

Assistive Technology Provision

Assistive technology device can be defined as ‘any item, piece of equipment, or product system, whether acquired commercially or off-the-shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities’ (Technology-Related Assistance for Individuals with Disabilities Act of 1988, P.L 100-407, U.S. Congress).

It is well known that assistive technology provision is critical to inclusion and participation. Assistive technology devices and services assist people with disabilities (PWDs) to enhance their abilities and increase their level of independence. Assistive technology, which matches the user needs and environment, enables PWDs to engage in daily life activities and participate in their communities.

Due to the crucial role of assistive technology in rehabilitation, we have chosen “Assistive Technology Provision” to be the theme of this issue with the provided articles discussing the local situation of assistive technology provision in some regional countries.

From NRCD, Japan



Provision Systems of Assistive Products in Japan

Reported by Dr. Reiko Fukatsu, Dr. Kumiko Imahashi, Mr. Yuzuru Kamezawa, and Dr. Kozo Nakamura, WHO CC

When a person with disabilities (PWD) needs assistive products in Japan, they are leased from the municipal governments or purchased from a designated provider. In principle, the user pays 10% of the costs and public health services 90%. The central, prefectural and municipal governments share the cost in the ratio of 2:1:1. Two major public health services involved in the provision of assistive products are based on the Long-term Care Insurance Act

and Services and Supports for PWDs Act, respectively.

The long-term insurance service is for people of 65 and older, however, people under 65 suffering some specific diseases such a stroke may also use it. When a person wishes to use the service, or to rent some assistive products in this system, an application must be submitted first to the municipal government to obtain a certificate called “the primary nursing care requirement authorization” including a doctor’s statement, which proves his/her needs of the care. Upon receipt of such application, a municipal government officer or a care-manager from a designated service provider visits the applicant at home to check his/her physical and mental condition. Then, his/her needs of care and their extent are

evaluated to classify him/her as not applicable (self-reliant), Support Required (Level 1 or 2) or Long-term Care Required (Care Level 1-5); the monthly budgetary limit in the use of the service is determined by these classifications. Then, a local care-manager in the applicant's place of residence makes a care plan, including the use of assistive products, within the limit according to the applicant's physical and mental condition. In 2011, a total of approximately 16 million items of assistive products were leased, and the benefits paid approximately amount to 200 billion yen (2 billion dollar).

Younger PWDs who are not covered by the above-mentioned insurance system use other public health service set out in the Services and Supports for PWDs Act. A user of this service submits an application to the municipal government as in the case of a user of the long-term insurance service. A doctor's statement is also required. The types of prosthetic devices for which the payment is available include artificial limbs, orthoses, seating systems, white canes, artificial eyes, spectacles, hearing aids, electric-powered wheelchairs, communication devices for people with severe disabilities, pediatric seating systems, standing frames, head supports and toileting aids. In 2010, a total of approximately 20 billion yen (200 million dollar) for the acquisition of approximately 160 thousand items of prosthetic devices has been annually paid nationwide, and approximately 5 billion yen (50 million dollar) for the repair of 120 thousand items.

There are also some systems, which provide or lease daily life support products to people with severe disabilities. The types of available services include the provision or lease of a care

bed, bed mattress, toilet accessories, nebulizers, sputum suction devices, information communication assistive devices for people with visual and hearing disabilities, stomata and urine drainage bags as well as the payment to cover the costs of home modifications to accommodate the needs of people with lower extremity and trunk disabilities or cerebral palsy.

Research Activities about Assistive Products for Persons with Dementia at NRCJ Japan

Reported by Dr. Takenobu Inoue and Dr. Koza Nakamura, WHO CC

The number of persons with dementia is increasing worldwide, and it has been estimated that the figure will reach 65.7 million in 2030 and 115.4 million in 2050¹⁾. In particular, estimates have shown that the number in Japan will reach 4.7 million by 2025²⁾. More specifically, the number of persons with mild dementia is predicted to rise markedly as a result of medical progress that can slow the course of the disease, and advances in diagnostic technologies that will facilitate its early detection. Based on these perspectives, NRCJ Japan began research projects about assistive technologies to support persons with dementia in 2005. We especially focus on what the persons with dementia can do, and assistive products that promote their autonomy and independent living. Our projects cover three kinds of activities as follows.

1) *Information distribution*

The most important activity is information distribution because few people are familiar with the assistive products for persons with

dementia in Japan. We have an “Exhibition Hall of Assistive Products for Persons with Dementia” in our center, with about 80 items from all over the world like pill reminders, locators, electric calendars, and so on. Over 3000 people have visited our hall from 2007 to now.

We have also published a manual about assistive products for persons with dementia in our role of WHO Collaborating Centre for Disability Prevention and Rehabilitation. The manual gives explanations of about 30 products and how to use them.

<http://www.rehab.go.jp/english/pdf/E27.pdf>

2) Evaluation of assistive products

Efficacy of these assistive products must be verified based on the evidence. We conducted an evaluation project funded by the Ministry of Health, Labour and Welfare of Japan from FY 2010 to FY 2012.

Four kinds of products: pill reminders, locators, electric calendars, and TV remote controllers, were selected and evaluated. The participants with mild dementia were asked to use these products for around three months. The number of the participants was as follows: pill reminders: 19, locators: 3, electric calendars: 7, and TV controllers: 14. The results shows that 73.3% of the pill reminder users, 66.7% of the locator users, 85.7% of the electric calendar users and 37.5% of the TV controller users indicated positive effect with these assistive products.

Based on the experiences of these interventions with the assistive products into the daily living of persons with dementia, a fitting manual and an intervention guide are getting ready for publication.



Pill reminder: at a pre-set medication time, a case accommodating pills automatically rotates so that only a dose of medication can be taken out. At the same time, the alarm goes off and the red lamp on the cap flashes, which prompts the person with dementia to take medication.



Locator: key holder-type receivers have been attached to items easily lost. When the user presses the number button on the transmitter for searching for the item, the sound of the receiver to which the number is assigned will go off to inform the user of the place of the item.



Electric calendar (Prototype): month, date, and day of the week are displayed using red LED on the black background. The user can easily notice the information because of red light emissions, which are easily recognized by a person with dementia.



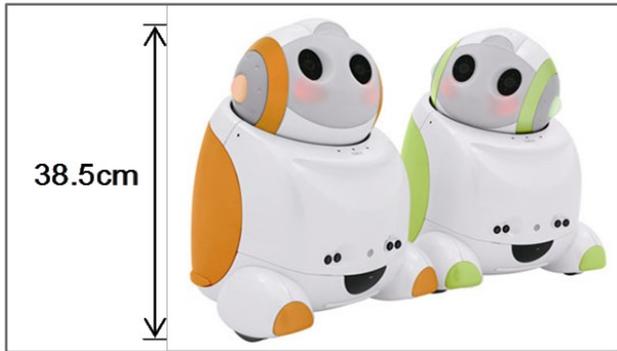
TV remote controller: TV controller that is covered by special case. Only power button, volume buttons and channel select buttons can be used. The user can easily notice the buttons that are frequently used.

3) Development of novel assistive products

Development of information support robot system is now on going, supported by Japan Science and Technology Agency, JST, under Strategic Promotion of Innovative Research and Development Program. “PaPeRo” developed by NEC corporation was adopted as a platform of this project. We are developing the support system that informs important information for daily living, such as date, schedule, and health protection, to persons with dementia through

conversation with the robot system³⁾.

http://www.rehab.go.jp/ri/kaihatsu/papero_html_e/index.html



Communication robot "PaPeRo": it is equipped with speech recognition, speech synthesis, facial image recognition, autonomous mobility, head motion, light indication functions, and tactile sensors.

In order to improve autonomy and independent life of persons with dementia with using effective assistive products, comprehensive approach involving many kinds of stakeholders is really needed. Researches and developments at the use field with users are important. We call it "Field-based Innovation".

Reference

- 1) World Health Organization (WHO) and Alzheimer's Disease International, Dementia: A public health priority, WHO, (2012).
- 2) The Ministry of Health, Labor and Welfare, <http://www.mhlw.go.jp/stf/houdou/2r9852000002iau1.html>, (2013) (in Japanese).
- 3) Takenobu INOUE, Misato NIHEI, Takuya NARITA, Minoru ONODA, Rina ISHIWATA, Ikuko MAMIYA, Motoki SHINO, Hiroaki KOJIMA, Shinichi OHNAKA, Yoshihiro FUJITA and Minoru KAMATA, Field-based Development of an Information Support Robot for Persons with Dementia, Technology and Disability, 24 (4), (2012), 263-271.

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From NORFI, The Philippines



The Orthotic/Prosthetic (OP) Shop of NORFI

Reported by Ms. Anna Maria M. Gennai, WHO CC

The building of the OP Shop of NORFI was donated by the Handicap International together with some equipment, tools and materials. Presently, these are the devices and appliances that NORFI's OP shop can make:

- (1) Manual wheelchairs;
- (2) Leg-orthoses: Knee Ankle Foot Orthosis (KAFO); Ankle Foot Orthosis (AFO); Hip, Knee, Ankle Foot Orthosis (HKAFO); Cast Brace; Scottish Rite; Dennis Brown; Tachfjian Abduction brace;
- (3) Leg-prostheses: below knee; above knee; and Symes;
- (4) Wooden and aluminum crutches; aluminum canes and quad canes; walkers;
- (5) Standing box;
- (6) Body brace: Knight Taylor Brace; Chairback Brace; Jewett Brace; Four Poster/Cervical Collar; Minerva/Boston Brace;
- (7) Hand Orthoses: hand splint (fiberglass).

Appliances/devices are made-to-order. Upon recommendation by the CBR Rehabilitation Officer who is a physical therapist, the patient is referred by the CBR Local Supervisor to the Negros Occidental Rehabilitation Center in Bacolod for diagnosis and assessment by NORFI's Medical Director of the Center who is a physiatrist. He would then make recommendation on the appropriate assistive device for the patient. The patient then proceed to the Prosthetics/Orthotics Workshop

where he will be measured by the technicians. When done, the device is fitted to the patient and upon approval by the physiatrist, the appliance is released.

Costs of these are generally borne by sponsors, in full or in part, e.g. Mayors, the Congressional Representative of their District and the Department of Social Services and Development (DSWD) of their Local Government Unit and on very rare occasions, national government agencies like the Philippine Charity Sweepstakes Office (PCSO). Otherwise, the clients have to shoulder the entire cost.

Free Hands for Anyone, Anywhere

Reported by Ms. Anna Maria M. Gennai, WHO CC

Already on its 3rd year, the giving out of FREE prosthetic below elbow hands has become an annual activity of NORFI with the Ellen Meadows Prosthetic Hands Foundation and the St. Scholastica's Academy - Bacolod Alumnae Foundation. This partnership started when two of NORFI's Board who are members of the St. Scholastica's Foundation were asked to help look and identify prospective recipients of the hand using the CBR local supervisors and NORFI's Rehabilitation Officers.

Check out this link in YouTube which features the 1st time the LN-4 Hands came to Bacolod in 2011:

<http://www.youtube.com/watch?v=o4ehSg3UpMI>

Unlike the more expensive prosthetic hands available in more developed countries, the LN-4

prosthetic hands are available to anyone, anywhere, especially in developing countries at no cost to the recipient. It is functional, light weight, non-medical prosthetic hand which initially requires 13 centimeters of residual limb below the elbow, reasonable flexibility and good health. However, with some slight modifications, people with residual limbs with less than 13 cm length can still use the hands.



Besides being free, the hand is relatively easy to put on and off in less than a minute and learn how to use it in maybe 10 minutes or less. There are 3 fixed fingers and 2 fingers which can be adjusted to close (to grip) and open (to release). To date, 72 hands have been given out.

New Lease of Life

The free hands provided by the Ellen Meadows Prosthetic Hands (EMPH) Foundation have given the recipients a new lease of life. Here is the story of one of the recipients:

Edgar is 33 years old from Barangay Sicaba, Cadiz City. He is a victim of dynamite fishing in 2004. He used to drive to the different barangays in the city to sell the fish. After the accident, it was impossible for him to continue and his wife had to take over in providing for the needs of the family.

A below elbow amputee with residual limb of 27.5 cm, he easily qualified to be one of the recipients of the LN-4 Hand through the EMPH Foundation on February 2011.



The LN-4 Hand helped him and his family get back on their feet again. He can again drive a vehicle and get back to his old occupation – fish vendor, while his wife stays at home to take care of their home and their 8- year old daughter. He, also, drives a motorcycle and brings his daughter to and from school. He is very grateful of the hand assistance.



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Issues and Challenges in the Provision of Mobility Devices in the Philippines

Reported by Ms. Cheryl Ann 'Tchai' Tanudtanud-Xavier

The Philippines is home to more than 92 million population spread over an archipelago of 7,107 islands. The country's geographic make - up presents unique challenges in the provision of basic services including that of the assistive mobility devices- prostheses, orthoses and wheelchair.

In a recent study, we have identified similar barriers to accessing mobility devices, as reported by WHO world-wide:

(1) *leadership and governance* – wide gap between regulations and laws and the reality on the ground; low priority given to implementation of disability policies; multi-agencies responsible for segmental implementation of disability related activities, but limited roles and responsibilities vested on the National Council on Disability Affairs to monitor the implementation of programs both at the national and local level; effect of decentralization on prioritizing disability agenda at the level of local government units and the subsequent low implementation of disability related programs.

(2) *Financing and affordability* – funding appropriation for the sector is not prioritized in spite of mandates to do so; because of limited access to government funding, there is reliance on welfare/donated/distribution model and 'out-of pocket' payment for assistive mobility devices; market price of locally manufactured

wheeled mobility products and currently available prosthetic and orthotic devices is too high for most people with disabilities (PWDs); there is preference for purchase of lower quality, cheaper products over costly but appropriate devices. On a positive note, the Mobility Orthotics Rehab Prosthetic Help Package (MORPH Package) of the National Health Insurance Program (PhilHealth) launched in February 2013, is an important milestone in funding mechanism of the State for PWDs, although initially limited in scope and area of coverage. The program starting in June 2013, provides a Php 15,000 (USD 350) assistance to a PWD requiring assistive device (excluding wheelchairs), 85% of which is mandatory for cost of device (Php 10,000), while the non-mandatory 15% is to cover service cost (Physiatrist, PO, PT).

(3) *Service delivery* – is influenced by the shortage of trained service personnel able to deliver service; service providers are few and mostly urban-centric, away from addressing the needs of the region and the rural areas; lack of awareness even within rehabilitation personnel on disability issues and mobility device specific training; low prioritization of disability even within the medical profession. In the absence of sufficient service providers, the programs initiated by nongovernmental organizations offer an innovative approach to addressing the pressing needs across the country, without compromising the quality of service provided and issuing the appropriate device; whilst increasing advocacy in the local government units to influence prioritizing disability issues at the grass root level.

These approaches however are temporary and there is an increase pressure upon the state

and the local government to put in place mechanisms to support the implementation of programs for the disability sector, particularly on provision of assistive devices.

(4) *Production* – limited local manufacturers of mobility devices (a) that need to compete with low priced products in the market for wheeled mobility devices and expensive commercially available prosthetic and orthotic devices; (b) that has to sustain the business at the same time compete with mass manufactured imported products; (c) that do not focus on marketing and promoting manufactured products to increase public awareness on devices available, influence demand and subsequently can affect pricing of these products; and (d) absence of product standardization as a mechanism for quality control.

(5) *Physical environment* – (a) low implementation and prioritization of the Accessibility Law limits personal mobility of PWDs within the community; (b) limited/absent accessible public transportation system for PWDs; (c) geographic spread of the country; and (d) presence of service providers only in key regional centers are physical barriers for PWDs to access services.

(6) *Awareness, cultural and social barriers* – (a) there is marked lack of awareness of disability issues in all sectors of the community, even among PWDs who are unaware of their rights; (b) these lack of awareness puts disability in the least of priorities of different stakeholders both public and private; (c) the religious nature of Filipinos lead to the cultural acceptance of disability as part of one's 'fate' and reinforces charity/welfare mindset in the society

cultivating a disabling social environment and limits the chances for majority of PWDs to access basic services.

While the country has started action to improve the lives of PWDs, there is still much that remains to be done to enable people with mobility disabilities to participate fully in the community.

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From NRC, South Korea



New Moves in Assistive Device in Korea

Reported by Dr. Kim Wan-Ho

According to the Disability Law in Korea, assistive device for the disabled are divided into three large groups: orthosis/prosthesis; assistive device including wheelchair and seating; and simple devices used to provide help in the everyday life. If deemed necessary by a doctor, the costs of orthosis, prosthesis, manual and powered wheelchairs, are covered by the national health insurance program. Since 2008, long term care insurance has partially covered costs for simple everyday assistive devices for the elderly, and the Ministry of Health and Welfare has also provided costs for everyday assistive devices for those under the medical aid program.

A recent move in educating the public on the importance of seating devices has led to inclusion of seating devices in the assistive device reimbursement policy provided by the national health insurance program.

Adequate publicity is still needed to familiarize disabled people in Korea on the benefits they can receive regarding assistive devices through the current national insurance program. Furthermore, adequate quality control of the assistive devices provided is an area that needs more attention in Korea.

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From CRRC, Beijing, China



Current Status and Future Perspectives of Assistive Device Service in China

Reported by Ms. Jennifer Zhang

Assistive device service for persons with disabilities (PWDs) has received great attention from the central government and since 1992 it was included in the national plans. In important state documents, it has been clearly stated that assistive device service for PWDs plays an important part in the construction of the social security system and service system for PWDs and serves as an important approach to achieve the goal of "Rehabilitation Service for All".

At present, China's conventional assistive device service models for PWDs include purchase by PWDs themselves or distribution by the government. Since 1996, the central government has been providing subsidies to the underprivileged PWDs through distributing assistive devices, while local governments have also begun to use the financial and employment security funds to carry out assistive device provision projects for underprivileged PWDs. Supply of assistive devices for PWDs and the number of free

distributions in Mainland China increase every year. So far, assistive devices have been mainly distributed in kind, while PWDs who are better-off mainly meet their own demands through purchase of assistive devices.

In recent years, China Disabled Persons' Federation (CDPF) has taken a series of measures to promote the construction of assistive device service institutions. 258 prefecture-level and 2076 county-level assistive device service institutions have been established through the efforts of all levels of disabled persons' federations, which form a primary network covering the whole country.

Starting with the "Tenth Five-Year Plan" (2001-2005), the central government has allocated special funds for underprivileged PWDs to provide assistive devices, leading to the increase of corresponding financial input from local governments, thereby expanded the population of benefiting PWDs. During the "Eleventh Five-Year Plan" (2006-2010), 5.15 million pieces of assistive devices were provided to PWDs, including 2.42 million pieces that were given for free, more than 120,000 cases of fee waiver for prosthesis, and more than 70,000 cases of fee waiver for orthosis.

In 2010, CDPF developed and issued the "Catalog for Universal Assistive Devices for PWDs" that gives guidelines on this issue (http://www.cdpf.org.cn/2008old/wxzx/content/2010-03/24/content_30280208.htm).

However, implementation varies according to different regions. In recent years, a number of subsidy policies were issued in economically developed areas such as Shanghai, Beijing, Zhejiang, Shenzhen and others. For instance, Shanghai arranges funds to give out unified free assistive devices to the underprivileged PWDs;

Beijing municipal government and district government provide funding to allot a certain number of free assistive devices for underprivileged PWDs every year. The Beijing Disabled Persons' Federation allots necessary assistive devices for free to children with disabilities within the scope of the catalog which is renewed annually. Anhui province and Xinjiang Autonomous Region are the first to include assistive devices in the medical insurance for urban residents as well as the New Rural Cooperative Security System.

In general, work related to assistive devices is just beginning in China. China has a vast territory, a largely-varying natural resource distribution, economic and social development, and uneven development which not only exist between the central western regions and eastern coastal areas or between urban and rural areas, but also among different regions in the same province.

The national law to protect PWDs requires government to provide assistive devices for PWDs. So far, due to China's lagging social security system, assistive device service has not really been included into the social security system. There is a lack of unified institutional arrangements, stable source of funding, and clear scope of subsidy. There is a big gap between the services available and the required diversity and quality of assistive device service.

According to data from the Second National Sample Survey on PWDs in 2006, there are 83 million PWDs in China, among whom 38.56% are in need of assistive devices. However, only 7.31% of PWDs in China have access to assistive devices. The assistive device provision rate is still relatively low among PWDs in China.

According to monitoring data on PWDs in 2010, the rate is only 11.5% and 6.7% in urban and rural areas respectively. Compared with the international advanced level and the expectations and demands of PWDs in China, we still have a long way to go in technological content of products, degree of personalized service, and professional service level of assistive device service.

At present, the main objectives of assistive device work are: (1) to establish and improve the basic assistive device security system for PWDs; (2) to build assistive device service system; (3) to form a primary assistive device service network covering both urban and rural areas; (4) to strengthen the professional team building; and (5) to continue working to meet the growing demands for assistive device service. We believe that by our joint efforts, by 2015, there will be great breakthroughs in terms of both quantity and quality in the provision of primary assistive device service for all PWDs in need in China.

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From Guangzhou, China



Improving Accessibility of Assistive Devices to People with Disabilities

Reported by Prof. Zhuo Dahong, WHO CC

In recent years China is making efforts to extend the services of assistive devices (AD) to people with disabilities (PWDs). The following measures were taken:

- To increase the investment in the research,

development, and production of AD for PWDs. For example, in the period 2011-2015, the budget investment by the Central government has a 15-fold increase as compared with the period 2006-2010. The current yearly budget for AD amounts to one billion RMB.

- To use charity funds for cooperation projects. For example, the Li Ka Shing (Hong Kong) co-operation with the Chinese Disabled Person's Federation (CDPF) for funding free prosthetic and orthotic care for PWDs.
- To waive the payment by a special favorable government policy for the PWDs who need but cannot afford to buy the AD.
- To cover the payment for AD by the health or social insurance, for example, in Nantong City of Jiangsu Province, electronic cochlea prosthetics and hearing aids are covered by health insurance.
- To expand the network of AD service centers across the country, and to link them up with CBR programmes.
- To cut down the import tax for the imported AD.

One important mechanism for ensuring prescription and delivery of AD is the use of CBR networks. Prof. Zhuo Dahong published an article recently in the Chinese Journal of Rehabilitation Medicine (April 2013) to promote the new concept, models and CBR matrix proposed in the WHO CBR Guidelines. Principles of assistive technology are discussed in detail in the CBR Guideline (Health Component: pp. 57-69).

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From Wuhan, China



Rapid Exploratory Study on Assistive Technology Use by Recently Discharged Patients in Wuhan City

Reported by Ms. Meng Lin, Prof. Lu Min, and Prof. Huang Xiaolin, WHO CC

The task for this newsletter was to collect information about provision and funding for assistive technology (AT) in our country. We note that China Disabled Persons Federation has a national network of AT service centres, and also policies for funding in some cities. We decided to follow-up some of our recently discharged patients to understand the reality from the clients' perspectives, both to help us strengthen our prescription of AT during medical rehabilitation period, as well as to develop future research questions and strategies.

Our head nurse formed a small team to develop a questionnaire and to visit 17 discharged patients at home. These included 9 with spinal cord injuries; 6 with stroke; 1 with traumatic brain injury; and 1 with hip fracture. During the visit we used questionnaire, interview and observation to measure ADL abilities (Barthel Index) and record their experience of using AT.

Assistive devices prescribed by healthcare professionals were very limited with wheelchairs, prostheses and orthoses being the most common devices. Daily life assistive devices for manipulating were rarely provided and therefore the patients hardly used those devices or had any knowledge of them. This led to no change or even decline in patients' self-care abilities after discharge from hospital and

increases the family burden. The patients had insufficient knowledge and skills of how to use, maintain, and repair their devices when they returned home, and usually did not use the prescribed orthoses.

Most patients purchased the devices themselves and some received funding. Those self-paid devices were available in very limited models and had poor quality and function. Items such as wheelchairs, that were funded (insurance/compensation), were varied in choice, with better quality and function. It is noted that none of these 17 patients received any AT through the Disabled Persons Network; and in fact had no communication in initial months of discharge with any community network.

Recommendations: our findings stress the importance of AT education for healthcare professionals and people with disabilities in order to increase awareness and promote access to the wide range of available devices. Healthcare professionals must provide education and training for their patients to ensure they will be able to continue to use their devices in the home environment. Discharge planning is extremely important to enhance self-care abilities and to increase continued use of devices at home. Discharge planning should also link up the patients with community resources.

We did not explore environmental adaptations in this quick study but it is an essential issue for future exploration.

Follow up on patients situation in the community can help healthcare professionals gain an understanding of the real-life outcomes of assistive technology provision and learn

about the issues and challenges patients face in their home environment in order to improve service delivery and achieve successful outcomes.

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Resource Centre of Assistive Technology in Shenzhen

Reported by Dr. Huang Weiping and Ms. Ortal Shamay-Lahat, HKSR WHO CC

Interview with Director Zhang Xiang and Senior Engineer Fan Jiajin, as recommended by Prof. Nan Dengkun, Wuhan WHO CC, and Mr. Zhu Tuling

Under the Shenzhen Disabled Persons Federation, this division has developed several networks/referral systems to implement the national and Shenzhen City regulations on assistive technology (AT).

During recent years they recognize three major changes in strategy: (1) from distributing assistive devices on a mass scale (such as giving away 100 wheelchairs) to providing an individualized device according to the needs of the recipient; (2) moved from project based (that is, a certain amount of funding is allocated for supporting a targeted number of disabled people, in which case certainly some persons are not covered) to programme-based, where referrals are made by hospitals and community social workers for assessment, prescription and provision; and (3) increased accessibility, where people with AT needs may apply for the device at district level, and community staff may also come to home or institution.

In addition to these changes, there is also increased promotion of the policies, types of devices available and eligibility, and partnering with hospitals. Significantly, Shenzhen DPF is exploring processes for companies to apply for their brand recommendations, quality control of equipment and re-assessment of quality. There is a written, transparent process for prescribing devices, which includes training in use and follow-up.

AT is described under major headings and classified as either "A List" or "B List". A list consists of standard products while B list of customized. Each applicant is assessed by specialists from the city level staff once a month at District Centres. Applicants who only need items from A list will get products right at district level, and those who need B list items will be referred to the City Level Centre for further assessment and services.

Eligibility for application of devices is presently open to Shenzhen residents and is not means-tested. However, there is a limit to how many items can be prescribed and they must be on the designated lists. The Centre has recently instituted a policy of collecting old and returned assistive devices, for sterilizing, repairing and re-newing to safe, functional use, and then providing them to non-eligible persons, who would not otherwise get the device they need.

It is noted that this system does not work without strong referral networks, communication and co-operation, and also requires specialist knowledge at city level, and government financial support. While major cities in China can achieve similar results, the vast majority of cities and rural areas are still looking for feasible solutions.

From HKSR, Hong Kong



Assistive Technology Provision in Hong Kong

Reported by Ms. Sheila Purves, Ms. Shirley Tse, and Ms. Ortal Shamay-Lahat, WHO CC

Interview with Ms. Cecilia Lam, Chief Executive Officer, Rehabaid Society

The social welfare system in Hong Kong provides for the special needs of community members, who cannot support themselves financially, through the Comprehensive Social Security Assistance (CSSA) Scheme. Under the CSSA Scheme, grants are available for the special needs of people with disabilities (PWDs) such as costs of medical and rehabilitation appliances and devices. An applicant must have been a Hong Kong resident for at least seven years and pass both income and asset tests to be eligible for the assistance. An approval letter from an allied health professional and doctor is also required. Each application is individually assessed. One of the main challenges of this process is to justify the need for certain assistive devices, particularly for high-tech and/or expensive equipment. PWDs who do not meet the criteria of the CSSA Scheme would need to self-purchase the necessary devices or try to receive financial support from charitable organizations.

Thus, most Hong Kong people (not CSSA recipients) must purchase their own devices. For temporary needs, Hong Kong Red Cross operate an equipment loan cupboard, and most hospital rehabilitation departments can offer loans of mobility devices, or make simple self-care aids.

One interesting service is Rehabaid Society (RS), a small NGO, supporting assistive technology assessment and provision through linking with community resources. It provides consultancy services to healthcare professionals in assessment and prescription of suitable assistive devices, especially with difficult cases which require specialized technology. RS accepts referrals from health care organizations or community service agencies but clients can also approach the centre staff directly for professional consultation, without a formal medical referral.

Recommendations for improving assistive technology provision include: (1) encourage local manufacturers to design and produce assistive devices for the local market; (2) raise public awareness through adequate promotion and publicity; (3) increase client empowerment and provide education to clients and families; (4) ensure discharge planning for all clients which includes assistive technology prescription; (5) follow up or refer to ensure proper use and provide training as indicated; and (6) develop standards of practice to promote uniformity of assistive technology provision across Hong Kong.

Voices of Users: Exploration of User Satisfaction of Assistive Devices in Mainland China

Reported by Ms. Shirley Tse, Mr. Peter Gui, and Ms. Ortal Shamay-Lahat, WHO CC

On 5.12.2008 a devastating earthquake occurred in Sichuan province, China. More than 250,000 people suffered injuries, such as fractures, amputations and spinal cord injuries.

One of the immediate responses was to donate assistive devices, such as wheelchairs, walking aids, orthoses, and prostheses and these were welcomed. However, during our work as a resource centre in the post-earthquake zones, we have identified and collected many unused assistive devices. We identified a need to strengthen the process of assistive technology provision to ensure usefulness in daily life.

In April-June 2011, our team conducted an exploratory survey of user satisfaction of their assistive devices. 28 patients were interviewed, each interview focused on different assistive devices, such as orthoses, wheelchair, cushion, and walking aids. The purpose of the survey was to give users an opportunity to voice their experiences with daily use of devices and to measure the real-life outcomes of the provision of assistive devices and services. The collected data was used to drive the writing of guidelines for rehabilitation therapists with the aim of improving provision of assistive technology.

The results of the survey showed that interaction of the user, therapist and supplier was extremely weak. There was basically no prescription, no education, no adaptation, and minimal training and follow-up. Patients self-repaired or discarded broken or non-fitting devices. There was no active effort to return to the rehabilitation centre or find a local supplier. The results raised several issues that need attention: (1) development of standard protocols for assistive technology provision; (2) team-work; (3) user participation and environmental influence; and (4) co-operation between therapist, supplier and user.

China is rapidly strengthening rehabilitation education, it is important to ensure “user

satisfaction” is emphasized in continuing education and to demonstrate that high-quality of assistive technology devices and services is essential.

Please contact us at: int_china@rehabociety.org.hk for copies of the guidelines in Chinese (book format) or English (text only).

An Update from Singapore

Reported by Prof. Celia Tan, SingHealth Services

The Centre for Enabled Living (CEL) was conceived by the Ministry of Community Development, Youth and Sports (MCYS), now known as Ministry of Social and Family Development (MSF) as part of the national care network to coordinate care for persons (mainly for the young and adults) needing care in Singapore. The disability care programmes in CEL centralises referrals and match specific needs of individuals to the appropriate services. CEL also manages assistive disability funding schemes such as the Assistive Technology Fund (ATF) and the Special Assistance Fund (SAF). These schemes help low-income persons with disabilities to purchase assistive technology devices that helps them enter back into society through education or employment, as well as improve their mobility or independence.

Senior citizens with disabilities are managed by the Agency for Integrated Care (AIC). AIC is the national care integrator that coordinates, and provides social and healthcare information and services for the elderly and their caregivers. One of the schemes that AIC manages is the Senior Mobility Fund (SMF) where low-income elderly with disabilities can obtain subsidies for

mobility devices and specialised transport to day rehabilitation services.

The government has also developed the Enabling Masterplan 2012-2016 with a vision for an inclusive Singapore where every person with disability can maximise his potential and is embraced as an integral member of society. With the life-course approach from early pre-school years, to education and employment and later to ageing years, the Masterplan identifies the needs and gaps of persons with

disabilities in each phase of life and recommend policies and initiatives to fill in the gaps. Caregiver support is also studied in this Masterplan to help families in caring for their loved ones with disabilities. The Enabling Masterplan is with a goal to help persons with disabilities to pursue healthy lifestyles and better quality of life.

For further information please contact Prof. Celia Tan at: celia.tan.i.c@sqh.com.sg

Post-Script

By Ms. Sheila Purves

Our team has learned much in compiling this month's newsletter, not the least of which is the significance of assistive technology in determining level of participation and self-efficacy. It seems acceptable to everyone, that we should spend vast amounts on diagnostics and medical or surgical interventions, but do not ensure that assistive technology is easily available. While there is a great variance across our countries, it does seem that there are some common recommendations including: (1) provision of a basic, essential list of devices should be included in national health/welfare insurance; (2) debate is required on the rights vs means-testing approaches; (3) all rehabilitation personnel need to have increased awareness and training in this area, particularly assessment and prescription; but also adaptation and training issues; with perhaps standards for practice being developed (4) provision must be made for maintenance, repair and replacement; (5) referral systems need to be strengthened and activated and (6) quality control of equipment and standards for suppliers need to be instituted.

In addition, our community voices remind us, that much can be made in the community; and indeed, perhaps some of the maintenance, repair and adaptations may be done by individuals and social enterprises with people with disability playing the key roles. Finally, perhaps some "participatory research" is called for, listening to the voices of the users, for direction in terms of gaps of service provision, as well as individual needs for assistive technology.