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## **A European Perspective on the Service Delivery Systems for Assistive Technology - Differences and Similarities Between Latvia and Sweden.**

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A European perspective on the service delivery systems for assistive technology: differences and similarities between Latvia and Sweden



The service delivery systems for assistive technology in Latvia and Sweden (running head)

## **Abstract (100–250 words)**

Introduction: National laws and regulations on service delivery systems (SDS) for assistive technology (AT) in Europe aim to support the activity and participation of people with disabilities. The aim of this paper was to study similarities and differences in the SDS for AT of one Eastern and one Western EU member state. The legislation and regulations, and their operationalization were described from the perspective of key actors, with a focus on the ageing population. Method: Semi-structured interviews (N=14) were conducted in Sweden and Latvia. The informants had various professional backgrounds and organizational roles, and represented different areas of work. Findings: Similarities found were connected to legislation and policy, the aim of AT provision, the growth of a private sector and how financial resources affect the SDS. Differences were related to the availability of AT, and to how, and for and by whom the devices were provided, with Latvia prioritizing certain groups over others and excluding older people. In Latvia, despite it not being stated in the legislation, a medical perspective on AT provision was applied, whereas in Sweden, in congruence with the legislation, the perspective was explicitly biopsychosocial. Conclusion: Despite similarities on the legislation and policy level, interpreted based on the perceptions of professionals there are marked differences between Latvia and Sweden in the operationalization of the SDS of AT. To support activity and participation for the ageing population, the services connected to AT need to be carefully thought out and executed, making efficient use of financial resources and professional competencies.

Key words: active ageing, comparative study, mobility devices, social exclusion

## **Introduction**

The term assistive technology (AT) denotes equipment or devices used to support overall health in terms of activity and participation in everyday life for older people and people with disabilities. In many European countries AT has traditionally been supplied by national healthcare or social services systems (European Commission [EC] 2003; Nordic Centre for Rehabilitation Technology [NUH] 2007; Steel & de Witte 2011). Even though the formal structures for AT supply differs across Europe, in many countries there are on-going changes regarding the Service Delivery Systems (SDS) for AT. There are several reasons for these changes besides demographic causes, for example, constraints and the increased importance of user involvement in the process of AT supply (Estreen 2010; Ripat & Booth 2005). In times of transformation of SDSs, it is important to study such developments, since access to AT is closely linked to independent living and affects the ability of older people and people with disabilities to be active and participate in everyday life (Skymne et al. 2012; Wressle & Samuelsson 2004).

Promoting active ageing has become one way for policymakers to handle the increasing ageing population in Europe and in the Western world generally. Active ageing is a widely discussed and widely used concept, and the most accepted definition comes from the Ageing and Life Course programme of the World Health Organization (WHO): “Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age” (World Health Organisation 2002). These three areas – health, participation and security – can be understood as older people’s opportunities to enjoy physical health, mental health and social well-being, and to participate in an array of activities in social, economic, cultural, spiritual and civic affairs, in safe and secure physical and social environments. According to the Active Ageing Index (AAI) (Zaidi et al. 2012), three Nordic countries – Sweden, Denmark and Finland – are ranked at the top within the

European Union (EU) for opportunities for active ageing. For the specific domains “independent living” and “capacity for active ageing”, the Nordic countries are ranked among the top seven Western EU member states, which also include the Netherlands, the UK and Ireland. While at the bottom of the ranking list can be found many of the Eastern EU member states. The AAI was developed to help policymakers improve policies to support active ageing. To fulfil the objective of improving these policies, more detailed information on societal factors that affect opportunities for active ageing is needed – for example, how SDS for AT and resulting opportunities for activity, participation and independence differ between Eastern and Western EU member states.

One of the main aims of the EU policy on health issues is to improve public healthcare for European citizens (European Union 2012). Each member state is however responsible for establishing its own national healthcare policy and social services; that is, defining policies and organizing the provision of such services. Across Europe countries differ in the kinds of welfare models used for healthcare and social services. The Nordic countries have developed these services within a social democratic welfare state model (Esping-Andersen 1990), involving shared distribution of national resources. In southern Europe a more liberal model (Ibid) is used, with more responsibility being placed on the individual. However, for the new member states from Eastern EU no such clear welfare state model can be identified; these countries are in transition from a model from the Soviet Union to a model adjusted to Western healthcare and social services (Bankauskaite & O’Connor 2008). Different policies among EU member states, due for example to socio-demographic and economic situations, may lead to unequal opportunities for European citizens to achieve and/or maintain health. If health policies and SDS do differ between countries, the differences could affect the activity and participation of the ageing population in Europe and consequently not result in equal opportunities to be active and participate in society.

Another issue to consider regarding changes in the SDS for AT is the present rapid technological development and how it changes general opinion as to what is to be considered an AT. The International Standard Organization (ISO), (2011) defines AT as “any product, instrument, equipment or technical system used by a disabled person, specially produced or generally available, preventing, compensating, monitoring, relieving or neutralizing disability”. This definition implies that any product could be seen as assistive as long as it is used by people with disability in their everyday life. Assistive technology for mobility and personal care are common and frequently used to achieve independence in everyday life by old people in Sweden and in other countries (Hjälpmiddelsinstitutet 2009; Häggblom-Kronlöf & Sonn 2007; Kraskowsky & Finlayson 2001; Löfqvist et al. 2005). Differences in the use of AT between five European countries were identified by Löfqvist et al. (2005), but whether the differences found are affected by the SDS and types of AT that can be supplied in in each country, however, is not known. There are many actors in the SDS of AT, and more knowledge of how the SDS works in practice in different countries is needed.

Consequently, the aim of this paper was to study the similarities and differences in the SDS for AT between two dissimilar welfare states, here represented by one Eastern and one Western EU member state. Starting out from a description of the relevant legislation and other regulations and policy documents, we focused on the operationalization of the SDS and how it was perceived by key actors, with a particular focus on the implications of that on the ageing population. The following research questions were asked:

- Who is responsible for regulating SDS for AT?
- What are the components of the SDS as regards who is eligible to receive AT and what criteria do they have to meet?
- How do the regulations of the SDS work in practice?

## **Methods**

In order to study the similarities and differences in the SDS for AT between two European welfare models, Sweden and Latvia were chosen. These countries represented one Western and one Eastern EU member state and thus constitute an opportunity to examine the SDS for AT in two contrasting contexts (Bryman 2012). Extending our aim beyond what is usually done to describe the study context, to produce a knowledge platform serving to contextualize the interview data, information on legislation and other regulations was gathered.

The method used for the data collection from informants in Latvia and Sweden was that of semi-structured interviews regarding AT supply conducted with professional key actors working in state government, municipalities, the private sector, cooperative organizations and non-governmental organizations (NGOs) in each of the countries involved.

## **Study contexts**

### *Latvia*

During the last two decades Latvian society has been engaged in transforming its healthcare and social services to render them viable in a market economy. There has also been a gradual change in society, from a medical to a biopsychosocial perspective of disability, rehabilitation and AT use to support people with disabilities in their everyday life.

In Latvia the development of SDS for AT and other social services started in the year 2000 and is now regulated by the Social Services and Social Assistance Act. According to this act, AT aims to support activity related to self-care, work and integration into society. Devices are provided to children and adults with continuous or lasting dysfunctions, such as, anatomic defects or disabilities that affect mental or physical abilities. Assistive technology can also be provided for the purposes of recovering or minimizing limited function and mitigating predictable disability where an individual rehabilitation plan includes recommendation for AT (Social Services and Social Assistance Act).

The responsibility for SDS and the state-funded AT are specified in the Regulations of the Cabinet of Ministers (Regulation of the Cabinet of Ministers No. 1474). The organization of the SDS, authorized providers and the administration of AT services is a responsibility of the National Rehabilitation Centre Vaivari. The Centre is also responsible for controlling state-granted funds and for communications to the population. Assistive technology for vision and hearing are provided by an NGO: the Latvian Society of the Blind and the Latvian Society of Deaf (Regulation of the Cabinet of Ministers No. 1472).

The process by which an individual accesses AT involves several steps and visits to different institutions. Initially an application needs to be sent to the National Rehabilitation Centre Vaivari. The application has to include personal information on the type and purpose of the needed AT, as well as a professional assessment of need written by physicians, occupational therapists (OT) or other functional specialists (Regulation of the Cabinet of Ministers No.1474; Regulation of the Cabinet of Ministers No.265). Documentation confirming priority status also needs to be included in the application.

In the regulations (Regulation of the Cabinet of Ministers No. 1474) a priority order for receiving AT is presented. People with a first-time or predictable disability (if ATs are recommended in the individual rehabilitation plan), children under age of eighteen or women whose needs have changed due to pregnancy are entitled to devices if these are necessary to support activities related to work or studying.

### *Sweden*

Sweden has a long tradition of public health policy development, and national values such as the security and equality of all citizens have informed the healthcare system over the years (Saltman & Bergman 2005).

Assistive technology should be provided to support the activity and participation of people with disabilities to give them independence in everyday life. This is a healthcare



responsibility that is stated in the Health and Medical Services Act (SFS 1982:763).

According to this act, county councils and municipalities are obliged to supply people with AT, and have local decision-making power regarding what to include in the range provided and the costs/fees connected with AT.

Assistive technology for vision, hearing or orthopaedic purposes is supplied at specially designated units within the county councils, while the municipalities are often responsible for supplying AT for mobility and cognition. The county councils also have the responsibility for providing children with AT, while municipalities have this responsibility for people aged twenty and over. The right to prescribe AT is based on formal qualifications and generally belongs to registered nurses, occupational therapists (OTs), physiotherapists (PTs), and physicians, with somewhat varying rights to prescribe different types of products. Specialist consultants are available at local or regional AT centres.

An individual needs assessment is required to choose and adjust the AT to the client, as stated in regulation (SOSFS 2008:1). This also includes assessing the need for home modification to ensure the client is able to use the device safely, as well as informing, instructing and training the client to use the device, and following up and evaluating the prescription.

In Article 2 of the Swedish Health and Medical Services Act, ethical principles are applied to priorities in healthcare (SFS 1982:763). They are also applied to the prioritization of AT service delivery. Human dignity and solidarity are invoked to guide AT provision to ensure that AT is provided to those who have the greatest need, independently of their personal ability or function within the society.

## **Informants**

The informants in both countries were purposefully selected (Patton 2002) a) to cover levels ranging from decision-making to practice as well as other sectors involved in the SDS, and b)

to contribute detailed descriptions of the supply system within their organizational level or sector. In both countries, native authors were involved in selecting informants (in Latvia, ST and ZL; in Sweden, MK, CL, and SI). All five authors are registered healthcare professionals familiar with the SDS in their own country. A total of thirteen interviews were conducted, nine in Latvia and four in Sweden. For more details, see Table 1. The reason for making fewer interviews in Sweden was that national evaluations of the SDS of AT were available. The fact that the four interviews corresponded well to these evaluations combined with the professional competence of MK, CL and SI gained from years of OT practice in Sweden resulted in a decision not to conduct any further interviews.

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“Insert Table 1 here”

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### **Data collection**

A guide for semi-structured interviews was constructed, containing questions intended to cover the allocation of responsibilities for regulating and organizing the SDS of AT, who is eligible to receive AT, and what criteria they need to meet, and how regulation of the countries' AT SDS functions in practice. The questions were posed to the informants focusing on their professional level of responsibility within the system for AT supply. In order to generate knowledge specifically about the implications for the ageing population, the interview guide included questions such as:

- Promoting active and healthy ageing is central in the European Union vision for the ageing population. In what way does this vision influence the planning and development of AT provision for the ageing population?

- Are there any options other than ATs for helping older people manage activities in everyday life?
- What are the regulations on provision to individuals of AT?
- Do age, level of activity or functional capacity, financial resources, etc. affect the provision?

The first four interviews in Latvia were conducted in English by MK and SI. During these interviews the research team discovered missing sectors important for the provision of AT in Latvia; consequently, five additional interviews were conducted, by MK and ZL. Two of them were accomplished in English, two in Latvian and one in Russian. All of the interviews in Sweden were conducted in Swedish by a native speaker, MK, see Table 1. The interviews were audiotaped with the permission of the informants and lasted 40–90 minutes.

### **Data analysis**

The interviews were transcribed verbatim and analysed separately for each language, see Table 1. Initially a deductive reading (Burnard et al. 2008) was conducted by addressing “Why”, “Who”, “What”, and “When” questions to the data material, to get an overview of the organization of the SDS for AT in each country. This step was also used as a coder training (Krippendorf 2004) for the authors with different professional backgrounds (OT and social worker), to discuss what to include in each of the “Why”, “Who”, “What”, and “When” questions.

A thematic analysis (Bryman 2012) was used to search for repetition of topics, similarities and differences in the transcriptions. The interviews in English were read inductively by MK, CL and JP, searching for themes. Three themes regarding organization, different paradigms and finances emerged from the text. This procedure, when repeated by MK and CL for the interviews in Swedish, resulted in the identification of the same three themes. Discussions were held regarding relevant subthemes for each of the three themes. The Latvian co-authors analysed the interviews in Latvian and Russian. Next, MK and ST

discussed the themes found in the interviews in Latvian and Russian in comparison with those found in the interviews in Swedish and English, ending up with three themes and eight sub-themes, see Table 2.

In the last step of the analysis, a framework was designed (Bryman 2012) based on the themes and subthemes. The framework was used to capture differences and similarities in the SDS. The interviews were then reread by MK, for the interviews in Swedish and English, and by ST and ZL, for the interviews in Latvian and Russian. In order to organize and synthesize data, text from the interviews belonging to each of the themes and subthemes was picked out and applied to the framework.

## **Findings**

Based on the findings generated from the interview data, this section encompasses a broader description of the SDS of AT, adding to the description of the study contexts carried out beforehand. Overall, it was shown that the Latvian laws and policies on services for assistive devices did not aim to meet the needs of the ageing population, which had led to the development of complementary services provided by NGOs and the growth of private enterprises. In Sweden, too, private alternatives had recently increased, but here the reasons seemed to be connected more to the users' higher expectations and demands on their assistive devices, along with political aims regarding self-management. Further differences and similarities identified are presented in three themes: the organization of a formal and informal service delivery system, changing ideas about assistive technology and paradigms in healthcare, and financial resources affect the availability of assistive technology. For each theme, several subthemes emerged (see Table 2).

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Insert Table 2 here

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## **The organization of a formal and an informal service delivery system**

### *Legislation, regulations and policies define the formal service delivery system*

In Sweden the organization of the services was regulated, as was the safety of the user and the quality of the product. The Swedish informants commented on the importance of local policies for guiding clinical work. There had been a shift, however, in the regulations and policies, from a medical model focusing on diagnosis to a social model focusing on assessment of individual needs in daily life. The fact that AT could also be provided to meet the needs of the caregiver was mentioned in the Swedish interviews, as an important support for spouses and healthcare staff.

In both countries providers were bound to legal regulations on procurements. However, if needs could not be fully met by available devices the Swedish OTs and PTs could choose and prescribe alternative equipment, which according to the Latvian interviews was not always possible for practitioners in Latvia.

In Sweden, the decision of what specific products would be provided was shared by county councils and municipalities. Due to the local political decision-making power of each county council and municipality, there were differences between regions in Sweden regarding financing and the types of devices included in the provision system. In Latvia, on the other hand, the decision was centralized to the Cabinet of Ministers, resulting in an official list covering the devices provided by the state, which according to one of the Latvian informants could affect the quality of services:

*“There is only one official centre – Vaivari – so there is no competition, and where there is no competition there is usually stagnation...”*

The practitioners interviewed in Latvia were unclear about the regulations regarding formal rights to prescribe AT. According to the Regulation of the Cabinet of Ministers, the

formal right to prescribe belonged to physicians and functional therapists – for example, PTs and OTs. The practitioners' opinion was that the formal right was not valid, since the prescription form included information on medical status which according to regulations could only be filled in and signed by a physician. There was an ongoing discussion between those responsible for organizing the SDS and the Latvian Association of Occupational Therapists (LAOT) to clarify the rights to prescribe AT and highlight the qualifications of specialists in AT.

*Different reasons drive increasing diversity of actors complementing the formal service delivery system*

During the last five to ten years the private sector for AT had increased in both countries. In Sweden the number of private actors had grown due to changes in provision. There had been a shift in the direction of support for the active participation of the user in the supply process and provision of opportunities for a user's personal choice regarding specific device forms and functionalities. Peoples' greater demands regarding AT colours and brands could, according to the informants, be better met by private enterprise. Another reason for the growth of the private sector was the financial situation: political decisions on the county council or municipality level had reduced the range of AT available for prescription. In Latvia, too, the lack of financial resources had affected the AT available for provision. Pharmacies, specialist stores and stores selling everyday commodities were examples of private enterprises selling AT in Latvia and in Sweden.

For people with specific diagnoses and for people who could not afford to buy AT in Latvia, one particular NGO had a stock of donated AT from European countries and the USA that were provided temporarily to people whose needs were not covered by the state system:

*“We are a patient organization. People who help us solve bureaucratic issues are mostly volunteers. We focus mainly on things that are interesting and important for our members. No-one can put any pressure on us to do this or that...”*

For municipalities in Latvia there was no legal obligation to provide AT; but the interviews revealed that some municipalities took responsibility for people living in institutions, for people not included in either of the priority groups, and for the need for devices not funded by the state, such as functional beds and lifts. According to the informants the opportunity to do this varied between municipalities and depended on collaboration with NGOs. Another service from NGOs to complement the state system was to engage in fundraising to enable people to buy AT from private enterprises.

#### *Actions to secure and guarantee quality of products and services*

To ensure quality of the SDS in Sweden, there were cooperative organizations on the national as well as the regional levels. As described by the informants, within these organizations, ongoing collaboration with boards of users representing various user or client organizations resulted in reports and information on accessibility to services and AT on national and local levels. On a national level the Swedish Institute of Assistive Technology (SIAT) was responsible for reports, evaluations and information on AT. At the local level, county council cooperation organizations worked closely with the local authorities, politicians and healthcare personnel. In the interviews in Latvia, no similar organizations for quality assurance were mentioned.

A quality measure for SDS mentioned by the Swedish informants was “follow-ups”; it was seen as important to evaluate both the specific device and its use in relation to the outcome for the intervention. This evaluation also included a risk assessment, to assess whether the user handled the device safely or not. Attitudes to follow-ups in Latvia were varied: according to practitioners, these evaluations were important to evaluate increased

activity and participation by the user. Head officials responsible for healthcare issues and those responsible for implementing AT services in practice, however, were more focused on financial issues monitoring whether state money was used properly or not.

### **Changing ideas about assistive technology and paradigms in healthcare**

#### *Understanding assistive technology and its use and non-use in everyday life*

What to include in the range of AT was an increasing concern in Swedish county councils and municipalities. Assistive technology could be expensive, particularly if the product was specially produced to support people with disabilities. Today, ordinary consumer technology such as computers, telephones and smartphones are getting ever cheaper and are also suitable to support people with disabilities. A risk, according to the informants in Sweden, was that the system could create a grey zone for AT: what devices should be included in the SDS and what devices should be left to the individual to buy.

The purpose of AT and what it included was seen differently by professionals interviewed in the two countries. In Latvia, those responsible for healthcare issues and for implementing regulations had a medically oriented view of the purpose of AT, whereas the Latvian practitioners had an understanding more similar to the one expressed by the Swedish informants: to support activity and participation.

#### *Impact of professional needs assessments on assistive technology use*

In Latvia, several steps and different people were involved in the provision of AT. With physicians signing referrals and thus having the right to decide the need for AT, the practitioners felt their competences were not valued. The bureaucratic process in Latvia, which involved different professionals and requires clients to visit different places for referrals, necessary assessments and application submissions differed from the process in Sweden, where home visits were conducted in most cases. In Sweden the providers were responsible for carrying out an assessment of the client's physical environment to ensure



correct and safe use indoors and outdoors. Home visits were considered convenient for the client and also gave the professionals opportunities to assess the client's needs and any home environmental issues. In Latvia, the responsibility for evaluating individual needs in daily living, including housing adaptations, lay with the social services and evaluations were conducted by either OTs or social workers who sometimes had additional knowledge of AT. Opportunities to inter-professional collaboration within the SDS, administered by healthcare, were limited, however, as is illustrated by this quotation:

*“I think there has to be cooperation between all involved, because we are responsible for providing the client with AT but someone has to take responsibility for the home environment. We are not involved in decisions for changes in the environment. We just cannot give out this or that wheelchair – we have to ensure that it is optimal for the user and his or her home environment.”*

In Latvia friends and relatives were allowed to help out with registering the application for AT and later picking up the device, which in turn meant that practitioners did not always meet the client and therefore felt restricted in their ability to get the whole picture of the individual's situation. This, together with limited information on referrals, also affected their ability to choose appropriate AT for the client. According to the practitioners in Latvia the physicians' knowledge and use of terminology for AT varied, and had an impact on decisions regarding what type of device to prescribe. There were examples of stamped and signed referrals with no information on what type of AT the client needed. In these cases the practitioners were expected to fill in the right information, as illustrated by the following:

*“He needs something for walking. But for walking there are a lot of devices. So if we do not see the client, there is a problem”*

In the Swedish interviews, practitioners, and employees of the Swedish Association of Local Authorities and County Councils, and the SIAT, highlighted the change in focus regarding assessments. The focus has shifted from diagnosis in relation to AT to the need to support the client's self-management. The importance of teamwork to understand the client's situation was also stressed, as was the importance of involving the client in plans for rehabilitation and discussion of alternatives to AT use.

In Latvia, there were examples of shop assistants who had responsibility for writing verifications of needs and offers explaining the costs of specific AT, to make it possible for individuals to seek funding for devices from NGOs. There were no requirements, however, for any medical professional assessment for the private sector, and in Sweden, for example, the shop assistants had no knowledge of whether or for what reason someone had been denied a prescription by a healthcare professional, which could be relevant for the more advanced AT such as powered wheelchairs and scooters:

*“We always discuss it and if we don't think that the individual can handle the scooter we advise him or her to wait or reconsider”.*

### *General and professional knowledge of assistive technology*

According to the informants difficulties accessing AT were mostly a question of being able to obtain a prescription for a device or not. In Latvia and in Sweden, if a certain device were not included in the range of provision, people had to buy the device themselves. Buying such products, however, was not always easy. Few shops were available, except online, which entailed a further restriction on availability for people without access to the Internet.

Knowledge and information about AT concerned users, spouses, carers and professionals involved in the SDS. Manufacturers regularly held exhibitions and education days to inform the providers about their products, and this was also the most common way, in both countries, in which practitioners learned about new products. One challenge for

practitioners was finding opportunities to visit these exhibitions, since their workload made it hard to find free time during the work week. In the interviews in Latvia, physicians' lack of knowledge regarding AT was mentioned as a key factor in their failure at times to provide appropriate AT.

Referring to the Swedish interviews, people generally did not know much about how to access AT or whom to contact when having difficulty performing activities of everyday life, although such information was usually available on the provider's website. One way to inform and meet the needs of an ageing population in Sweden was to conduct preventive home visits. Some municipalities offered home visits for people over a particular age to provide information on available health and social services. Publically available information on ATs in Latvia was perceived as limited. This was attributed to the limited budget for AT, which in turn affected the capacity to provide devices despite people's needs, as illustrated by following quotation:

*“...there'd be no point making this public, making a public activity of asking people to come here when we know there are no resources. There'd be no point in doing this. We have difficulty responding the clients we have now”.*

### **Financial resources affect the availability of assistive technology**

#### *Assistive technology generates costs to society and the individual*

In both countries financial issues affected the AT included in the SDS. For Latvia, the financial situation was mentioned as the main factor determining what could be provided by the state. According to the interviews with those responsible for SDS and for implementing the system in practice, an improved financial situation would likely increase both the range and the quantity of devices available for prescription. Some of the NGOs had tried to bring up issues relating to AT and its financing; these NGOs, however, were connected to groups with special needs and therefore did not advocate for everyone. Since there was no strong lobby or

organization representing older people in Latvia, the informants felt there was a risk their needs would not fully be met. In Sweden, too, there was discussion on what AT to provide within the SDS. The cheap low-tech devices were more often removed from the variation of provision offer, with the argument that they are inexpensive for the individual to buy, but expensive for the provider to store, deliver to users and take back again. To resolve the problem of the administrative cost associated with cheap devices, a project referred to as “Free choice” project was tested in three Swedish regions. To reduce the cost to providers, the individual received a voucher to buy the device. Another money-saving strategy was to reduce the option of receiving more than one piece of similar equipment – for example, having one rollator for indoor use and another for outdoor use. It was also discussed whether to exclude certain AT from the range and place more responsibility on the user. The rationale for this was that rollators are analogous to strollers or bicycles, implying that the user should bear the responsibility for buying whatever is needed when it is needed.

Due to the local political decision-making power of county councils and municipalities in Sweden, there was no national regulation on costs, as existed in Latvia. In Sweden the cost was connected to a rental fee, or a fee for the assessment or for each AT. In Latvia people were not only charged the fee for the device. When there was a need for a home visit to conduct an environmental assessment, the individual was charged a special fee related to the distance from the Vaivari Assistive Technology Centre in Riga.

Legislation on procurements regulated the types of AT provided in both countries. In Sweden the county councils, municipalities or cooperative organizations conducted local procurements of the devices included in the SDS. Client needs were the focus of the provision of AT, and if those needs could not be met within the range of provision, alternative devices could be chosen. In Latvia these procedures were followed strictly and were based on the

cheapest offer, which in turn, according to the practitioners in Latvia, affected quality and was an impediment to meeting individual needs regarding AT:

*“The quality is poor. I would say so. The public procurement legislation, which sets out criteria for the AT purchased, does not focus on the highest quality of product; it targets the cheapest product...”*

#### *Waiting time a consequence of resource shortage*

In both countries, following a needs assessment people would have to wait to receive their device. The reasons for this differed between the countries. According to informants in Sweden local policies were often applied to guide the prioritization of AT provision, while in Latvia the waiting time was connected to the availability of devices. If the devices in the current funding period had already been given out by the Vaivari Assistive Technology Centre, the clients had to wait for new ear-marked AT funding, which affected their chances of receiving devices when needed.

There was another issue, the recycling system, which affected the waiting time in Latvia. Often people failed to return their device; instead they would be kept in a closet, given to friends or relatives, or even sold. This problem could, according to the practitioners in Latvia, be resolved by following up the need and use of AT. Since the waiting time could be long, individuals were often advised to buy or rent devices, which was only possible for people who could afford to do so. As for the Swedish situation, no issues of this kind were mentioned.

## **Discussion**

The findings in this study represent an exploration of differences and similarities in the SDS of AT between two EU member states. Based on the information provided by professionals the present study shows that there are marked differences between an Eastern and a Western

EU member state. That is, based on the differences between Latvia and Sweden in terms of their financial situations as well as their historical and cultural contexts, differences related to healthcare and social service issues seem to be prominent. However, there are also similarities in the SDSs of the two countries, even though the underlying reasons for these similarities might differ.

The findings illustrate that SDS for AT needs to be thoroughly organized as it involves many actors and procedural steps, ranging from considerations of the complex and varying needs of users to safety issues related to the use of the AT. The SDS of AT may be considered a straightforward process, but it involves many decisions along the way to ensure that the AT actually does support activity and participation for the user. Efficient organization of the SDS is imperative and needs to be treated as an important part of the intervention targeting AT (Sund et al. 2013). Moreover, the perceived need for AT changes over time, in particular for very old people (Löfqvist et al 2007; Pressler & Ferraro 2010), and follow-ups of AT interventions, are therefore crucial.

Emphasized by the informants in both countries, the financial situation is one important factor affecting the SDS; however, financial considerations are more pronounced in Latvia given the more serious financial constraints at the national as well as the local level. Even if legislation and other regulations in both countries share the aim of providing AT to all people in need of devices, the financial situation affects the SDS, and this is dealt with in different ways in different national contexts. Today, countries have legislation and policies related to AT services, and their aim, however, is in reality not fully met, especially in lower-income countries (World Health Organisation 2011). Based on the principles of potential to contribute to productivity in terms of supporting people's ability to work, the Latvian regulations clearly prioritize certain user groups, leaving older people with limited access to AT. This affects their opportunities for activity and participation, in turn resulting in social

exclusion from society for the ageing population, impeding the aim of achieving health for all European citizens (European Union 2012) and the vision of “active ageing and solidarity between generations” (European Commission 2012). The concept of social exclusion has traditionally been used to describe the inequality between people in society – for example, due to economic resources, education or employment (Silver 2008). More recently, the concept has also been used to describe the situation of older people; that is, whether or not they have opportunities to participate in economically or socially valuable activities in the society in which they live (Phillips et al. 2010). The fact that Sweden was ranked near the top on activity and participation among the ageing population (Zaidi et al. 2012) does not tell whether this has something to do with the SDS of AT. However, according to present research based on AT, mobility devices especially are important for older people’s opportunities and feelings of independence and participation in everyday life (Mc Millen & Söderberg 2002; Wressle & Samuelsson 2004). Today, older people often express feelings of stigmatization when lacking opportunities to participate in society. Independence and opportunities for activity and participation are key to supporting health during the ageing process. When these needs are not fulfilled, there is a risk for decreased health and wellbeing among older people. The importance of adopting a perspective to avoid social exclusion should therefore be stressed to policymakers in Europe, urging them to plan for provision of AT without contributing to exclusion of the ageing population. Increased collaboration among policymakers, providers and user groups to improve the SDS of AT and to balance the needs, wishes and priorities of individual users is therefore needed.

Users’ needs and preferences (Scherer et al. 2005) and the individual decision process – whether or not to start using AT (Ripat & Booth 2005) – are important factors to consider for effective AT use and, consequently, more effective use of public resources. Even if the efficiency of the SDS was not the focus of this study there seems to be differences between

the two countries studied regarding supply and “follow-ups” conducted to ensure efficiency and quality in the SDS. As reflected by the information generated through interviews with professional, the Latvian SDS does not only overlook user involvement, it also seems to diminish professional competence, which in turn is a waste of specialized resources. In Sweden, collaboration between professional groups and increased knowledge of different actions that affect public health has been emphasized for achieving a long-term, goal-directed, and cross-sectorial public health (Sundin et al. 2005). In Latvia there does not seem to be consensus between professionals regarding competencies for assessing AT need. The holistic psychosocial perspective used by OTs taking person–environment–activity transactions into account, does not seem to be acknowledged by the biomedical perspective applied by physicians and those responsible for the SDS of AT in Latvia.

In the Swedish model of welfare, equal distribution of societal resources is stressed (Sundin et al. 2005), and resources are provided based on assessment of need rather than by purchasing power (Saltman & Bergman 2005), as is also true for the SDS for ATs. However, nowadays short-term financial savings from a decreased variety of provision is being seen in many municipalities in Sweden, implying a risk of inequity across the country and influencing the growth of the private sector. The desire for individual choice regarding AT type and function and increased user involvement in the services process is one explanation for the latter. Active user involvement in the SDS is in line with the individualistic vision of western society, in contrast to the more bureaucratic system of Latvia. For older people in particular, the need for AT implies different prerequisites: whether they have to practically and financially resolve the situation by themselves, or whether the society provides them with AT. No matter what the national context, placing higher demands on individual responsibility or self-management for AT will add a layer of complexity to the risk of social exclusion. Social exclusion due to financial resources can turn into occupational deprivation (Townsend &



Polatajko 2007; Wilcock 2006) – that is, exclusion from engagement in the activities of everyday life due to factors that stand outside the individual's control could be a consequence. Particularly if individual purchasing power is allowed to influence individuals' chances of accessing having access to AT, since older people often belong to a financially vulnerable group, especially in low-income countries such as Latvia (Botev 2012).

### **Study limitations**

Turning to methodological issues, it should be kept in mind that in this study four languages were used for data collection. It was challenging to conduct interviews in English when neither the interviewers nor the informants were native English speakers (see Table 1). Interviewing and being interviewed in a non-native language can affect the quality of data. Still, the content of the interviews performed in English corresponded well to those conducted in Latvian or Russian and did not show any contradictory statements that could be interpreted as being caused by language barriers. Having data in different languages also affected the analysis; therefore, a thematic method was chosen to provide a structure for the comparative analysis process. Searching for themes agreed upon in the early phase of the analysis also reduced the risk of getting caught up in details, and made it easier to get a sense of the big picture of the data available. In the process of identifying themes and subthemes it was useful to take advantage of the two professional perspectives within the author constellation, that is, occupational therapy and social work. Occupational therapy competence provided in-depth knowledge of AT provision and of individual's use of and need for AT to maintain their independence in everyday life from a rehabilitation perspective, while the perspective from social work contributed a societal dimension to the findings by focusing on issues related to welfare states and social exclusion. The fact that the themes and subthemes found in the interviews in English (conducted in Latvia) corresponded well with the interviews in Latvian can be seen as an indication of the validity and trustworthiness of the findings.

The overall descriptions of the two national SDS for AT given by key actors responsible on different organizational levels and practices were intended to reveal how legislation and other regulations were applied in practice, focusing on the ageing population. Another perspective that should be added in order to provide a more complete description would be end-users' experience of the SDS, and this therefore constitutes an important topic for future research.

During the interviews the informants appeared to speak openly regarding their perceptions of how the SDS functioned in practice. This is important to produce the most straightforward description of the phenomena under study. Analytical triangulation (Patton 2002) could have been used to validate our findings; however, given the small number of informants in this study, especially from Latvia with its centralized SDS, they could easily have recognized other informants, which could in turn have affected the way in which they corrected their descriptions or expressed themselves.

A methodological issue in cross-national comparative research, when comparing countries with different traditions, cultures and levels of development, is to choose those countries that could be expected to have common aims and values in relation to the topic under research (Hantrais 2009). For comparison of the SDSs for AT in Latvia and Sweden, the countries' EU membership constitutes this common reference point regarding health issues and opportunities for active ageing. A methodological strength of this study was its involvement of authors with different professional backgrounds. In terms of the disciplinary backgrounds of the researchers involved, gerontology or ageing research constitutes the overarching disciplinary orientation, with occupational therapy and social work providing particular perspectives on the topic we explored. In this way, the key concept of AT was clearly defined, which was imperative for analysing the interviews and kept the authors focused on AT and the SDS for AT. Elaborating and understanding the meaning of key

concepts including hidden national assumptions is an opportunity and strength of qualitative comparative research (Quilgars et al. 2009). For the Latvian and Swedish authors, their native understanding of macro level contexts, such as national, societal, cultural and individual perspectives, was important for analysing and interpreting the interviews. Even if these perspectives were not applied specifically in the analysis, the in-depth understanding is important in cross-national comparative research. Native understandings of contexts were continuously discussed by the Latvian and Swedish authors during the analysis process and gave important and additional understanding of the data collected. Nevertheless, when choosing a cross-national research approach, it is important to bear in mind that cultural differences with-in each country may be obscured (Hantrais 1999).

## **Conclusion**

Despite similarities on the legislation and policy level, interpreted based on the perceptions of professionals there are marked differences between Latvia and Sweden in the operationalization of the SDS of AT. To support activity and participation for the ageing population according to current legislation, the services connected to AT need to be carefully thought out and executed, making efficient use of financial resources and professional competencies.

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A European perspective on the service delivery systems for assistive technology – differences and similarities between Latvia and Sweden

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The service delivery system for assistive technology in Latvia and Sweden (running head)

Table I. Interviews conducted with key actors regarding Assistive Technology issues within Latvia and Sweden.

<b>Country and organisation level/ working area for informants</b>	Organisation role	Profession/ professional background	Number of interviews	Language for interview	Interviewer/ Author (initials)
<b>Latvia</b>					
Government	Head of dept.	PT <sup>1</sup>	1	English	MK and SI
Private sector	Employee	OT <sup>2</sup>	2	English	MK and SI
National Rehabilitation Centre Vaivari	Head of dept.	Physician	1	English	MK and SI
	Practitioner	OT <sup>2</sup>	2	English	MK
Municipality	Head of dept.	Not known	1	English	MK and ZL
	Practitioner	OT <sup>2</sup>	1	Latvian	ZL
Non-governmental organisation	Chairman	Engineer	1	Russian	ZL
<b>Sweden</b>					
Swedish institute of Assistive	Employee	OT <sup>2</sup>	1	Swedish	MK

Technology

Municipality	Practitioner	OT <sup>2</sup>	1	Swedish	MK
Private sector	Employee	Buyer	1	Swedish	MK
Swedish Association of Local Authorities and County Councils	Employee	PT <sup>1</sup>	1	Swedish	MK

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<sup>1</sup> = Physiotherapist; <sup>2</sup> = Occupational therapist

Table II. Themes, subthemes and examples of similarities and differences in the service delivery systems (SDS) for assistive technology (AT) in Latvia and Sweden.

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## **The organization of a formal and informal service delivery system**

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*-Legislation, regulations and policies define the formal service delivery system*

**Similarities:** The SDS of AT is planned based on law and regulations.

**Differences:** The SDS was centralized in Latvia and decentralized in Sweden. In Latvia a priority order among user groups affected older people's opportunities to be provided with AT, while in Sweden individual needs affected such opportunities.

*-Different reasons drive increasing diversity of actors complementing the formal service delivery system*

**Similarities:** The unmet need for AT from the SDS created opportunities for the growth of a private sector.

**Differences:** Due to the restrictive financial situation in Latvia, NGOs<sup>1</sup> served to complement the publically governed SDS; in Sweden the growth of a private sector was due to the aim to increase user involvement in the supply process of AT.

*-Actions to secure and guarantee quality of products and services*

**Similarities:** An aim of following the SDS of AT.

**Differences:** In Latvia the follow-ups focused on financial issues while in Sweden the follow-ups targeted the use of AT.

## Changing ideas about assistive technology and paradigms in healthcare

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### *- Understanding assistive technology and its use and non-use in everyday life*

**Similarities:** To support the activity and participation of people with disabilities

**Differences:** A medically oriented perspective on AT in Latvia, except for the rehabilitation specialists who were more similar in their vision to the social model prevailing in Sweden.

### *- Impact of professional needs assessment on assistive technology use*

**Similarities:** Individual needs assessments are conducted by healthcare professionals within the SDS

**Differences:** A bureaucratic process in Latvia involving different healthcare professionals and including a visit to the national rehab centre; in Sweden home visits conducted by OTs<sup>2</sup> or PTs<sup>3</sup>, often including assessments of the home environment.

### *- General and professional knowledge on assistive technology*

**Similarities:** *Difficulty keeping up with information and knowledge on different AT.*

**Differences:** *Limited public information on AT in Latvia, compared to in Sweden where such information was available on many of the providers' websites.*

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## Financial resources affect the availability of assistive technology

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*-Assistive technology generates costs to society and to the individual*

**Similarities:** Financial resources affected the supply of AT available for provision.

**Differences:** In Latvia an improved financial situation could increase the supply of different types of AT available for provision, in Sweden increasing demands for a greater personal authority to buy low-tech AT instead of turning to the public SDS were observed.

*-Waiting time a consequence of resource shortage*

**Similarities:** Waiting time existed in both countries.

**Differences:** In Latvia lack of funding created waiting lists and people in need of AT were advised to rent or buy the devices. In Sweden no issues of this kind were mentioned.

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<sup>1</sup>Non-governmental organizations; <sup>2</sup> Occupational therapists; <sup>3</sup> Physiotherapists