

ASSISTIVE TECHNOLOGY

Nordic Centre for Welfare and Social Issues



ASSISTIVE TECHNOLOGY FOR SUPPORT OF MENTAL FUNCTIONS WHEN LIVING WITH MENTAL ILLNESS

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PREFACE

People with mental illness can have difficulties comprehending, processing and acting appropriately on information and experiences. This happens because their illness can affect one or more areas of e.g. the following mental functions: Memory, initiative, attention, concentration, ability of planning, experience of time, summing up of information and generalization on basis of many pieces of information.

Research findings and knowledge from practice show that assistive technology that supports mental functions can contribute to making people with mental illness better able to manage on their own and to lead a normal everyday life. Assistive technology can, for example, contribute to adding structure to everyday life, to remembering appointments, to taking medication correctly and to stimulating activities. This may secondarily contribute to e.g. less anxiety and agitation, less assistance from family and professionals, as well as enhancing possibilities of undertaking education or employment.

MENTAL ILLNESS AND MENTAL FUNCTIONS

Mental illness may be, for example, psychosis, anxiety and compulsive disorders as well as acquired and congenital neuropsychiatric impairments. Neuropsychiatric disorders are a collection of a range of diagnoses, e.g. ADHD (attention deficit hyperactivity disorder), Asperger's syndrome and autism.

According to the International Classification of Functioning, Disability and Health (ICF), mental functions are divided into overall mental functions, such as ability of orientation, energy and power of action, as well as specific mental functions, such as memory, attention and cognitive functions (e.g. planning, judgment, problem-solving and flexibility).

The effects of assistive technology devices that support mental functions

Research findings and experience from practice show that the effects from assistive technology that supports mental functions are reflected by socio-economic benefits, for example due to less need for assistance and less use of healthcare services. For the individual user of assistive technology, the effects show as increased quality of life through a more structured everyday life, increased independence, greater security and better occupational performance.

THE ECONOMIC BENEFITS OF THE USE OF ASSISTIVE TECHNOLOGY WHEN LIVING WITH MENTAL ILLNESS

The report, from the Swedish Institute of Assistive Technology (SIAT) "Kostnadsnytto-bedömning av hjälpmedel till personer med psykisk funktionsnedsättning" (Åke Dahlberg 2010), refers to the following economic gains from the use of assistive technology devices that support mental functions of people living with mental illness:

- The need for help from staff in social and health care, as well as from family members, is reduced by approximately one hour per week per person.
- Disabled people who have a job find it easier, by the support of relevant assistive technology devices, to keep their jobs, and are even able to work longer hours.
- Unemployed people with minor disabilities have a greater chance of getting a job.
- The analysis of expenses and benefits by the use of a PDA, a ball blanket and an AAC device shows that the expenses are earned back within a year.
- The assistive technology devices can also reduce the use of healthcare services, the need for psychiatric help and medical costs. Furthermore, the users of assistive technology are to a greater extent able to live in their own homes and thus reduce the use of special housing.

In order for assistive technology to be effective, the user, accompanied by an expert on assistive technology, must make an analysis of his or her daily activities with regard to finding the areas where assistive technology devices can support mental functions in order to improve the range of activities.

Thereafter, the assistive technology device has to be individually adapted, and the user in question with his or her assistants and close family members has to get instruction and training on use and maintenance.

Furthermore, there has to be follow up on the functioning of the assistive device in order to make regular adjustments in accordance with the user's everyday life and activities. This ensures the continued maximum effectiveness of the assistive technology. On average, a time consumption of 10–20 hours is estimated to be enough for training and follow-up of each individual user.

Types of assistive technology

Assistive technology that supports mental functions may include the following: Different types of watches and electronic calendars with, for instance, alarm functions and the option of voice guidance, or graphic illustration calendars, common or custom made PDAs (personal digital assistants), iPads and assistive technology devices for calming purposes, such as ball blankets and so on.

The many types of ordinary cell phones and smartphones with Internet access, which are available as standard products on the open market, can also often, with special user interfaces or applications (apps), be used to support mental functions. It is all about finding the widely available or custom developed programs that are well suited to the person in question. This may include applications, for example to taking medication (remembering the medication and the correct dosage of various medications at the right times), planning of time, possibly by the use of an alarm for appointments, taking care of budget, finding one's way, remembering information, calculating, writing, getting instructions on how to carry out activities and on where they take place, making a sleep schedule, having fluid control, being entertained (games, music, chat, social media) and being stimulated to exercise and so on. These functions can be shown, for example either visually, by the use of pictures/videos and text, or audibly by reading out loud.



*Structure of the day
– reminder watch
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*Estimate of time use
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Examples of use of assistive technology that supports mental functions

STRUCTURE OF THE DAY – REMINDER WATCH



Per is 40 years of age. He has ADHD, which, among other things, results in problems with planning and concentrating. His five-year-old son lives with him every other week, and during those periods he is pretty much in control of daily activities. During the other weeks, he has a tendency to sit by the computer for the most part of the night, because he cannot break away. Thus, he has problems getting up in the morning and taking care of his studies.

Per has, in cooperation with an occupational therapist, tried various assistive devices that might help in structuring everyday life, so he will also be able to manage his studies. He has decided to use a reminder watch where he can record his tasks for different hours of the week. The reminder watch reminds him of making breakfast, waking up his son, having breakfast, getting

dressed and taking his son to kindergarten. In the evening, the watch repeatedly sends a request of going to bed. The watch thus gives him "a kick in the ass", as he puts it himself, and it works for him.

ESTIMATE OF TIME USE – THE TIME LOG



During his entire 30 years of life, Hans has had difficulties concentrating and finishing tasks. He suffers from a manic-depressive disorder with mainly manic symptoms. He works on software development in a computer firm, and it happens that he doesn't finish his tasks on time or he misses an important meeting because he gets easily distracted and becomes occupied by something else.

Hans now uses a visual count down timer (Time Log) that graphically shows him how long it will take until his next activity, or how much time he has got left to perform a task. An ordinary watch did not give him the same support. As an example, he can set the Time Log to fifteen minutes, when lunch is coming, or to a couple of hours for a special assignment. Then, the timer will all the time show how much time he has left.

PLANNING OF TIME USE – THE TIME TIMER



Maria works as a secretary. Her work requires planning and structure, which may be difficult for her as she has a diagnosis of ADHD.

She says of the assistive device the Time Timer that it makes time visible. She can see how much time she has left for a given activity and can finish it on time. Before she got the assistive device, she often felt stressed when time ran away.

On mental functions

Impaired mental functioning behaves differently in different people. Even if two people have the same diagnosis, they do not necessarily have the same symptoms; and even if two people have the same kind of symptoms, it is not certain that the same

solution will work for both of them. Choice of appropriate support and compensation for people with impaired mental functioning is dependent on many factors; e.g. personality, social circumstances, family and societal culture and physical surroundings.

Examples of impaired mental function:

- Poor memory which may influence learning and social activities and create insecurity and powerlessness.
- Impaired executive functions which make it difficult to adapt to new situations and act accordingly.
- Reduced motivation. The ability of being able to imagine a desirable situation and linking it with action, and performing the action in order to reach the situation, may be reduced.
- Lack of drive. The ability of making decisions and acting upon them may be reduced. People with this kind of mental impairment may seem lazy and uninterested.
- Impaired planning ability. Everyday life requires planning with regard to preparing a meal, doing the cleaning, shopping and so on. When the planning ability is impaired, one may have difficulty deciding what one has to do and when.
- Impaired time perception gives problems with regard to keeping appointments, judging how long an activity takes and organizing day and night with regard to time.
- Impaired attention causes one to become easily distracted and thus having problems continuing activities, and this often leads to learning problems.
- Impaired processing and generalization of knowledge and experience means that knowledge cannot be transferred to similar situations, so you seem unintelligent and helpless.
- Impaired performing of automatic actions, which means that well-known activities may become difficult to perform.

PLAN FOR ACTIVITIES – TIME REMINDER WATCH



Sandra and Patrik have mental impairments that influence their planning ability and perception of time. They have two children, aged one and four years. They find it difficult to organize their day in a practical way, even though they try hard to be good parents. Sometimes it happens that the children do not get food until they become fretful and restless. When this happens, the fridge might be empty because Sandra and Patrik have not planned the shopping.

They have tried various assistive devices in order to get support so they could take control of their everyday life. The solution was a time reminder watch where they can record various messages which are played when they have to perform important tasks. They now feel that they have control of the most important tasks and that their days have become more harmonious.

CONTROL OVER ONE'S TASKS – HANDI, ASSISTIVE PLANNING TOOL



Göran suffers from schizophrenia that is treated with medicine. He lives alone and has a part-time job. He has problems remembering what to do and he cannot figure out how to stop some activities in due time. Then he becomes afraid and stressed when activities of daily living get messed up.

He has got a custom made PDA, Handi, as an assistive planning tool that he can program with the activities he would like to perform. Furthermore, he can plan how long they may take, and Handi will notify him, signal the expiration of time or delineate periods of time for his tasks. Thus, he receives a message when he for example is supposed to take his medication, see certain TV-programs or do the laundry.

It is especially of great help when shopping because he easily gets stressed in crowds of people. He can write the shopping list at home in the right order in accordance with positioning of the products in the supermarket. He has also written his sister's phone number on the shopping list so he can contact her if he feels the situation gets too chaotic. She lives nearby and has often helped him in such a situation.

Göran feels that he has better control of his tasks and that he probably doesn't need acute help as often as before.

CONTROL OF RESTLESSNESS – PDA

Ulrika is an active and outgoing person that often tends to have too many balls in the air. She is 19 years old and diagnosed with ADHD. In her short life, she has tried several different study programs.

Ulrika has tried to use various assistive devices in order to reduce the negative influence from her restlessness and impaired concentration on her level of functioning. Together with an advisory occupational therapist, she has now chosen a PDA that is available on the common market. The PDA fulfills several important everyday life functions for her. She uses it to remind her of things to remember or to do. She uses the calendar and address book functions, which she supplements with photos and pictures as clues. In addition, she uses the PDA as a calming device by playing games in situations where she otherwise would become restless and uneasy. "I prefer to have something in my hands while waiting," she says.

MASTERY OF ACTIVITIES OF DAILY LIFE – A CELL PHONE

A person with ADHD has described how the cell phone is an effective assistive device for him to take care of activities of daily life:

"My cell phone replaces the calendar, the alarm clock, the address lists and the memo notes. It tells me who is calling, tells me what time it is, and it notifies me when I have to go to keep appointments. In short, the cell phone functions as a reminder watch, time log, radio, pocket calculator and a lot more. In addition, I can have various ringing tones in the telephone that help me to decide, whether I want to respond to a call promptly or wait until later. All this has a positive influence on my level of stress, which gives me more energy to work with other issues.

Having all the necessary functions in my cell phone, I find it easier to structure my life, and I do not have to remember or search for different assistive devices before I leave home. It makes it easier for me to leave as planned.

With an mp3-player in the cell phone, I also am able to listen to relaxing music. I think my quality of life has improved after I have learnt to use the functions of the cell phone. But I do need instruction with regard to moving information between computer and cell phone. It might provide me with the same information in a more clear way."

ANXIETY RELIEF – A BALL BLANKET



A ball blanket is heavy and fits snugly to the body in such a way that it can have a soothing effect on people with anxiety and fear. The ball blanket can also facilitate sleep and relaxation as shown by several examples from practice. As an example, a woman with an anxiety disorder tells that it often took her several hours to fall asleep by the use of sleeping pills, and that she tried to kill herself several times, resulting in ambulances and emergency doctors being summoned. But the ball blanket has reduced her anxiety and she now falls asleep quicker, resulting in less use of sleeping medicine.

Efforts to increase the use of assistive technology for people with mental illness

Several hundred thousand people in the Nordic countries live with mental illness or neuropsychiatric impairments. Research on the use of assistive technology among people with mental illness shows that approximately 1/10 to almost none of them use assistive technology to support mental functions.

This may be due to the fact that politicians and decision-makers in the Nordic countries do not have knowledge of the possible economic benefits from procuring assistive technology devices to support mental functions; in addition to the budgets for assistive technology being low, maybe by the same reason, then there is no room for expansion or development within the area.

Mental illnesses in the Nordic region

- In Sweden, there are approximately between 200000 and 300000 people with mental impairments and neuropsychiatric diagnoses.
- In Denmark, there are approximately 200000 people with anxiety disorders and approximately 40000 with severe psychosis.
- In Norway, approximately 3.5 per cent of the adult population have a psychotic illness and 1.5 per cent a manic-depressive illness. There are approximately 150000–180000 people with neuropsychiatric diagnoses.
- In Finland, there are approximately 100000 people with mental illness.

In addition, the lacking use of assistive technology to support mental functions may be due to the fact that local professionals have not accepted and understood that assistive technology indeed can compensate for mental impairments. People with mental illness and mental impairments generally also have difficulties being heard and being understood. Finally, it is a fact that providers of assistive technology devices and mental illness therapists do not have enough knowledge about which assistive devices can support mental functions and how they are used in practice. This is strengthened by the fact that the users and their close family members do not either know about the possibilities or therefore do not ask about information or solutions in the assistive technology area.

The legislation and organization of assistive technology services leaves room for many interpretations that may create doubt about the aims and responsibilities in the allocation of assistive technology that supports mental functions. In addition, the reuse system in assistive technology services is badly suited to modern and individually adapted assistive devices based on information technology. This complicates the allocation of assistive technology to people with mental illness.

In order to promote the use of assistive technology for people with mental illness, to the benefit of the individual and of society as a whole, several of the following measures could be taken:

STRENGTHEN THE IDEA OF COMPENSATORY MEASURES

It is necessary that the population as a whole, as well as professionals, decision-makers and politicians, understand that assistive technology can compensate for mental impairments; that it pays off for society, and that the quality of life for the individual may be increased.

Compensatory assistive technology may increase the opportunities for people with mental illness to actively participate in society; and even open up for possibilities of employment. Especially politicians should be aware of this.

MAKE VISIBLE THE CONNECTION BETWEEN MENTAL ILLNESS AND IMPAIRED MENTAL FUNCTIONING

Neither the common population nor professionals within the social and health sector always realize the correlation between mental illness and mental impairments, such as impaired memory and lack of concentration. Therefore, the use of compensatory assistive technology is not given any consideration. National information campaigns ought to be launched in order to inform on mental impairments of people with mental illnesses and on how these can be met by assistive technology. Such information could possibly also have a positive effect on ideas about and attitudes towards people with mental illnesses.

INCREASE KNOWLEDGE ON ASSISTIVE TECHNOLOGY THAT SUPPORTS MENTAL FUNCTIONS AT ALL LEVELS

Increased knowledge on assistive technology that supports mental functions, and on the effects of its use, might stimulate to increased use of such assistive technology. Therefore, information and teaching of knowledge on assistive technology should be implemented and targeted towards people with mental illnesses, their close family members, professionals and students within the area, as well as providers of assistive technology devices and decision-makers and politicians.

GIVE TARGETED INFORMATION TO USERS AND THEIR CLOSE FAMILY MEMBERS

There should be easily accessible and visible information on assistive technology devices that support mental functions in the surroundings of the users and their close family members, e.g. at the job centre, the social security office, at the doctor's and in libraries etc. The information has to be easy to read and understand for the user groups in question.

MAKE SURE TO EDUCATE THE PROFESSIONALS AND STUDENTS WITHIN THE AREA

Occupational therapists and other professionals who are in charge of procurement of assistive technology devices should have a stable and up-to-date knowledge basis of assistive technology that can support mental functions, in addition to knowledge of the target groups for these assistive technology devices. Their knowledge should therefore be updated regularly with regard to the technological and methodological development within the area. Even professionals who on a daily basis provide treatment and care to people with mental illnesses should have general knowledge of assistive technology that can support mental functions. Likewise, education within this area should be increased at the university college level, and it should be possible to provide continuing education in the area.

DECISION-MAKERS HAVE TO BE "NURTURED"

In a survey in 2009 among Swedish politicians and leaders, only four out of ten people were able to mention an example of an assistive technology device that could support mental

functions. As politicians and leaders have a vital influence on the development of the organization and resources of the assistive technology area, a special effort must be made in order to supply them with appropriate information on assistive technology devices that support mental functions and on their effect.

USE PROFESSIONALS WHO HAVE KNOWLEDGE OF THE ASSISTIVE TECHNOLOGY DEVICES

Several groups of professionals are concerned with information, counselling, procurement and testing with regard to assistive technology. In particular, occupational therapists, but also other professional groups who are concerned with referral of social services, coordination of treatment efforts; general practitioners and assistive technology consultants, can give valuable help in this area. In addition, they must have knowledge of assistive technology devices that can support mental functions and on how they can. In addition, they must know the process of procurement and be able to analyse the activity level of a mentally ill person and, together with that person, find the immediate need for compensation.

INCREASE USER PARTICIPATION IN THE PROCUREMENT OF ASSISTIVE TECHNOLOGY

Assistive technology that supports mental functions has to be adapted individually, and the aim should be unique well-functioning solutions. During practical work in order to find a suitable compensation by the use of assistive technology for people with mental illness, the starting point must therefore always be that it is the person in question who is the expert of himself and his own life. The person in need of mental support in the form of assistive technology must naturally participate in the assessment to the extent possible, and as much as he or she wishes. By this, the experiences and knowledge of the professionals and the users will be brought together to a shared knowledge exchange and knowledge development of benefit to all parties involved.

CREATE A JUST, FLEXIBLE AND EASILY ACCESSIBLE PROCUREMENT SYSTEM FOR ASSISTIVE TECHNOLOGY DEVICES

For physical assistive devices, such as wheelchairs and rollators, the assistive technology system is for the most part well-functioning. But when it comes to information technology based assistive devices to support impaired mental functions, there arise interpretation problems, just to name an example. "Is a cell phone a consumer good or an assistive device for the disabled when it is recommended as a memory and planning assistive device?" And what is one supposed to do when the assistive device "falls between two stools", so the different departments try to avoid the economic responsibility? It might seem as if the legislation on assistive technology devices and the organization of assistive technology procurement have not kept up with the technological development on the assistive technology market. In order for the procurement of assistive technology to work appropriately in support of people with mental illnesses, it has to be better adapted to the actual reality and be just, flexible and easily accessible. In addition, it must have a built-in adjustment contingency, so it can constantly take into account the new assistive technology devices that keep being developed all the time.

ESTABLISH LOCAL CENTRES WHERE ASSISTIVE TECHNOLOGY DEVICES THAT CAN SUPPORT MENTAL FUNCTIONS CAN BE TESTED

It is important for learning and understanding to be able to see, hear, touch and test new devices. Centres where one can test the various assistive technology devices that can be used by people with mental illnesses, in order to support mental functions, may increase the knowledge and expertise within this area among professionals, close family members, assistants and the users themselves. The more centres, the more accessibility and thus reinforced information on the assistive devices among the population.

STIMULATE THE DEVELOPMENT OF ASSISTIVE TECHNOLOGY DEVICES WITHOUT "THE LOOK OF ASSISTIVE DEVICES"

All people, especially young ones, would like to have daily tools and assistive devices that are smart and have good functionality. The assistive devices should therefore preferably not stick out or have a "disability-assistive device-look". Solutions with standard products are therefore a good choice. The development of these products, in order for them to also be able to support impaired mental functions, should thus be stimulated. The assistive devices will therefore also be more easily accepted by the individual user.

STIMULATE RESEARCH AND DEVELOPMENT OF ASSISTIVE TECHNOLOGY DEVICES FOR PEOPLE WITH MENTAL ILLNESS

There is very limited research on the effects of assistive technology use for the support of mental functions for people with mental illness. In addition, there is need for knowledge on analysis and implementation methods and types of assistive technology devices that are effective and useful for the users, as well as knowledge on proper organization of the procurement of assistive devices within the field of mental illness. Research should therefore be stimulated, so a well-documented knowledge base can form the basis for the use of assistive technology devices for people with mental illness.

CONTINUE THE EXCHANGE OF KNOWLEDGE BETWEEN THE NORDIC COUNTRIES

The network and the cooperation, between the Nordic countries on assistive technology devices that support mental functions, has been a contributory factor to increased knowledge in the area in all of the countries, and it has contributed to an increased use of assistive technology devices for people with mental illness. So, there is reason to continue the networking as well as seeking more international knowledge in the area and carrying out common Nordic conferences and development and research projects.

Nordic sources of inspiration

In the Nordic countries there have, during recent years, been carried out various initiatives in order to create greater attention and knowledge on the benefits of using assistive technology devices to support mental functions of people with mental illness. In the following, some of these measures are listed.

“HUMAN TECHNOLOGY”

In the project “Human Technology” (2001–2004), the Swedish Institute of Assistive Technology (SIAT), together with Swedish user organizations, carried out a Nordic survey on status quo regarding knowledge and use of assistive technology devices that support mental functions of people with mental illness. Since the survey showed that the use of these assistive technology devices was minimal, the project “Human Technology” started a research project in the Swedish municipality of Karlstad where people with mental impairments tested both low-end and high-end assistive technology devices, e.g. time and memory assistive devices and assistive devices to create a structured everyday life.

The result showed that the assistive technology devices helped to create greater independence and activity, increased confidence and structure of everyday life for the users. After 2005, the results from the “Human Technology” project were incorporated into the department of social psychiatrics in the municipality of Karlstad and the municipality furthermore received state aid to establish a national resource centre on assistive technology for people with mental illness.

SURVEY OF THE PSYCHIATRIC FIELD IN SWEDEN

In Sweden, there has been carried out a national survey with the aim of looking at methods of work, cooperation, coordination, resources, staff and competencies in institutions, social care and rehabilitation of people with mental illness and impaired mental functions (“Nationell psykiatrisamordning 2003–2006”). In the final report from this survey, people referred to the good experiences from the “Human Technology” project, and it was stressed that there were still very few people with mental impairments who were able to get assistive technology devices. In addition, the survey stated that there was a lack of knowledge and product development within the area. The report recommended that the Swedish Institute of Assistive Technology (SIAT) should be in charge of the organization of the continued development work within the area.

AMBASSADORS OF ASSISTIVE TECHNOLOGY

The Nordic cooperation project “Leva Lättare” (“Easy living”) (2006–2009) originated in the results from the “Human Technology” project. The “Leva Lättare” project had the aim to contribute to increased use of assistive technology that supports mental functions of people with mental illness. The concrete aim consisted of developing teaching material that could be used to educate “ambassadors of assistive technology” in the Nordic region.

An ambassador of assistive technology is a user that has been taught how to use assistive technology that supports mental functions, and thus can help other people with mental illnesses to seek and use appropriate assistive technology. In addition, the ambassadors of assistive technology generally have to provide information on assistive technology devices

that support mental functions of people with mental illnesses, their close family members, professional groups within the area and developers of assistive technology; the last-mentioned with regard to improvements, changes and personal adjustments of assistive technology devices.

The project produced a Power Point presentation that describes mental impairments and which assistive technology devices may be used and how they are used. The project has in connection with the Power Point presentation prepared short videos, "Kaos med möjligheter" ("Chaos with possibilities") and "14 små hjälpmedel" ("14 minor assistive technology devices"), and posters and textbooks. In addition, the ambassadors received the evaluation of the "Human Technology" project on the use of assistive technology for people with mental illness.

In Sweden, the user organizations held four courses with 20 participants in each and a follow-up conference with 50 participants telling about their ambassador work. In 2010 there were 67 additional assistive technology ambassadors who received education in connection with the project "Hjälpmedel i fokus" ("Focus on assistive technology"), that will be referred to in the next chapter.

The ambassadors of assistive technology get educational material after their education and they do get the opportunity to borrow an "assistive technology bag", with assistive technology devices, for demonstration purposes. On the homepage of the Swedish Institute of Assistive Technology (SIAT), one can also book an ambassador for a lecture or a teaching session.

The ambassador training has to a lesser degree been carried out in Denmark and Finland. In Iceland, the "Hjálpartækjamiðstöð SÍ" ("Assistive Technology Centre of the Icelandic Health Insurance") uses the material for special education of educators in assistive technology. The material is also used for education at the Norwegian centres of assistive technology.

The "Leva Lättare" project has furthermore published a series of articles, held exhibitions, participated in fairs and arranged a series of educational activities on assistive technology devices that support mental functions. In addition, the project has led to a positive development with regard to publicly accessible information on mental illness and assistive technology. Several institutions and organizations have thus improved and supplemented the information on their websites and extended and qualified their remaining information services to the general public and appropriate target groups within the area.

FOCUS ON ASSISTIVE TECHNOLOGY – FOR PEOPLE WITH MENTAL IMPAIRMENT

The Swedish Institute of Assistive Technology (SIAT) has been given the task, by the Swedish government, from 2009–2011, to make a special effort within the area of assistive technology for people with mental illness. There have been allocated DKK 15 million per year with the aim of expanding and developing information measures in the area, as well as improving the information channels to the users, close family members and other vital actors and as well as developing better services and new assistive devices.

The project also conducts user surveys and mapping of the level of knowledge of various groups who have influence on the use of assistive technology devices among people with mental illness. A health-economic analysis has been performed and a range of educational and information initiatives are being conducted. In addition, the Swedish Institute of Assistive Technology (SIAT) provides financial support to other developmental projects. The municipalities, counties, businesses, educational institutions and interest organizations in Sweden may benefit from this support. In order to receive support, they have to work on promoting the use of assistive technology devices that support mental functions, and that create social inclusion for people with mental illness.

The overall aim of "Focus on assistive technology" is that people with mental illness to a higher degree are able to participate in society by having access to assistive technology that can compensate for their mental impairments; precisely in the same manner as citizens with other forms of impairment.

COOPERATION WITH THE PRISON SERVICE

The Swedish Institute of Assistive Technology and the Swedish Prison and Probation Service have initiated cooperation on the procurement of assistive technology devices that support mental functions to inmates in three prisons. Several inmates have mental impairments. They have the opportunity to get individually adapted assistive devices that can support their mental functions or that can have a relaxing effect and thus counteract stress. An adjustment is also being made with regard to the prison environment that might contribute to an easier everyday life for the inmates.

At the same time, approximately 50 of the staff within the Prison Service get education on mental impairments of people with mental illness and the possibility of helping these people with assistive technology devices.

This project is part of the efforts under the aforementioned "Focus on assistive technology devices – for people with mental impairments".

ACTIVE PARTICIPATION, EQUAL STATUS AND INCLUSION

"Active participation, equal status and inclusion. A comprehensive assistive technology service" ("Aktiv deltakelse, likeverd og inkludering. Et helhetlig hjelpemiddeltilbud") is the title of a national Norwegian assessment (NOU 2010:5). It is supposed to illustrate how the procurement of assistive technology devices and the development of assistive technology in Norway are supposed to look like in the future, and this also includes assistive devices that support mental functions of people with mental illness. The focus is especially on the following issues:

- Increased user participation and cooperation. Greater freedom of choice and simplification
- A robust and flexible system of assistive technology in relation to the demographic development, e.g. with regard to changes in disease patterns in relation to the technological development
- Harmonization of efforts in order to reach comprehensive solutions
- Improved efforts within the area of assistive technology with the aim of getting more people with impairments into education and work
- A competence enhancement with the aim of increased research, development and innovation within the area of assistive technology
- Use of everyday technology such as e.g. cell phones to support people with impaired mental functions. The goal is individual adjustment and development of adaptations. It is a task for both suppliers of assistive technology and developers.

THE ABT-FUND

In 2008, the Danish government started the program "Applied E-government Technology" ("Anvendt Borgernær Teknologi" (The ABT-fund)), allocating DKK three billion to promoting the use of new technology in the public sector to the end of year 2015. This includes also the use of assistive technology devices for people with mental impairments. Two projects in the ADHD area have, as an example, received economic support. More information is to be found at www.abtfonden.dk

THE CELL PHONE AS COGNITIVE SUPPORT FOR PEOPLE WITH ADHD, AUTISM OR ASPERGER SYNDROME

In the Nordic project "The cell phone as cognitive support for people with ADHD or autism/Asperger syndrome", results from all of the Nordic countries, with regard to product development, development projects and from the users' daily use of cell phones, were collected. The aim was to promote the use of cell phones for people with autism or Asperger in order to cope with stressful everyday situations.

The project conducted 10 video lectures in English with subtitles. It was possible to follow the lectures in all Nordic institutions etc., that had a video conferencing system, and they were transmitted via a website of the Nordic Centre for Welfare and Social Issues: www.takterrassen.no/mobil/. Other material is also to be found here, e.g. on how smartphones may be used to support impaired mental functions.

THE DANISH NATIONAL DATABASE ON ASSISTIVE TECHNOLOGY

The Danish "National Database on Assistive Technology" contains approximately 48,000 assistive devices, which are described in detail and also often illustrated with a photo. Next to some of the devices, one can further see brochures, user manuals and video clippings. The database also contains an idea and discussion forum for all users; there are guidelines for various disability groups and links to relevant literature and test results, etc. The disability guidelines consist of descriptions from different disability organizations on the type of assistive devices of benefit to their users. As an example, the ADHD association is one of the disability groups that have a direct link to the Danish National Database on Assistive Technology. Here, members of the association can get instant knowledge about assistive devices that support mental functions. The Danish National Database on Assistive Technology can be found here: www.hmi-basen.dk/

A SWEDISH WEBSITE FOR ASSISTIVE TECHNOLOGY THAT SUPPORTS MENTAL FUNCTIONS

The Swedish Institute of Assistive Technology (SIAT) has a portal on their website that contains information on mental impairments, on assistive devices that support mental functions, and guidelines on how to acquire assistive devices: www.hi.se/kognitionsportal. There are listings of publications and films on assistive technology for people with mental illness and listings of links to relevant websites. There is also a database with assistive devices, a database which is organized according to the mental impairments these devices can compensate for. The assistive devices in the portal can be acquired from counties and municipalities in Sweden or can be bought in the open market.

It is also possible, via the portal, to ask questions on assistive technology to an expert in the area. There is also a test on "how your everyday life functions", on where to get individual advice about appropriate assistive devices, and in "the cognition simulator" one is able to experience possible alternatives of education for people with mental impairments.

THE KNOWLEDGE NETWORK ON ADHD UNDER THE AUSPICES OF THE NORDIC CENTRE FOR WELFARE AND SOCIAL ISSUES

In the report "Focus on Welfare Technology and ADHD", the Nordic Centre for Welfare and Social Issues describes the everyday problems that can occur for people with mental impairments, and the report describes the possible solutions modern technology opens up for. The report contains research findings in the area and a range of personal examples on the use of

assistive devices. In addition, it has a chapter on the role of the decision-makers, and it ends with references to relevant literature and websites.

The Nordic Centre for Welfare and Social Issues has also taken the initiative to build up a Nordic knowledge network on ADHD and assistive technology.

A PERIODICAL FROM A MUNICIPAL DEPARTMENT FOR SOCIAL PSYCHIATRY, ALCOHOL AND NARCOTICS

“The department for social psychiatry, alcohol and narcotics” in the Swedish municipality of Karlstad publishes the “ASP Bladet”, a periodical that provides information on, e.g. assistive devices that can support mental functions of people with mental illness. The periodical is published in many different forms, e.g. as a printed newspaper, as an electronic newsletter that is sent as mail or can be read on the website of the periodical. It is also possible to receive a choice of news as video films or news podcast. In addition, it is possible on the Facebook profile of the “ASP Bladet” to read news and discuss the contents. The website of the “ASP Bladet” can be found here: <http://aspbladet.wordpress.com/>

Bibliography

- Berglund P., Palaszewska K. Smartphones applikationer – ett alternativt hjälpmedel, thesis at the Department of Computer and Systems Sciences, DSV. Stockholm University, 2010
- Brun C., Grönberg EM., Fritzson M. Man kan inte ha kaos både i huvudet och hemma. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2008
- Dahlberg R. Kognitiva hjälpmedel – nationell kartläggning av hjälpmedelsförsörjningen för personer med kognitiva funktionsnedsättningar. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2008
- Dahlberg Å. Kostnadsnyttobedömning av hjälpmedel till personer med psykisk funktionsnedsättning. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2010
- Dahlberg Å. Hjälpmedel lönsamma. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2010
- Dahlin E. Kognitiva hjälpmedel. Nationell uppföljning av hjälpmedelsförsörjningen för personer med kognitiva funktionsnedsättningar. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2010
- Granvik M. Rutiner i vardagen – varför då? Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2008
- Granvik M. Teknik i vardagen – varför då? Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2008
- Hallberg P., Einan S., Gudnason M., Karlsson N., Lagerkrantz H., Simic N., Vidje G., Winther Wehner L., Winterberg E. Fokus på välfärdsteknologi och ADHD. Stockholm: Nordic Centre for Welfare and Social Issues 2010
- Hellström A. Vuxna med ADHD ur ett hjälpmedelperspektiv. Stockholm: The Swedish Institute of Assistive Technology (SIAT) 2006
- The Swedish Institute of Assistive Technology (SIAT): Hjälpmedel i fokus – för personer med funktionsnedsättning. Om ett regeringsuppdrag 2009–2011. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2010
- HumanTeknik. Hjälpmedelsförsörjningen för personer med psykiska funktionshinder – Report no 1 Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2003
- HumanTeknik. Hjälpmedel i studiesituationen för personer med psykiska funktionshinder – Report no 4. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2004
- HumanTeknik. Handdatorer som stöd i arbetsinriktad rehabilitering för personer med psykiska funktionshinder – Report No. 6. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2005
- HumanTeknik. Hjälpmedel för minne och orientering vid panikångest – Report No. 7. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2005
- HumanTeknik. HumanTeknik och jag – Report No. 9. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2005
- Lund ML., Lindén A. Användning av vardagsteknik vid förvärvad hjärnskada. Arbets-terapeutisk bedömning och intervention i daglig aktivitet. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2010
- Persson A. Hjälpmedel i fokus. Delrapport 2010. Stockholm: The Swedish Institute of Assistive Technology (SIAT), 2011
- Svahn M. Erfarenheter av kognitiva hjälpmedel. En intervjustudie av personer med kognitiv funktionsnedsättning, Rapport från Hjälpmedelscentralen nr 55. Landstinget i Uppsala län, 2010

- Ueland T., Øie M. "Kognitiv svikt ved psykoser". Oslo: Stiftelsen for Psykiatrisk Opplysning, 2006

WEBSITES

- "Klara mera" – centre for cognitive support: www.klaramera.nu
- The Danish Centre for Assistive Technology: www.hmi.dk
- Föreningen för kognitivt stöd: www.fks.org.se
- Human Teknik: www.humanteknik.se
- The Swedish Institute on Assistive Technology (SIAT): www.hi.se
- Nordic Centre for Welfare and Social Issues (NVC): www.nordicwelfare.org
- Psychiatric Information Foundation, Norway: www.psykopp.no
- Trollreda Hjälprea: www.trollreda.vgregion.se



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