Without adequate ongoing investment, a loan scheme could deteriorate over time, leading to longer wait times, lower AT quality, and reduced service levels.
- Removal of choice, control and independence. Servicing from a central loan pool deprives the patient of choice and the ability to trial and understand a product before they are required to use it. Lack of choice and control can lead to loss of independence and accelerated entry to residential care.
- Reduced personalisation:
  - Many AT products need to be tailored to individual users. A loan model limits access to customised solutions, potentially reducing effectiveness and comfort.
  - When a client is given a new piece of AT it can be a major change in their life, they need to be supported through this change, not just have items delivered from a warehouse.
  - Lack of appropriate and timely trials of AT.
- Fundamentally misunderstanding how clients use AT. Most assistive technology is needed because of a significant decline in mobility, or other related medical issues that are chronic and ongoing. A loan pool based on the concept of short-term loans will not be successful.

Perceived impact on business

Many reported that they rely on the home-based aged care programs (CHSP, HCP and STRC) for a significant proportion of their business, as much as 80-90% in some cases (see Figure APP.A1). While many reported that they would need to downsize significant, some smaller businesses felt business closure would be the likely impact. Smaller businesses were also concerned that they would be utilised to trial AT but get no compensation. This is something they had experienced when government-operated programs such as SWEP had replaced private business arrangements in the past.

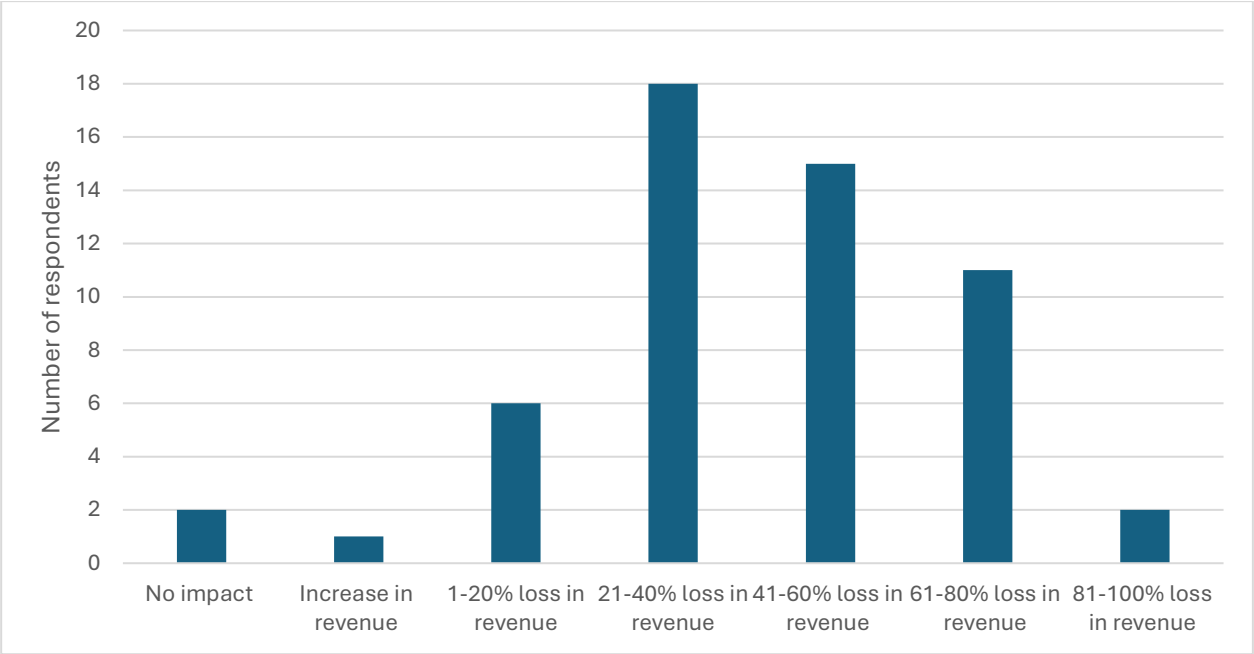


Figure APP.A1. Expected impact on business if the proposed AT loan scheme is rolled out.

PART 2: THE ENABLENSW AT LOAN SCHEME TRIAL

Only three survey respondents reported that they were involved in the EnableNSW trial. Despite their direct involvement as contractors, they were not positive about the trial or the EnableNSW loan pool model overall. The scheme was described as a bureaucratic, one-size-fits-all model, that provides little benefit to end users, when compared to private purchase/loan arrangements. The trial was not seen as a true trial and had many limitations including:

a) Clients funds were not used to source loan AT. This would change during the actual scheme, meaning clients and providers may be less supportive.

b) The trial did not give the opportunity for other suppliers to tender. EnableNSW just engaged previous supply partners.

c) No "bricks and mortar" in trial locations. OT's and end users have utilised existing retailers' showrooms and infrastructure to do in store or at home trials. If that retailer is not an approved supplier, they receive no benefit or compensation.

d) Despite the risks to the AT industry no data or findings will be made publicly available. There is very little understanding of how this will work, the ramifications and how businesses can prepare for roll-out in July 2025. As one survey respondent noted: "this is completely unacceptable and should not be accepted by the AT industry as a whole. They are risking the AT industry, staff, years of knowledge, training and vital client support & ultimately, the elderly & the aged care sector as a whole will lose as a result".

Under a government run scheme it was reported that users tend to experience longer wait times for AT delivery, repairs, and replacements, inferior support and slower response to individual needs. Consumers also have no right to choose their provider. Other comments on the trial and proposed national program include:

- The loan-before-buy principle shifts funds from home care packages to government agencies.
- The complexity of AT supply is not recognised or appropriately remunerated.

- It effectively shuts out small-to-medium AT providers who offer the specialist expertise, localised service, high-touch customer care, and close engagement with healthcare professionals necessary for older people, especially those with complex needs.
- A small number of national suppliers dominate the market, ultimately leading to reduced competition, higher costs and lower service quality.
- Ultimately, if the government becomes the primary supplier or limits procurement to only a few large national companies, it will destabilise the private AT sector, force out small to medium businesses, reduce innovation, limit AT options and lead to poorer outcomes for older people.

PART 3: FEEDBACK ON STATE-BASED LOAN SCHEMES AND THE DVA RAP

Most survey respondents had at least some experience with state-based loans programs (n=42). Twenty six were current contractors/ subcontractors and nineteen had previous experience with these programs. The vast majority of those with experience of these state-based programs felt that they were no able to provide timely and equitable access to AT, and were not equipped to begin delivering service under the new National AT Loans Scheme on 1 July 2025. They report major deficiencies in the way these services operate including inadequate levels and range of stock, under staffing, long wait times and poor outcomes for end users. Feedback on individual programs are given below.

EnableNSW

Almost half of the survey respondents are current or past contractors/ subcontractors with EnableNSW (n=22). All but one survey respondent (n=21) felt that EnableNSW does not provide timely or equitable access to AT, and all (n=22) felt that the scheme is not equipped to operate under the proposed National AT loans scheme in July 2025.

While some members felt that EnableNSW was generally able to meet the basic AT needs of its existing cohort at current levels of demand, many others felt they lacked the range and depth of AT to properly service clients. Specifically, second hand and loan friendly products were often deemed unsuitable by older clients. Others experienced lengthy wait periods for approval and supply.

Survey respondents expressed that the current arrangements for the supply of AT to older people under Home Care Packages was working better than that which is provided through a loan pool like EnableNSW. They are concerned that older people's access to AT would be worse-off if delivered through an EnableNSW loan scheme. As one regional small business supplier noted "currently many aged care staff from home care package providers swing by our showrooms to pick up items and equipment that are needed urgently for their clients, now they will have to wait for that item to come from a central location." There was also a concern that EnableNSW could not adequately meet the needs of complex AT users, who often require trialing multiple options before selecting the right product.

State-wide equipment program (SWEP) (VIC)

Twenty survey respondents were current or past contractors/subcontractors for SWEP. Of these, most felt the scheme did not provide timely or equitable access to AT (n=17). All but one felt the scheme was not equipped to provide services under a national loan scheme in July (n=19). SWEP was viewed as a particularly inefficient example of a state-based loan program. Waits of 12-18 months for AT were reported and waits for payment to the contractor were also reportedly slow. Many suppliers reported that the program had high out-of-pocket costs for clients who happened to be prescribed anything beyond the baseline models. One survey respondent felt that products were not being repaired to a high enough quality through authorised repairers.

Medical Aids Subsidy Scheme MASS (QLD)

Sixteen survey respondents reported that they were current or past contractors/subcontractors to MASS. Of these, most felt the scheme did not provide timely or equitable access to AT (n=12) and that the scheme was not equipped

to provide services under a national loan scheme in July (n=14). Opinions about the scheme were mixed. Many items are provided through private sector supply, which subcontractors felt was working ok, but poor feedback from customers was also reported. The process for accessing larger items that are provided through a warehoused loan pool was felt to be difficult. One person noted that the scheme is unable to keep up with demand because too few companies are registered to supply the scheme.

Other state and territory loan programs

A small number of survey respondents were current or past contractors/subcontractors with the Community Aids and Equipment Program (CAEP) (WA) (n=7), DHS Equipment Program (SA) (n=4), the ACT Equipment Scheme (ACTES) (n=2) and TasEquip (n=2). Of these, one survey respondent felt the CAEP (WA) provided timely and equitable access to AT and that the scheme was equipped to provide services under a national loan scheme in July. One survey respondent felt that the DHS Equipment Program (SA) offered timely and equitable access to AT. The remainder felt that these programs did not provide adequate access to AT and were not equipped for the proposed national roll-out in July. No survey respondents had experience with the Territory Equipment Program (TEP).

DVA Rehabilitation Appliances Program

The majority of survey respondents were current contractor/ subcontractors (n=33) or past contractor/ subcontractors (n=6). Compared to the state-based loan schemes discussed above, survey respondents were generally more positive about the way the scheme is run and its benefits for AT suppliers, prescribers, end-users and government purchasers. In fact, most of those with experience of the program felt that it offered timely and equitable access to AT (n=28). Particular perceived advantages over other loan models include:

- Allows small to medium sized businesses to be involved
- Relies exclusively on the private sector, utilising existing infrastructure, shop fronts, customer care, relationships, service standards, local expertise, after sales service, maintenance and repair capabilities, trial stock and in store or in home trials.
- Is a tested, sustainable model. Demonstrated to:
    - be financially viable for businesses involved
    - have faster delivery of AT than other programs
    - successfully deliver AT across regional, rural and remote locations
    - provide quicker approvals for high cost items
    - a simpler process for businesses and end users
    - AT is fit for purpose, better quality and supplied to clients in better condition
    - the larger items are loaned and smaller items sold to the end user reducing overall costs for the government

Despite offering a model preferrable to other loan programs, some members still recognised some drawbacks, including:

- Lack of consumer choice and control by restricting clients to a small pool of approved suppliers and inflexible product offerings - significantly reducing their ability to select products that best meet their needs.
- The scheme primarily supports off-the-shelf products, limiting the availability of high-end or scripted AT solutions, such as power wheelchairs, which require a more individualised approach.
- While there is technically a provision for sourcing AT beyond the designated suppliers, the bureaucratic hurdles, combined with a time-poor occupational therapy workforce and a vulnerable customer base, make this option largely impractical.
- Small and specialised AT providers are excluded from becoming contracted suppliers, and may also find it financially unviable to subcontract. The high administrative burden, combined with lower reimbursement rates, discourages many businesses from engaging with the scheme.

- This system consolidates market control among a few dominant players, stifling innovation and service diversity.
- Like other programs, approvals and delivery processes can be slow.

While many do not support a loan scheme and particularly as it is being currently proposed, the DVA model is seen as a better starting point (than rolling out through state-based schemes) on which to begin, learn and adjust. Some members suggested that the DVA model could provide a foundation for developing a national loans scheme for Support at Home that would:

- Leverage an existing national system that members already use, ensuring full coverage
- Leverage existing expertise and local service arrangements
- Maintain referral relationships, allow the government time to negotiate pricing, and ATSA members who are not contracted DVA suppliers would still have the opportunity to subcontract under a contracted provider.
- Reduce the burden on government and the state-based systems who do not have the capacity to roll-out in July 2025

Some can foresee that adjustments would be immediately needed including:

- Allowances for quick approval of OT prescribed off contract AT
- Eligibility Differences – The RAP is designed for veterans, who are a specific and relatively smaller demographic. Expanding it to cover all aged care recipients and people with disabilities would require significant policy and funding adjustments.
- Potential Administrative Burden – A national loans scheme for AT would involve a much larger and more diverse population than the RAP currently serves, requiring major system upgrades to handle increased demand.
- Funding & Sustainability Concerns – The RAP operates under specific funding arrangements for veterans. Expanding it nationally may require substantial investment and a rethink of how costs are managed and shared.

Other loan programs

ATSA asked about other loan programs and whether they might be good examples to draw on in developing a national loans scheme for Support at Home.

Hospital at home and palliative care loan programs

Three survey respondents reported involvement with hospital outpatient and palliative care loan programs but felt they did not have models that would be applicable under the proposed aged care loan scheme.

Free market approaches

Some survey respondents felt that loans for older people living at home works successfully under a free market approach, through private businesses. Many businesses reported that they successfully operate loan or loan-to-buy[2] products alongside their direct purchase offerings. They felt this is efficient and offers good value for money for both the government and end users.

Another suggestion was to allow manufacturers to loan and refurbish AT directly. The advantage being that AT is kept compliant, properly refurbished at a lower cost and able to be more easily accommodated to individual needs.

[2] It is noted by Perspicacious that these survey respondents were likely referring to hire and hire-to-buy arrangements similar to those under the DVA RAP rather than loan pool arrangements where the item is free of charge to the client.

PART 4: CRITICAL DESIGN FEATURES OF A LOAN PROGRAM

While many question the viability of a national loans scheme, if it is to go ahead survey respondents felt that it should be carefully implemented with sufficient time for consultation, planning, consultation and phased implementation to prevent market disruption. A national AT loan scheme should be designed to deliver efficient, accessible, and sustainable outcomes for both end users and suppliers. The most critical design elements include:

1. Quality assurance and safety

The quality and safety of products for loan should be managed through strict enforcement of maintenance, safety and hygiene compliance. Responsibilities for maintenance and repair should be clear. Products must meet regulatory and clinical standards, including TGA and international requirements. A structured process for phasing out outdated or unsuitable AT to maintain safety and reliability. Products should be specific and appropriate to the recipient's needs and there should be no reduction in the level of customisation required to meet a user's goals. The program should have sufficient clinical oversight and prompt personal clinical support should be available.

2. Client choice, flexibility and purchase options

Genuine choice of product and provider should be facilitated through access to a wide selection of registered providers, including those local to the person. Clients should be able to trial AT in store or at home depending on need and preference. The scheme should allow both purchase and loan options, with clinical discretion in prescribing either, depending on the user's needs. Rent-to-buy options and a co-contribution model should be available, allowing consumers to contribute to ownership where appropriate. Offering dignity for people in later life should be a priority.

3. Service, support and accessibility

The scheme should prioritise local, timely, and personalised product support from suppliers who can provide delivery, installation, servicing, and repairs. Regional and remote access must be ensured, with local suppliers acting as distribution and service hubs. Initial trials, final delivery and maintenance of the items should be conducted by the same local dealer closest to the end user. Local providers store AT on behalf of the scheme and the scheme pays rent or storage fees for them to do so.

4. Simple and efficient processes

The loan program should be user-centred and accessible. The program should minimise delays through streamlined assessments, digital applications, and priority processing for urgent needs. An online portal should include real-time order status (updated by providers), high level of data security and backup systems, and dedicated support team. IT systems should be simple and functional before rollout, allowing businesses to integrate smoothly.

5. Supplier involvement and industry sustainability

The scheme should leverage the existing infrastructure, networks, and expertise of AT suppliers while promoting a sustainable approach that preserves industry knowledge, prevents monopolization by large corporations, and maintains high-quality local services.

It should actively support small and medium-sized businesses, including those in regional areas, by implementing a registered supplier model and a sustainable funding framework. This framework should ensure the long-term viability of AT businesses by covering essential costs such as stockholding, storage, servicing, and transition expenses for those adapting to a rental model.

For some, the role of government should be to set realistic price caps for items, provide guidelines on what can/cannot be hired. The client is then able to go to the whole market of providers to find the solution that then most suits their needs.

6. Equipment management

A hybrid approach of new, refurbished, loan and purchase AT should be incorporated to reduce waste and costs while ensuring quality and safety. In the case of older people living at home, their AT needs are generally for conditions that will not improve, meaning that a purchase rather than loan may be more suitable in many cases. Implementation of standardised cleaning, refurbishment, and reissuing protocols to extend AT lifespan and minimize unnecessary purchases. A centralised digital tracking system (e.g., RFID/barcoding) should be in place to manage AT availability, returns, and maintenance. A structured collection and refurbishment system, ensuring seamless turnover of AT. There should be clear repair and replacement pathways to minimize downtime for users.

7. Innovation and continuous improvement

Suppliers should be encouraged to continue introducing new, high-quality AT solutions, rather than being locked into low-cost, bulk-procurement models. The scheme must have ongoing feedback mechanisms to adapt to changing needs and ensure continuous improvement.

APPENDIX B: ATSA WORKSHOPS WITH ATSA MEMBERS METHODOLOGY AND FINDINGS

METHODOLOGY - ATSA MEMBER WORKSHOPS

In February 2025 ATSA held two online consultation sessions with a total of 20 ATSA members to garner their feedback on the proposed national loans scheme for Support at Home. Discussions were free flowing and based loosely around the following topics:

1. Key principles for the design of a National Assistive Technology Loans Scheme
2. Appropriate product types and demographics for a loan scheme
3. Lessons from the DVA Rehabilitation Appliances Program
4. Lessons from Geat2GO
5. Aligning different payment models and systems under a national loan scheme
6. Supporting ATSA members to participate in a loan scheme

FINDINGS - ATSA MEMBER WORKSHOPS

The summary of the workshop consultations with ATSA members presented below was developed by ATSA and shared with Perspicacious for inclusion and consideration in this report.

PART 1: KEY PRINCIPLES FOR THE DESIGN OF A NATIONAL ASSISTIVE TECHNOLOGY LOANS SCHEME

Free Market Approach – Maintain competition and avoid monopolisation to ensure choice, quality, and fair pricing.

Sustainability – Ensure financial viability for suppliers and the government, with fair and reasonable pricing.

Responsiveness – Provide timely access to AT, particularly in regional areas, with rapid repairs and maintenance services.

Safety and Quality – Ensure products meet high standards and are appropriately fitted to the individual's needs.

Reducing Waste – Implement refurbishment and re-issue processes where appropriate to minimize unnecessary waste.

Accessibility – Ensure that consumers have easy access to AT, including those in rural and remote areas.

A Level Playing Field for Suppliers – Allow all qualified suppliers, including small and regional businesses, to participate fairly.

Variety and Consumer Choice – Offer a diverse range of AT products and allow users to choose their provider.

Rehabilitation and Independence – Support recovery, aging in place, and long-term independence for users.

Funded Trials – Ensure AT trials are accessible through in-home or in-store options before committing to a loan or purchase.

Co-Payment Options – Allow consumers to contribute towards upgraded or customized AT if desired.

Respect and Dignity – Recognize the importance of AT in improving quality of life and supporting user autonomy.

Appropriate Servicing and Maintenance – Ensure timely repairs and upkeep to keep AT safe and functional.

Fair and Transparent Pricing – Develop a national pricing structure that balances affordability and supplier sustainability.

No Barriers to Entry – Avoid restrictive supplier contracts that exclude smaller providers from participating.

Efficient Administration – Keep government overheads low by leveraging private infrastructure and expertise.

Fit-for-Purpose AT – Ensure that the right AT is provided based on individual user needs.

Integration with Existing AT Systems – Align the loan scheme with existing funding models and payment structures.

Hygiene and Sanitization – Ensure all recycled AT meets strict hygiene and infection control standards.

Consumer Protection and Advocacy – Safeguard consumer rights, ensuring they receive high-quality service and AT.

PART 2: APPROPRIATE PRODUCT TYPES AND DEMOGRAPHICS FOR A LOAN SCHEME

Participants generally agreed that short-term, standard, high-use, and hygienic products are the most suitable for a loan scheme. Items such as over-toilet frames, shower chairs, and other lower-cost, frequently reused AT were seen as practical for loans. However, customised and complex AT, including electric recliners, mobility scooters, and specialised wheelchairs, were deemed unsuitable for a loan model, as they require a personalised fit and are often used for the remainder of an individual's life.

For demographics, the discussions acknowledged that individuals with age-related disabilities are unlikely to improve and would need AT for long-term use, making a loan model less appropriate for this group. There was scepticism about the value of a "loan before buy" principle, as professional assessments typically determine the best mode of provision for each person. Additionally, concerns were raised regarding palliative care clients, who may prefer new AT rather than a previously used loaned item, particularly for dignity reasons.

PART 3: LESSONS FROM THE DVA REHABILITATION APPLIANCES PROGRAM

The DVA RAP model was seen as having some advantages, particularly in maintaining a fair pricing structure at the national level, allowing businesses to manage stock and re-issue AT, and ensuring proper product trials before provision. While not officially a "rent-to-own" model, most items were rented beyond the 12 month mark and often not suitable for re-issue. Businesses recouped close to retail price for most item. Additionally, subcontracting arrangements allowed some small businesses to participate.

However, several disadvantages were noted. Only a limited number of large companies hold DVA RAP contracts, excluding many small businesses from participation. The list of approved products is rigid, making it difficult for OTs to prescribe alternative AT even when it is more suitable for the client. Some retailers face financial strain due to delayed payments and administrative burdens, and the requirement to hold significant stock presents a challenge for smaller operators.

Concerns were also raised about the limited reuse of certain types of AT, especially items with fabric components, such as recliner chairs and mattresses, which often cannot be re-issued due to hygiene and durability concerns.

PART 4: LESSONS FROM GEAT2GO

The Geat2GO program was widely criticised by participants, with strong opposition to its exclusionary approach. The program requires suppliers to have a national presence, effectively shutting out small and regional businesses. Many expressed frustration that local AT suppliers bear the costs of product trials but receive little to no financial benefit, as clients often end up acquiring products through Geat2GO instead.

There were also concerns about efficiency and practicality, with suppliers arguing that the platform acts as an unnecessary middleman, adding extra costs while providing little value to end users. The use of couriers to deliver AT products was also flagged as problematic, as incorrect supply and a lack of personalized fitting can lead to poor outcomes for consumers.

Participants strongly opposed replicating any aspect of Geat2GO in a National AT Loan Scheme, calling it a failed model that undermines the existing AT market and quality service provision.

PART 5. ALIGNING DIFFERENT PAYMENT MODELS AND SYSTEMS UNDER A NATIONAL LOAN SCHEME

There was a strong push for a hybrid approach, where both loan and direct purchase options are available, depending on the product type and the user's needs. Participants suggested that short-term hires (3–6 months) should transition into purchases if needed for longer periods, with a discount applied for any previous hire costs.

A national pricing structure, similar to the model used by the Pharmacy Guild, was suggested as a way to ensure fair pricing while allowing businesses to remain viable. Co-payment models, such as those used by SWEP, were also proposed, allowing consumers to upgrade AT or contribute towards a higher-quality product beyond the standard loan pool offerings. This would enable private businesses to participate in the scheme while preserving consumer choice.

A significant concern was the potential impact on small businesses if "staple" AT products were absorbed into a loan scheme, as these sales form the core of their revenue. Many feared that losing these sales could force smaller AT providers out of business, ultimately reducing the availability of specialised and customized AT services.

PART 6. SUPPORTING ATSA MEMBERS TO PARTICIPATE IN A LOAN SCHEME

For ATSA members to successfully engage with a National AT Loan Scheme, the program must be inclusive of all businesses, particularly small and regional AT providers. Participants emphasised the need for a contracting model that allows private businesses to continue playing a central role in AT provision, rather than outsourcing everything to a government-controlled loan pool.

A co-payment model, such as that used by SWEP, was identified as a viable way for businesses to remain involved, allowing consumers to choose between standard loan pool products or contributing toward upgraded or customized AT. Ensuring a fair, transparent pricing model was also seen as crucial to protect small businesses from being priced out by government contracts favouring large corporations.

Many AT suppliers expressed concerns about becoming "trial showrooms" for government loan schemes without being compensated for their expertise and service. They argued that suppliers invest in stock, staff, and support services, and they should be financially recognised for these contributions.

There was also apprehension about government programs hiring international suppliers, potentially undermining the Australian AT industry. Participants called for stronger advocacy efforts to ensure that government funding supports local businesses and does not lead to job losses.

APPENDIX C: ATSA WORKSHOPS WITH CONSUMER, AT AND AGED CARE PEAKS METHODOLOGY AND FINDINGS

METHODOLOGY – CONSUMER, AT AND AGED CARE PEAKS WORKSHOPS

ATSA held workshop consultations with attendees at the:

- National Aged Care Alliance meeting in Canberra (13th Feb 2025).
- Assistive Technology for All meeting (20th Feb 2025).
- Older Persons Advocacy Network (OPAN) National Older Persons Reference Group (NOPRG) (28th Feb 2025).

This section also includes the findings from 8 survey responses from NACA attendees and follow-up email contact with one stakeholder from the OPAN NOPRG.

During these workshop consultations, ATSA presented preliminary findings from the research conducted by Perspicacious for ATSA, had a general discussion about attendees perceptions of AT loan pool benefits and risks, and tested a draft ATSA position statement on AT loan pools.

FINDINGS – CONSUMER, AT AND AGED CARE PEAKS WORKSHOPS

The summary of the workshop consultations with consumer and aged care peaks presented below was developed by ATSA and shared with Perspicacious for inclusion and consideration in this report.

PART 1. CONCERNS ABOUT GOVERNMENT-OWNED LOAN POOL IMPLEMENTATION

A major concern across consultations is that the government has not yet clearly articulated the problem statement or provided a cost-benefit analysis justifying the shift to a government-owned and operated loan pool. Participants argue that before implementing a national rollout, the government must undertake a comprehensive feasibility study to evaluate how state and territory programs could administer the scheme consistently.

The New South Wales trial of the loan scheme remains unevaluated, raising concerns that a national rollout is premature without sufficient evidence of its effectiveness. Some stakeholders question whether a one-size-fits-all approach will result in AT sitting unused or failing to meet individual needs.

Stakeholders stress that the loan scheme must not replace individualized AT provision, as complex and customized AT does not align well with a loan model. There is a consensus that low-cost, high-use, and standard AT should be included in the loans pool, whereas higher-cost, customized AT should be funded separately to ensure proper fit and long-term usability.

Additionally, many state-based loan programs currently do not have "loan-ready" AT and often delay refurbishing items until there is a specific client need, which results in long wait times. This issue further reinforces skepticism about whether a government-run model can effectively deliver AT in a timely manner.

PART 2. APPROPRIATE SCOPE AND TARGET USERS FOR A LOAN SCHEME

The primary focus of the AT loan scheme should be short-term and transitional needs, particularly for rehabilitation and restorative care. Stakeholders largely support individualized, tailored AT for long-term needs, rather than a loan-based approach.

Some participants suggested a buy-back model, allowing suppliers to repurchase used AT to support their revenue streams and reduce waste. While waste reduction is widely supported, some individuals raised concerns about second-

hand AT, particularly mattresses and fabric-based items, stating that many people are unwilling to accept used AT in their homes.

Concerns were raised about thin markets in rural and regional areas, where AT returns and redistribution could be costly. Participants fear that loan schemes may not adequately service these areas, leaving older individuals without access to necessary AT. There is also concern about the $15,000 cap on home modifications, with participants arguing that this is insufficient to support aging in place.

The needs of older adults vs. individuals with lifelong disabilities were also discussed. Some participants noted that the current model does not differentiate between age-related decline and lifelong disability, which can lead to AT users with disabilities being underserved. This was particularly raised by individuals who acquired disabilities before age 65 but were ineligible for the NDIS and now struggle to access high-cost, customized AT under aged care funding.

PART 3. MARKET-BASED APPROACH AND SUPPLIER PARTICIPATION

There is strong support for an open market model that fosters competition, choice, and long-term sustainability for AT suppliers. Many respondents advocate for allowing all qualified AT suppliers to participate, ensuring fair competition and regional accessibility. Concerns were raised that a government-controlled scheme could drive small suppliers out of business, leading to reduced consumer choice and service responsiveness.

A voucher or credit system was suggested to allow consumers to redeem AT from a variety of suppliers, but concerns exist about potential fraud risks and supplier verification. A digital platform was also proposed to help users browse and compare products, though participants emphasized the importance of maintaining face-to-face support for assessments and product selection. Some questioned whether LiveUp or another existing platform could be adapted for this purpose rather than developing an entirely new system.

PART 4. CONCERNS ABOUT CO-PAYMENTS AND AFFORDABILITY

Many participants raised concerns about whether co-payments or rental fees would be required for loaned AT. There was strong opposition to ongoing fees for essential AT, as this could disproportionately disadvantage older people with high support needs.

Some respondents also noted that assessments and scripting for complex AT can cost hundreds of dollars, which must be paid from individual Home Care Packages. This can lead to insufficient funds for both assessment and AT provision, especially when other health-related expenses, such as wound management, consume a large portion of the package. Participants strongly advocated for minimizing unnecessary OT assessments for low-cost, low-risk AT items to reduce financial and administrative burdens.

PART 5. EXTENDING THE SCHEME TO RESIDENTIAL CARE

There is strong support for extending the AT loan scheme to older people in residential care to ensure equitable access, facilitate continuity of care, and reduce AT waste. Many participants believe this would allow higher standards of care and better maintenance of AT, as residential facilities do not always adequately maintain existing AT.

PART 6. ADDITIONAL RECOMMENDATIONS

Stakeholders identified several additional policy gaps that should be addressed:

- Better allied health support in residential care to ensure residents receive proper AT assessments and clinical care.
- Increased home modification funding to prevent older individuals from being forced into residential care due to inadequate home environments.

- Standardising AT access between aged care and NDIS to ensure individuals with disabilities continue receiving appropriate AT support as they age.
- Consideration of the National Injury Insurance Scheme (NIIS) for over-65s to fill existing funding gaps for individuals with catastrophic injuries.
- More frequent maintenance and AT reviews (e.g., wheelchairs, orthotics, leg braces should be checked every two months).
- Clearer differentiation between long-term disability and age-related needs in the Support at Home framework.
- Additionally, participants emphasized that ATSA's final position statement should be fully referenced and include data to support an open-market approach, demonstrating how competition and private sector involvement lead to better consumer outcomes.

PART 7. KEY PRINCIPLES FOR A NATIONAL AT LOAN SCHEME

The consultation responses indicate broad support for an AT loan scheme but only within a structured, market-based model that prioritizes competition, choice, and sustainability. There is strong opposition to a centralized, government-controlled loan pool, with concerns that it could reduce service quality, limit supplier participation, and create inefficiencies. Following this, suggested principles for a national AT loan scheme include:

1. Transparency and evidence-based implementation – Require a full feasibility study, cost-benefit analysis, and evaluation of international models before implementing a national rollout.
2. Equity and integration across systems –Systems (aged care, NDIS, DVA) should be aligned to ensure fair and consistent access, maximise efficiency, allow for seamless transitions. Uniform policies, key performance indicators (KPIs), and data collection across all service systems.
3. Open market – Maintain an open-market model where individuals can select their AT provider and AT products and wraparound services. Allow all qualified AT suppliers, including small and regional businesses, to participate in the scheme to prevent monopolisation by large providers. Leverage private sector expertise to avoid excessive government overheads. Ensure participation frameworks do not disadvantage smaller businesses that provide essential community-based AT services.
4. Responsive, timely and fair access – Set clear performance measures to track and reduce delays in AT delivery, particularly in rural and regional areas. Ensure users are not required to pay ongoing rental fees for essential AT, particularly those with high support needs. A digital platform to facilitate consumer choice, supplier participation, and ease of access, while maintaining in-person support for those who need it.
5. Appropriate loan items and maintenance – Limit loan schemes to short-term, high-use, and standardized AT while ensuring customised, long-term AT remains accessible through individual funding. Provide structured funding and processes for regular maintenance of essential AT items such as wheelchairs, orthotics, and mobility devices.
6. An aged care specific scheme - Recognise the unique needs of individuals with age-related decline and disabilities. Extend the scheme to older people living in residential care to improve continuity of care and reduce unnecessary waste. Ensure access to allied health professionals for proper AT prescription, particularly in residential care settings. Ensure funding mechanisms accommodate users who require highly specialized, high-cost AT that is beyond standard loan pool offerings.

APPENDIX D: SYSTEMATIC LITERATURE REVIEW METHODOLOGY AND FINDINGS

METHODOLOGY - SYSTEMATIC LITERATURE REVIEW

A Systematic Literature Review was conducted to identify publications that included evaluations or reviews of AT loan pool services for adults.

The inclusion and exclusion criteria were developed by Perspicacious in consultation with ATSA.

The inclusion criteria were:

- Evaluations or reviews (including descriptive studies and opinion pieces) of AT loan pool services for adults.
- All publication types (e.g. magazine article, policy paper, academic research paper).
- All study design types (including opinion pieces).
- English-language publications in all countries.

The exclusion criteria were:

- Publication was in a language other than English.
- Publication did not relate to AT loan pool services for adults.
- Publication did not include an evaluation or review of AT loan pool services (e.g. they were an advertisement for an AT loan pool service).

The search terms were developed by Perspicacious in consultation with ATSA and updated following an initial wave of interviews which revealed common international terminology and names for international AT loan pool services. Search terms were then further refined to exclude the term 'water' due to the large number of irrelevant waste-water treatment/recycling hits that were being returned.

Titles and abstracts were search in the following databases:

- EBSCO (Academic Search Complete, Business Source Complete, CINAHL Complete, Medline),
- Ovid (EBM Reviews – Cochrane Database of Systematic Review, EBM Reviews – Health Technology Assessment, EBM Reviews – NHS Economic Evaluation Database, Embase Classic + Embase, Ovid Emcare, MEDLINE ALL),
- Proquest (Applied Social Sciences Index & Abstracts (ASSIA))
- Informit (Health Collection, Indigenous Collection, POLICY database from Analysis & Policy Observatory (APO))
- Brill online - Technology, Democracy and Society

The first group of topic search terms used in each database search (with minor adaptations to meet the requirements of each search platform) were:

- (assistive OR aid* OR equipment OR device OR technology OR AT)
- AND (ag#ing OR aged OR disab* OR frail OR elder* OR older person OR older people OR function*)
- AND (loan OR rent* OR lease OR refurb* OR hire OR re#use OR re#issue OR recycle)
- NOT (child* or baby or infant or water)

The second search group of service name search terms used in each database search (with minor adaptations to meet the requirements of each search platform) were:

- "Community Equipment Service" OR "Equipment Loan Service" OR "Equipment Service" OR "Nav" OR "'låne hjelpemidler"

In addition, a search of the term "Assistive Technology" was conducted on the OECD database.

A search using Google Scholar search engine was conducted using the term "equipment loan disability" and "assistive technology loan" and the first 15 pages of hits for each of these searches were included.

It is noted that further literature was identified through the interviews and consultations with stakeholders, as well as through searching the reference lists of publications identified. These further publications are not included in the Systematic Literature Review results including summary tables but were referenced in the main report, where relevant.

The classification of the study design and an assessment of the quality of evidence were undertaken in accordance with the approach of (South, 2020) which includes evidence given a very low base quality rating due to the inherent bias in the study design as it may provide valuable professional expertise and insights into the experiences, needs and preferences of people who use AT loan pool services (see Table APP.D1).

Table App.D1 Overview of classification system used to define study type and assess the quality of evidence. This table is informed by the EPPI-Centre Keywording Strategy for Classifying Education Research, the GRADE approach, and the Centre for Evidence-Based Management (CEBMa) Guideline for Rapid Evidence Assessments in Management and Organisations. (modified from (South, 2020), see references therein).

Study design/research approach	Evidence quality base grading[3]	Relevant evidence quality criteria[4]
Prospective evaluations of researcher-manipulated policy or practice		
Literature Review with systematic approaches to locating, analysing and reporting evidence.	High	Based on the PRISMA Statement criteria as well as the quality of the research evidence included in the review.
Randomised controlled trials.	High	▪ Sequence generation. ▪ Allocation concealment. ▪ Blinding of participants, personnel and outcome assessors. ▪ Incomplete outcome data. ▪ Selective outcome reporting. ▪ Other limitations.
Trials with quasi-random allocation by researcher to policy or practice experience/intervention or control group.	Medium-high	
Prospective evaluations of naturally occurring policy or practice		
Before-after/interrupted time series/cohort studies comparing policy or practice experience/intervention to control group.	Medium-high	▪ Blinding of participants, personnel and outcome assessors. ▪ Incomplete outcome data. ▪ Selective outcome reporting. ▪ Other limitations.
Before-after/interrupted time series/cohort studies with no control group.	Medium	
Retrospective evaluations of naturally occurring policy or practice		
Case-controlled studies with no repeated measurements.	Medium	▪ Blinding of participants, personnel and outcome assessors. ▪ Incomplete outcome data. ▪ Selective outcome reporting. ▪ Other limitations.
Other research approaches		
Exploration of relationships- studies examining statistical associations between different variables in order to develop hypotheses.	Low	▪ Incomplete outcome data ▪ Selective outcome reporting ▪ Other limitations
Description- studies which aim to describe a state of affairs or phenomenon and/or document characteristics (e.g. a single point in time survey).	Low	
Frameworks, policies or guidelines- documents such as handbooks, procedures and/or policy documents.	Very low	N/A - type of study design/research approach means that there is an inherently high risk of bias in any evidence/opinion presented. However, these study designs may still provide valuable professional expertise and insights into the experiences, needs and preferences of people who use AT loan pool services.
Opinion pieces- publications that reflect the opinion of an author or organisation that may reference other publications but do not provide a comprehensive or systematic review of evidence.	Very low	
Literature review with non-systematic approaches to locating, analysing and reporting evidence	Very low	

[3] Base evidence quality grading before other quality considerations regarding risk of bias and other limitations (including imprecision, inconsistency, indirectness, and publication bias) are taken into account. Note: risk of bias assessment may result in an upgrading or downgrading of the base quality rating.

[4] Quality criteria regarding risk of bias and other limitations (including imprecision, inconsistency, indirectness, and publication bias) are taken into account based on Cochrane Collaboration's 'risk of bias' tool and GRADE guidelines, unless a review where The PRISMA Statement criteria are used as a basis for quality appraisal.

FINDINGS- SYSTEMATIC LITERATURE REVIEW

The Systematic Literature Review identified 33 eligible publications from the 9,880 results from the systematic database searches. Figure APP.D1 shows a flow-chart of the publication selection process based on the PRISMA Statement flow-chart (Moher *et al.*, 2009).

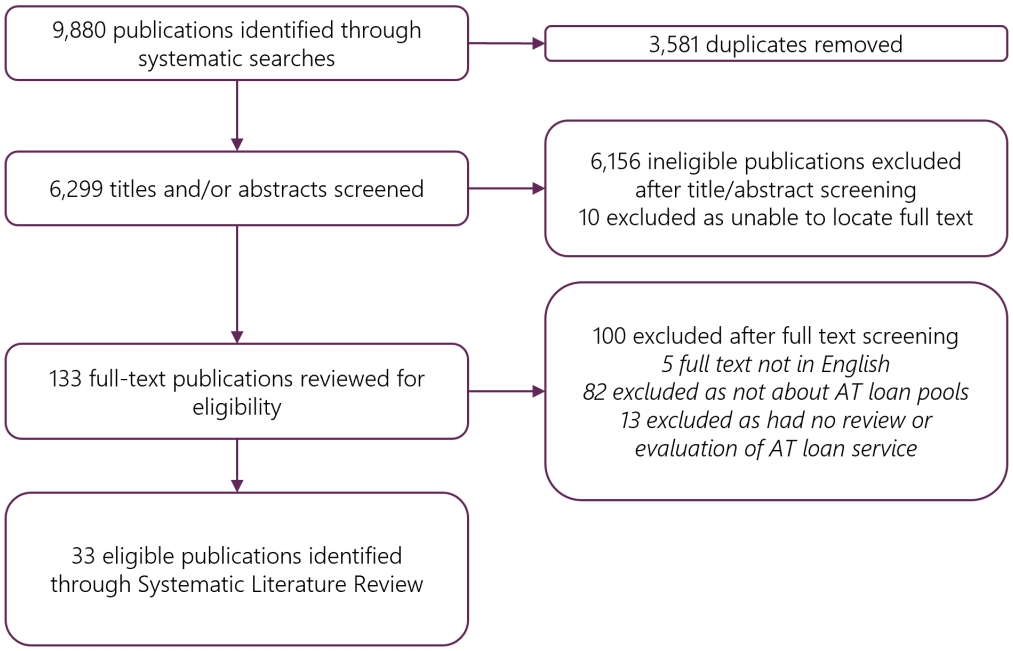


Figure APP.D1 Flow-chart of the publication selection process based on the PRISMA Statement flow-chart (Moher et al., 2009).

Section APP.D1 provides a list of the 33 publications identified as eligible from the Systematic Literature Review. The year of publication, country of the AT loan pool service that is the topic of the publication, the type of publication, study design, evidence quality and an overview of the key points related to AT loan pools from each publication are provided in section APP.A1.

Two of the included publications related to the same thesis. The 32 unique publications were:

- Published between 2000 and 2024.
- Based on AT loan pool services in England (n=25), Scotland (n=2), United States of America (n=2), Canada (n=1), New Zealand (n=1), Wales (n=1).
- Trade magazine articles (n=20), conference abstracts (n=4), peer-reviewed academic journal articles (n=4), trade magazine editorials (n=3), thesis for the degree of Doctor of Health Science (n=1).
- Opinion pieces (n=24) and descriptive studies (n=8).

All of the opinion pieces had a very low quality of evidence grading as a result of their study design. Of the 9 descriptive studies, two had very low evidence quality grading and six had a low evidence quality grading.

Section APP.D2 includes lists of publications excluded from the Systematic Literature Review by the reason for exclusion.

A narrative review of the findings of the publications identified through the Systematic Literature Review is included in the main text of the report and combined with findings from the interviews, consultations and other publications identified through the interviews and consultations with stakeholders, as well as through searching the reference lists of publications identified.

APP.D1: LIST OF PUBLICATIONS IDENTIFIED IN SYSTEMATIC LITERATURE REVIEW WITH SUMMARIES OF EVIDENCE TYPES, QUALITY AND FINDINGS

Publication	Year	Country	Type of publication	Study design	Quality of the evidence	Overview of key points related to AT loan pools
1. Berry, L. and Clarke, B. (2007) 'Nurse advisor for pressure-relieving/reducing equipment: the story so far.', Equipment Services, (2007–10), pp. 108–111.	2007	England	Trade magazine article	Opinion piece Authors are the Nurse Advisor at a local council and the Manager of the local authority Community Equipment Service [AT loan pool]	Very low	- The authors describe that between 2005-2007 there was a 64% increase in demand for equipment from the Sheffield Community Equipment Loan Service (SCELS) [an AT loan pool], but only a 17% increase in value of equipment issued. - The authors argue that this is due to the employment of a nurse advisor (rather than non-specialise SCELS equipment loan coordinators) to effectively manage and monitor the use of high-risk pressure-relieving equipment, provide training to health, community and social care staff, and advise on the use of less costly items, where appropriate, to meet patients' needs.
2. Cambridge, S. and Deakin, I. (2016) 'Independent living centres, do they represent value for commissioners? College of Occupational Therapists Conference, June 28-30, 2016', in British Journal of Occupational Therapy, pp. 93–94.	2016	England	Conference abstract	Opinion piece Authors are the Principal OT at a local council and the Manager of the local authority Community Equipment Service [AT loan pool]	Very low	- The authors describe that following unsustainable spends on the equipment in 2011, commissioners of the Community Equipment Service [an AT loan pool] in Devon County Council increased staffing at the Independent Living Centre (ILC). - The ILC reviewed clinical reasoning of prescribers, offered alternative solutions and searched return stock for re-issue and delivered training on the appropriate prescription of high volume items such as pressure cushions. - The authors note that the total annual staffing cost of the ILC is £80,000 with actual savings of £74,000 achieved through prevention of spend using non-equipment solutions, maximising re-issue of stock and targeted spend using less expensive alternative equipment.
3. Cambridge, S. and Deakin, I. (2016) 'Saying no to equipment in care homes? Good for the budget or a step too far?', College of Occupational Therapists Conference, June 28-30, 2016', in British Journal of Occupational Therapy, pp. 94–94.	2016	England	Conference abstract	Opinion piece Authors are the Principal OT at a local council and the Manages of the local authority Community Equipment Service [AT loan pool]	Very low	- The authors describe that following a large amount of Devon County Council Community Equipment Service (CES) [an AT loan pool] stock remaining beyond the agreed 6-week loan period in care homes [residential aged care], the CES issued a policy clarification in 2015 care homes were expected to provide AT. - The authors note that it has not been necessary to purchase any new profiling beds or dynamic alternating mattresses due to the volume of equipment collected and significantly reduced demand has reduced spend of the CES by £100,000 a month.

4. Chester M. (2020) 'What is the Experience of Providing, Receiving and Using Short-Term Loan Equipment?', New Zealand Journal of Occupational Therapy, 67(1), p. 45. (Thesis Abstract) 5. Chester, M. (2017) What is the experience of providing, receiving and using short-term loan equipment? Auckland University of Technology. (Thesis)	2020	New Zealand	Thesis for degree of Doctor of Health Science	Descriptive study Interviews to explore the lived experiences of short-term equipment prescription by five Occupational Therapists (OTs) and short-term equipment loan by eight adult patients from the acute wards of a metropolitan hospital. Author is an OT who has been Professional Leader at a District Health Board	Low	- As motivation for, and background to the study, the thesis author referenced an audit of a hospital in New Zealand had shown that 14% of short-term loan equipment provided was unused, which resulted in significant unnecessary costs related to hospital AT hires from an independent supplier (the procurement model to provide AT loans to patients) and also OT resources. - The thesis describes the history of legislation changes relevant to AT provision including short (defined as less than 6 months) and long-term AT loans in New Zealand. - The thesis includes a literature review on the experiences of short-term AT use and non-use from the perspectives of OTs and patients. - The thesis concluded that participants highly appreciated short-term loan equipment after discharge from hospital. - "The study findings are presented under two overarching themes: what did work for patients and occupational therapists, and what did not work for patients and therapists. Openness to each other, time to understand each other, and having confidence in each other worked for patients and therapists; whereas a lack of a connection between patient and therapist, an inflexible system, and occupational therapists' practice dictated by the employer's goals contributed to the system not working."
6. Clark, L. and Greenslade, P. (2016) 'Reclaiming our status: occupational therapists are experts!', College of Occupational Therapists Conference, June 28-30, 2016', in British Journal of Occupational Therapy, pp. 62–62.	2016	England	Conference abstract	Opinion piece Authors are OTs at a local council ILC	Very low	- The authors of this conference abstract argue that Deveon County Council Independent Living Centre (ILC) Occupational Therapists (OTs) "work with specialist services including continence, tissue viability and 24 hour postural care teams to establish a more informed approach to equipment provision that benefits service users, commissioners, colleagues and equipment designers."
7. Cohen, L.J. and Perling, R. (2015) 'Barriers to Mobility Device Access.', Topics in Geriatric Rehabilitation, 31(1), pp. 19–25.	2015	United States of America	Peer-reviewed academic journal article	Descriptive study Structured interviews with 49 people (family/caregivers and patients) requesting AT and services from an	Low	- This study explores the reasons that people sought AT from a reuse program. - The authors describe that, in the United States of America, Assistive technology reuse programs fill a niche needed to provide devices and services for individuals who have inadequate insurance or who are uninsured. - The key finding as stated by the authors was that the majority of people who sought AT from the reuse program did have insurance that would cover their AT needs and that they needed services to help understand or navigate the process to access their insurance benefits.

				AT reuse program (loan pool) Authors are Rehabilitation & Technology Consultants and an employee at a Select Specialty Hospital		- Another reason people sough the service was because their insurance did not cover maintenance and repairs of their AT and the could not afford to pay for these out of pocket.
8. Connolly R (2005) 'Service development. Redeveloping the community equipment service -- the ups and downs.', Equipment Services, (2005–04), pp. 8–14.	2005	England	Trade magazine article	Opinion piece Author is the Team Manager involved in development of local authority Community Equipment Service [AT loan pool]	Very low	- The author reflects on his process redeveloping the Warrington Borough Council and Warrington Primary Care Trust Community Equipment Scheme [AT loan scheme], including service development, the building (including sanitisation equipment), transport, administration, staffing, policy and equipment. - The author describes the difficulties in obtaining funding for the quality of building required and the specialist warehousing logistics knowledge required and costs to refurbish existing premises. - The author describes the process of working with stakeholders to develop a budget, list of stock items, and pathways for access to the loan pool. - The author describes the importance of communication with staff and contractors to ensure everyone understands aims, issues and decisions to be made.
9. Dyne K (2009) 'New ICES service brings a happy new year to Hampshire...integrated community equipment service', Equipment Services, 2009–01, pp. 22–23.	2009	England	Trade magazine article	Opinion piece Author is the Manager of local authority Community Equipment Service [AT loan pool]	Very low	- The author provides examples of clients who have benefitted from equipment provided by the Hampshire local authority Integrated Community Equipment Service (ICES) [an AT loan pool]. - The author describes how recent funding from the Council and Primary Care Trust will expand and improve the service. - The author describes an OT Direct call service that provides advice to older people on simple equipment they can get from the ICES and fit themselves, without need for a full assessment by an OT and installation by ICES staff or an approved supplier.
10. Equipment Services Editorial (2006) 'Traceability: the practicalities.', (2006–10), pp. 74–77.	2006	England	Trade magazine Editorial	Opinion piece Editorial that presents the experiences of	Very low	- The Editor explores track and trace advances in local authority Integrated Community Equipment Services (ICES) [AT loan pools].

				three local authority Community Equipment Service [AT loan pool] Managers		- The necessity for track and trace through barcoding of AT loan pool items was described as been driving by the increased accountability of stores when manufacturer recalls of AT were issued. - The benefits of being able to accurately track AT and its use in budget forecasting was raised.
11. Equipment Services Editorial (2011) 'Launch of Code of Practice Scheme for community equipment', (2011–10), p. 104.	2011	England	Trade magazine Editorial	Opinion piece Editorial that cites leaders in disability advocacy in England	Very low	- The Editor presents support for the 2011 launch of the CECOPS Code of Practice scheme for Community Equipment Service [AT loan scheme] providers.
12. Equipment Services Editorial (2006) 'Conference. Equipment Services: Delivering the Promise? NAEP conference 2006.', (2006–10), pp. 64–67.	2006	England	Trade magazine Editorial	Opinion piece Editorial that provides overview of key speakers addresses at a Community Equipment Service [AT loan pool] services conference	Very low	- The Editor provides an overview of key speakers' presentation at a Community Equipment Service [AT loan pool] services conference. - One presentation explored the importance of appropriate cleaning, disinfection, sterilisation and maintenance of AT to prevent methicillin-resistant *Staphylococcus aureus*. - One presentation spoke about how AT loan pool KPI of 7 days from request to installation of AT did not align with hospital discharge targets. - Another highlighted that procurement of AT must be carefully considered to prevent unnecessary spends.
13. Foster, M. (2011) 'Building upon the integration of equipment services.', Equipment Services, (2011–01), pp. 12–16.	2011	England	Trade magazine article	Opinion piece Author is the Operational Manager at a local authority Community Equipment and Wheelchair Service [AT loan pool]	Very low	- The author reflects on the local authority NHS Rotherham Equipment and Wheelchair Service [AT loan pool] shift towards undertaking all maintenance, repair, cleaning and sanitisation of AT in-house rather than outsourcing these functions as it resulted in increased costs and delays. - The author reflects on the specialise knowledge related to each piece of equipment, in particular wheelchairs, required to move the maintenance, repair, cleaning and sanitisation of AT in-house.
14. Hampson, C. (2013) 'Benchmarking where Gloucestershire's equipment services fit nationally.', Equipment Services, (2013–04), pp. 34–35.	2013	England	Trade magazine article	Descriptive study Author who is the Manager at an Integrated Community	Very low Limited and selective data reporting of	- The author reflects that key findings of the review of by an independent consultant the Gloucestershire Integrated Community Equipment Service [AT loan pool] to inform a new service specification.

				Equipment Service [AT loan pool] service reports on key findings from a review of their service by an external consultant	key findings by service reviewed	- Key findings reported included the need for a training program and more robust authorisation process for AT, especially for high cost/high risk AT and the option to link with other funding schemes who fund AT for complex health needs.
15. Hardy, N. and Hughes, D. (2008) 'Introduction of a fast track/trusted assessor service project.', Equipment Services, (2008–10), pp. 117–117.	2008	England	Trade magazine article	Opinion piece Authors are Team Manager at Disability Resources Team and Manager of Community Equipment Services [AT loan pool]	Very low	- The authors report their experiences of a project to develop a fast-track assessment service at the Stoke on Trent Community Equipment Service for basic AT. - The fast-track assessment service included supporting self-assessment and assessment by trained in-house trusted assessor technician for basic equipment rather than having to have a full assessment by an OT, which resulted in significant wait times and increased costs. - The request for a fast-track assessment is made by an OT and the trusted assessor then visits the client's home, provides the delivery, installation and training in any AT provided, and identifies if there is need for a more comprehensive assessment by an OT.
16. Henry, A. (2007) 'Community equipment service integration: making the move in Wales.', Equipment Services, (2007–07), pp. 74–76.	2007	Wales	Trade magazine article	Opinion piece Author is Disability Equipment Store [AT loan scheme]	Very low	- The author reflects on their experiences regarding the integration of AT loan scheme integration in Wrexham County Borough Council. - The important of IT infrastructure, including the ability to track and trace all items through barcoding for resource-efficient stock management, KPI reporting, and forecasting was highlighted. - The author also reflects on how the greater purchasing power of integrated services can only be realised after a comprehensive review of suppliers by an expert panel.
17. Jackson, D. (2015) 'An acute view.', Equipment Services, (2015–07), p. 72.	2015	England	Trade magazine article	Descriptive study OT Clinical Specialist in a hospital Palliative Care Team reports a single case study	Very low Single case study	- The author reports a single case study where the provision of 'a bed, mattress, commode etc.' from Worcestershire Community Equipment Service [an AT loan service] enabled a patient to die at home the next day rather than in hospital.

18. Jefferies, S. (2015) 'Using an occupational therapy mobile assessment unit.', Equipment Services, (2015–01), pp. 8–9.	2015	England	Trade magazine article	Opinion piece Author is the OT Team Leader for a local authority Integrated Community Equipment Service [AT loan pool] Mobile Assessment Unit	Very low	- The author describes the Worcestershire local authority Integrated Community Equipment Service [AT loan pool] Mobile Assessment Unit comprising two OTs, on OT technician and two administrative assistants. - The Mobile Assessment Unit visits people in their homes and can provide simple equipment immediately after a simple assessment, or refer for a more complex assessment by an OT.
19. Johnson, P. (2008) 'Service provider and retailer's view of the pilots.', Equipment Services, pp. 112–114.	2008	England	Trade magazine article	Descriptive study Author is Contract Co-ordinator of a service that is both a retailer of AT and provides a local authority Community Equipment Service [AT loan pool]	Low Author provides data on services provided under the retail model of AT prescription from the service he is employed at	- The author reflects on their experiences working for Ross Care which is both a local authority Community Equipment Service [AT loan pool] supplier and a retailer of AT for West Cheshire. - Ross Care is involved in the National Government's Transforming Community Equipment Services retail model trial which involved the provision of a prescription for AT which could be redeemed at any participating retailer. - The author presented data on the cost and number of products issued under the retail scheme. - The author presents data showing that prescriptions were most often (89.7% of the time) redeemed by someone other than the AT user, which they concluded raised questions as to the extent of the benefits in terms of user choice and control. - The author states that the lack of profit margins resulting from prescription sales are not sufficient to cover the costs of AT provision under the retail model so they consider that "it is doubtful that retailers on a nationwide basis will be interested in promoting the retail model unless there are significant increases to the current National Tariffs or the prescription redemption fee." - The author states "We have estimated that implementing the retail model in West Cheshire will increase costs by at least 15% and will deprive service users (if it is their wish) of the opportunity of having the smaller equipment delivered to their homes and collected from them when no longer required. [...] Our belief is that a model is required that offers real choice which includes the retail model as an option. The model must also recognise the large savings that can be generated (even on the smaller items) from recycling, as well as the importance of recycling to the environment."

20. Lambie, W. (2013) 'Bedfordshire and Luton partnership earns a top national award.', Equipment Services, 2013–04, pp. 33–33.	2013	England	Trade magazine article	Opinion piece Author is Service Development Officer at the National Association of Equipment Providers (NAEP)	Very low	- Th author reflects on an award provided to the Contract Monitoring Manager at the Bedfordshire & Luton local authority Community Equipment Service [AT loan pool]. - The author reflects that the award was based on the description of the commissioning process which involved the "five funding partners (NHS Luton, NHS Bedfordshire, Bedford Borough, Central Bedfordshire and Luton Borough Councils) were brought together to review the current service, make improvements to the contract and then retender the service. The revised service started in April with significant financial savings, longer operating hours to support hospital discharge and additional services within the specification at a lower cost."
21. Mahmood, P. et al. (2024) 'Bridging the gap: challenges and opportunities of assistive technology loan library systems for individuals with intellectual disabilities in the United States.', Disability & Rehabilitation: Assistive Technology, pp. 1–10.	2024	United States of America	Peer-reviewed academic journal article	Descriptive study Interviews and questionnaire involving 19 AT professionals and users	Low	- This study explores the view of 19 AT professionals and users of the Community Living and Support Services (CLASS) and Technology For Our Whole Lives (TechOWL) assistive technology loan libraries in Pennsylvania which provides short-term loans to users so they can trial AT before buying. - The authors conclude: •" Assistive Technology (AT) loan libraries significantly enhance access to vital technologies for individuals with intellectual disabilities, enabling trials before purchase. • Challenges like limited device variety, extended wait times, and a need for improved staff training must be addressed to optimize loan libraries' effectiveness. • Enhancements in policy, funding, and device availability are crucial to ensure equitable AT access and support rehabilitation goals. • Collaboration between AT professionals, users, and policymakers is essential for developing responsive, user-centered AT loan library services. • Strengthening awareness and education about AT options can empower users and caregivers, fostering greater independence and participation in daily activities."
22. Moran, B. (2008) 'Transforming community equipment: transformation or evolution.', Equipment Services, (2008–01), pp. 6–7.	2008	England	Trade magazine article	Opinion piece Author is Service Manager at a local authority Community Equipment	Very low	- The author reflects on the National Government's Transforming Community Equipment Services (TCES) initiative. - The author critiques the lack of economic modelling underpinning the TCES initiative. - It is noted that even if a national or regional distribution centres are established for higher cost items, local distribution partners will still be needed to meet same-day hospital discharge targets.

				Partnership [AT loan pool]		- The author states "We collect between 55% and 65% of items delivered every month. Some of our stock goes out at well over 100% in a year because of re-issue and returns. The book value of the 33 000 items we delivered last year was in excess of £3.75 million, but the actual costs of equipment purchase was around a quarter of that, reflecting the impact of recycling on efficient provision." -The author noted the importance of freeing up OT time for reablement initiatives rather than using it on the prescription of simple equipment
23. Morris N (2005) 'Development of the common information system for Borders Ability Equipment Service.', British Journal of Healthcare Computing & Information Management, 22(1), pp. 20–22.	2005	Scotland	Trade magazine article	Opinion piece Author is Information Services Manager at a local authority Ability Equipment Service [AT loan pool]	Very low	- The author reflects of his experience of developing a new IT system following the integration of the Scottish Borders Council and NHS Borders equipment loan services to form Borders Ability Equipment Service. - The author notes that without a functioning IT system and tracking of individual items, equipment was issued and never able to be recovered. - The author noted the need for the IT system and loan pool database to be accessible to staff from both organisations.
24. O'Hagan, J. (2015) 'East Lancashire Community Equipment Service achieves accreditation first.', Equipment Services, 2015–07, pp. 86–86.	2015	England	Trade magazine article	Opinion piece Author is Manager of a local authority Community Equipment Service [AT loan pool]	Very low	- The author is reporting on East Lancashire Community Equipment Service to be the firs tot receive the Community Equipment Code of Practice Scheme (CECOPS) accreditation. - It is noted that, in 2014, the service achieved a recycle rate of equipment of 75%.
25. Russell, D. (2011) 'The bigger picture: the NAEP conference 2011.', Equipment Services, (2011–10), pp. 106–111.	2011	England	Trade magazine article	Opinion piece Author is publisher of the Homecare Industry Information Service	Very low	- In this summary of the National Association Equipment Providers (NAEP) 2011 key speakers, the author reflects on the presentation by Brian Donnelly who authored the Code of Practice for Community Equipment. - The author questioned whether the industry would accept a Code developed by an individual and what uptake would be.
26. Sandiford, P. (2006) 'Equipment loan management: partnering for success.', Equipment Services, 2006–04, pp. 28–29.	2006	England	Trade magazine article	Opinion piece Author is Operations Manager for local authority Community Equipment Service [AT loan pool]	Very low	- The author reflects on experiences of selecting a supplier of a new IT system at the Salford City Council Integrated Community Equipment Store (ICES) [AT loan pool]. - The author reports that they service a "population of approximately 220 000, meeting the needs of 46 000 direct clients by delivering 2600 and collecting 1400 loans each month."

						- The author highlights the importance of track and trace in inventory management and to support ongoing maintenance and management of AT.
27. Sandiford, P. (2007) 'Salford ICES: embracing wheelchair service provision.', Equipment Services, 2007–01, pp. 22–23.	2007	England	Trade magazine article	Opinion piece Author is Operations Manager for local authority Community Equipment Service [AT loan pool]	Very low	- The author reflects on integrating the Integrated Community Equipment Service (ICES) and wheelchair service AT loan pools into a single service. - The author notes that wheelchair loan services were historically separate to other AT loan services due to them being solely funded by the NHS, while ICES were jointly funded by NHS and local councils. - The author noted that a motivator for the integration of the two services was to reduce the significant wait times for standard wheelchairs, which had reached 30 weeks at one point, down to 4-8 weeks after integration with 80% of clients leaving the clinic on the day of assessment with a wheelchair. - They noted that integration of the two services simplified the process for assessments by OTs and prescriptions for relevant AT. - They noted that integrating the two services reduced operational overheads. - The author reflects on the success of their IT software which had been in place since 2002 and allowed individual barcoding and tracking and tracing of AT.
28. Seabrook, R. (2016) 'The impact of occupational therapists on outsourced community equipment service.', in British Journal of Occupational Therapy, p. 111.	2016	England	Conference abstract	Opinion piece Authors are OTs at a private provider of local authority Community Equipment Services [AT loan pools]	Very low	- The author reflets on the appointment of an OT as Clinical Services Lead at Nottingham Rehab Services (NRS), a private provider that held 14 contracts across England and Wales to deliver local authority Integrated Community Equipment Services (ICES) [AT loan pools] at the time of the conference. - The author reflects that the appointment of the OT as Clinical Services Lead of a team of 10 OTs led to clients receiving the right equipment at the right time, less failed delivers, specialist seating being delivered fast (especially for early childhood and end of life care) and advice and choice for private purchases of daily living aids.
29. Swift, M. (2005) 'Guidelines for the purchase of an IT system.', Equipment Services, 2005–04, pp. 4–4.	2005	England	Trade magazine article	Opinion piece Author is Manager for local authority Community Equipment Service [AT loan pool]	Very low	- The author reflects on the experiences setting up a user group to purchase a new IT system for the Chorley and South Ribble Community Equipment Service (CES) [AT loan pool]. - The author reflects that the priority was a web-based system as it could be access by those working remotely/in the homes of clients. - The ability to monitor stock and and control budgets was also highlighted.
30. Vincent, C. (2000) 'Towards the Development of a Policy of	2000	Canada	Peer-reviewed	Descriptive study	Low	- The author describes that the background to this project was the disjointed system of AT loan pools [referred to as programmes for recycling AT] by provinces

Recycling Assistive Technology for People Living with a Disability.', British Journal of Occupational Therapy, 63(1), pp. 35–43.			academic journal article	22 people in the AT industry, community and health sectors were individually interviewed. 11 of these informed case studies which they then provided input into.		in Canada, with few having institutionalised programme for AT which led to a range of issues. - Th author noted that it was difficult to evaluate the quality of AT loan pools due to the lack of established norms for this purpose. - The author presents a model they developed in an earlier publication which maps the stakeholders involved in AT re-use and recycling in Canada. - The author presents a model for an effective re-use policy for AT in Quebec comprising: technocratic elements, professional elements, professional incentives, management incentives, commercial elements, ecological elements, user satisfaction elements, and political elements. - "One of the propositions from this research is to favour the emergence of integrated and intersectoral regulation concerning AT without the domination of any one of the commercial, health and community sectors. This partnership could be led by the ministry of health and social services in Quebec through regional offices." - The importance of OTs in promoting the appropriate and safe re-use of AT was highlighted.
31. Weatherall, M. (2005) 'Case study. The British Red Cross and the creation of Equipment Loans Management System.', Equipment Services, 2005–10, p. 11.	2005	England	Trade magazine article	Opinion piece Author is the Product Manager at a charity provider of local authority Community Equipment Services [AT loan pools]	Very low	- The author explores experiences of purchasing a new IT system for the British Red Cross after it was contracted to provide the Community Equipment Services in Leicester City, Leicestershire, and Rutland local authorities. - They described the result was the creation of a product that is now used by other services and includes functions relating to ordering, stock management, service tracking, purchasing and distribution, and the ability for multiple users to access the system.
32. Weatherall, M. (2013) 'ELMS2 and Locala: a successful partnership in Kirklees.', Equipment Services, 2013–10, pp. 100–101.	2013	England	Trade magazine article	Opinion piece Author is the Product Manager at Ethitec – a company that developed software used by Community	Very low	- The author reflects on working at a software provider and working with the social enterprise provider Locala to implement a new IT system for the Kirklees local authority Integrated Community Equipment Service (KICES) [AT loan pool]. - The author cites the KICES logistics manager who said that their 7-day delivery target went from 70% to 98% after implementation of the new IT system. - The ability for community nurses to order directly through the online interface while in the community was noted.

				Equipment Services [AT loan pools]		
33. Williamson K. et al. (2023) 'Overlooked and under-evidenced: Community health and long-term care service needs, utilization, and costs incurred by people with severe obesity', Clinical Obesity, 13(2), p. e12570.	2023	Scotland	Peer-reviewed academic journal article	Descriptive study Researcher-administered questionnaire and health record verification	Low	- In this study, the researchers explore service use by 25 people with obesity using community health and long-term-care services including Community Equipment Services [AT loan pools] in Scotland. -The researchers noted that verifying community Occupational Therapist and Social Workers duration of service contact was difficult as much input is indirect, for example in sourcing AT and that little research literature exists on the estimation of staff time in such roles. - 23 of the 25 participants had AT provided by the local authority Community Equipment Services [AT loan pools]. - Data analyses showed that OT input into aged care was often episodic, ending once the AT or home modification was supplied, but sometimes also extending for the duration of the home care 'package of care', ranging from 1 to 132 (mean 22) months.

APP.D2: LIST OF PUBLICATIONS EXCLUDED FROM THE SYSTEMATIC LITERATURE REVIEW BY REASON FOR EXCLUSION

EXCLUDED BECAUSE NOT ABOUT AT LOAN POOLS

Publication
1. Araujo de Carvalho, I. et al. (2017) 'Organizing integrated health-care services to meet older people's needs.', Bulletin of the World Health Organization, 95(11), pp. 756–763.
2. Anarde S. (2019) 'Home sweet home: Aging in place in rural America', Generations, 43(2), p. 17 EP – 23.
3. Armour, P. et al. (2024) 'Projections of Disability in the Department of Defense Workforce Through 2031: Estimating Future Assistive Technology Requirements for Department of Defense Civilian Employees and Service Members.', Rand health quarterly, 11(4), p. 5.
4. Bamer, A.M. et al. (2010) 'Frequency of purchase and associated costs of assistive technology for Washington State Medicaid program enrollees with spina bifida by age.', Disability and health journal, 3(3), pp. 155–161.
5. Banaghan, M. (1995) 'Outsourcing in the big league. (cover story)', BRW, 17(39), p. 93.
6. Blanco, J.Z. and Lucrédio, D. (2021) 'A holistic approach for cross-platform software development.', Journal of Systems & Software, 179, p. N.PAG-N.PAG.
7. Breeze, E. et al. (2004) 'Association of quality of life in old age in Britain with socioeconomic position: baseline data from a randomised controlled trial.', Journal of epidemiology and community health, 58(8), pp. 667–673.
8. Caldwell, J. et al. (2022) 'Experiences of individuals self-directing Medicaid Home and Community-Based Services during COVID-19.', Disability and health journal, 15(3), p. 101313.
9. Campolieti, M. (2015) 'Forecasting Applications to Disability Insurance Programs: Evidence for the Quebec Pension Plan Disability Program.', Canadian Public Policy, 41(3), pp. 223–240.
10. Claus, D. et al. (2023) 'Needs of an uninsured equity-deserving minority patient cohort with physical disabilities during the first wave of the COVID-19 pandemic.', Frontiers in rehabilitation sciences, 4, p. 1000838.
11. Cole, C. et al. (2019) 'An assessment of achievements of the WEEE Directive in promoting movement up the waste hierarchy: experiences in the UK.', Waste management (New York, N.Y.), 87, pp. 417–427.
12. Cooper, H.M. et al. (2015) 'Gold Coast Integrated Care Shared Care Record.', International Journal of Integrated Care (IJIC), 15, pp. 107–109.
13. Costa-de Lima, K. et al. (2015) 'Effectiveness of intervention programs in primary care for the robust elderly.', Salud Pública de México, 57(3), pp. 265–274.
14. Daher H. and Flessa S. (2010) 'Microfinance as a tool for financing medical devices in Syria. An assessment of needs and a call for further research', Journal of Public Health, 18(2), p. 189 EP – 197.
15. De Figueiredo Jr., R.J.P. and Weingast, B.R. (2005) 'Self-Enforcing Federalism.', Journal of Law, Economics & Organization, 21(1), pp. 103–135.

16 DiStefano, M.J. et al. (2022) 'Innovation in the United Sates health-care system's organization and delivery', School of Public Policy Publications, 15(2), pp. 1–27.

17. Edie, J. (2020) 'Selection of hospital mattress for the medical-surgical nursing units that would prevent pressure injuries and promote microclimate control for our patients. Scientific and Clinical Abstracts From WOCNext 2020 Reimagined, June 5-7, 2020.', in Journal of Wound, Ostomy & Continence Nursing, pp. S40–S40.

18. Essue B.M. et al. (2012) 'How are household economic circumstances affected after a stroke? the psychsocial outcomes in stroke POISE study', in International Journal of Stroke. (STROKE 2012 Conference - A Combined Event of the Stroke Society of Australasia 2012 Annual Scientific Meeting and the 8th Smart Strokes Australasian Nursing and Allied Health Stroke Conference. Sydney, NSW Australia.), p. 36.

19. Ewart, I.J. and Harty, C. (2015) 'Provision of Disability Adaptations to the Home: Analysis of Household Survey Data', Housing Studies, 30(6), p. 901.

20. Garforth, A. (2015) 'Equipment Provision. Relocating the Leeds Community Equipment Service.', Equipment Services, (2015–01), pp. 16–16.

21. Gilman, K. (2014) 'Lessons from the trenches: How to make self-employment work for people with disabilities.', Work, 48(1), pp. 137–140.

22. Gitlin LN, Miller KS, and Boyce A (1999) 'Bathroom modifications for frail elderly renters: outcomes of a community-based program.', Technology & Disability, 10(3), pp. 141–149.

23. Gitlow, L. et al. (2012) 'Assessing Assistive Device Needs of Community Dwelling Older Adults in Tompkins County.', Physical & Occupational Therapy in Geriatrics, 30(4), pp. 368–382.

24. Gola, A.B. et al. (2020) 'Healthcare utilization and monetary costs associated with agitation in UK care home residents with advanced dementia: a prospective cohort study', International Psychogeriatrics, 32(3), pp. 359–370.

25. Golden, R.L. et al. (2019) 'Connecting Social, Clinical, and Home Care Services for Persons with Serious Illness in the Community.', Journal of the American Geriatrics Society, 67, pp. S412–S418.

26. Hawthorne, K.H. and Richards, L. (2017) 'Personal health records: a new type of electronic medical record.', Records Management Journal, 27(3), pp. 286–301.

27. Heiden E. (2019) 'Mobility independence: Enabling movement to improve function at home. Canadian Stroke Congress, 2019. Ottawa, ON Canada.', in International Journal of Stroke, p. 27.

28. Hillman J.S. (1988) 'Aids for low vision in the elderly', British Medical Journal, 296(6615), p. 102 EP – 103.

29. Hoveling T. et al. (2024) 'Circular economy for medical devices: Barriers, opportunities and best practices from a design perspective', Resources, Conservation and Recycling, 208((Hoveling, Svindland Nijdam, Monincx, Faludi, Bakker) Delft University of Technology, Industrial Design Engineering, Netherlands), p. 107719.

30. Govindan, K. et al. (2012) 'Analysis of third party reverse logistics provider using interpretive structural modeling', International Journal of Production Economics, 140(1), pp. 204–211.

31. Ikegami, N. (1997) 'Public long-term care insurance in Japan.', JAMA, 278(16), pp. 1310–1314.

32. Izlar, D.J. (2021) 'If We Just Plant the Seed': Community Technology Centers, Community Organization, and Ecosocial Justice. Ph.D. University of Georgia.

33. Jarczyk, R. (2011) 'Integration in action: a view of transformation.', Equipment Services, 2011–01, pp. 28–29.

34. Karmakar, S. and Das, P. (2022) 'An economic production quantity model with refurbishment policy in dual-channel logistics.', Journal of Cleaner Production, 377, p. N.PAG-N.PAG.

35. Keay, S., McCarthy, J.P. and Carey-Smith, B.E. (2015) 'Medical equipment libraries: implementation, experience and user satisfaction.', Journal of Medical Engineering & Technology, 39(6), pp. 354–362.

36. Keenan, C. et al. (2021) 'Accommodation-based interventions for individuals experiencing, or at risk of experiencing, homelessness.', Campbell systematic reviews, 17(2), p. e1165.

37. Knapp, B. (1998) 'Equipment Specs: How to Get What You Pay For.', World Wastes, 41(9), p. 32.

38. Künn, S. and Palacios, J. (2024) 'Health implications of housing retrofits: Evidence from a population-wide weatherization program.', Journal of Health Economics, 98, p. N.PAG-N.PAG.

39. Kwame Addae-Dapaah and Wong Khei Mie, G. (2002) 'Growing Old Affordably. (Cover story)', Innovation, 3(2), pp. 24–25.

40. Lansley P, McCreadie C, and Tinker A (2004) 'Can adapting the homes of older people and providing assistive technology pay its way?', Age & Ageing, 33(6), pp. 571–576.

41. Lee J.M.G. et al. (2020) 'Health-seeking behaviour of the elderly living alone in an urbanised low-income community in Singapore', Singapore Medical Journal, 61(6), p. 260 EP – 265.

42. Malchesky, P.S. et al. (1995) 'Reprocessing of reusable medical devices.', ASAIO journal (American Society for Artificial Internal Organs : 1992), 41(2), pp. 146–151.

43. Martin, B. (2014) 'Isle of Wight Integrated Community Equipment Service leading the way.', Equipment Services, pp. 66–67.

44. McCartney, G., Hensher, M. and Trebeck, K. (2023) 'How to measure progress towards a wellbeing economy: distinguishing genuine advances from "window dressing".', Public health research & practice, 33(2).

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48. Orellano-Colón, E.M. et al. (2018) 'Assistive technology unmet needs of independent living older Hispanics with functional limitations.', Disability and rehabilitation. Assistive technology, 13(2), pp. 194–200.

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50. Petersen, M. and Aplin, T. (2023) 'Exploring Older Tenants' Healthy Ageing in Privately Rented Homes', Australian Social Work, 76(1), pp. 100–112.

51. Pinheiro, A.M. et al. (2024) 'Regulatory landscape, risks, and solutions for refurbished medical devices: a comparative analysis in the US, EU, Malaysia, and Ghana.', Expert review of medical devices, 21(9), pp. 819–828.

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