

Equipped for Living

Extract of a literature review by Agata Molenda, published in Independent Living, Vol 22 No 3

The purpose of the literature review was to identify monetary benefits to individuals and government through the utilisation of assistive technology. Costs savings were found through promotion of independent living, injury prevention, employment opportunities, reduced reliance on home care, and availability of assistive technology. Minimal amounts of quantitative compared to qualitative evidence was found. Reports by the UK Audit Commission in 2000 and 2002 (Fully Equipped) provided the best sources of information on financial savings available to individuals and to governments.

INDEPENDENT LIVING

The most convincing argument for independent living with assistive technology is given by the UK Audit Commission reports in 2000 and 2002. One of their main findings of the 2000 report was that providing assistive technology allows individuals to live independently in the community at a low cost, to themselves and to government. The report stressed that the alternatives, such as nursing home admittance, is much more expensive.

The common sense view is that nursing home, hostel or institutional care is more expensive than living independently at home. However, the 2000 Audit Commission report was necessary to validate this argument. In 2002 the Audit Commission reiterated the argument and pointed out that it is not only users of assistive technology who lose from inadequate equipment services, but also the Treasury and society as a whole. Whilst South Carolina Assistive Technology Project (SCATP) in the US, The Engineer publication in the UK, and others, support the Audit Commission view, such qualitative statements are not financially measurable.

Wolff, Agree & Kasper (2005) looked at the distribution of mobility-related assistive technology by Medicare in the US. They found that whilst providing some items may be high initial cost, the resulting gains are substantial. The high cost is offset by improvements in an individual's quality of life, general well being and through economic gains.

INJURY PREVENTION

Government sponsored assistive technology for injury prevention provides monetary benefits to the government from savings in health care costs. The Audit Commission and Dowling (2002) explain how government pays the price of injuries. The strongest argument for the role of assistive technology in injury prevention comes from Mann, et al (1999) who have evidence to back their position. In 1999 a randomised control trial of 104 home-based frail older people in New York, USA was carried out. The treatment group, one half of the sample, were given assistive technology and environmental interventions. The other half of the sample, the control group, received the usual range of care services. The study found that in the treatment group four hospitalisations were the result of serious falls while in the control group there were eleven hospitalisations. These results indicate that with the use of assistive technology more injuries may be prevented, or at least they are not serious enough to require hospital admittance.

Dowling (2002) takes a qualitative approach and is quite convincing as she explains that doing without or using inappropriate equipment may result in hospital admissions for the child or the carer as a result of injury. Bringolf (2005) adds that assistive technology not only needs to be available, it must also serve its intended purpose and not be abandoned. To ensure that assistive technology helps prevent injury it must be correctly prescribed and applied.

The UK Guide to Integrating Community Services discusses the benefits to carers. Injured family and voluntary carers need to be replaced with paid carers. Health care costs also arise from medical treatment or hospital stays if required for the injured carer. The Audit Commission sums up the main message on injury prevention with the reminder that prevention is better than cure. Assistive technology not only helps prevent injury and hospital admission, it also facilitates an early hospital discharge date. SCATP also believes that the monetary benefits of injury prevention helps keep a condition from worsening, and consequently further medical expenses are reduced.

The Audit Commission's key finding was that the cost of inadequate equipment services falls on other parts of the public services at much higher costs because of falls, failed rehabilitation and loss of independence. Most importantly, government outlays in assistive technology have the potential to prevent falls and subsequent health care costs and hospital stays. Dowling (2002) agrees that in Australia, in the health system alone there are costly consequences of hospital admissions because of the damage to the carer or to the child. Spending a bit extra in the beginning to provide appropriate assistive technology could prevent the medical expenses arising from injury.

HOME CARE

The Audit Commission reported the results of the Northamptonshire social services project that found monetary savings are possible through a reduction in demand for residential, nursing or hospital care. It looked at the costs of providing assistive technology through their Safe at Home project over a twelve-month period. Dowling (2002) focuses on the situation in Australia where it has long been recognised that assistive technology reduces reliance on personal assistance. Recognition, however, is insufficient evidence to support an economic argument. In the US Allen, Foster & Berg (2001) looked at canes and crutches and found that these reduced the total hours of paid and unpaid care. Wolff, Agree & Kasper (2005) put forward similar findings. Lansley, McCreadie & Tinker (2004) stated that assistive technology can substitute for and supplement formal care in a cost-effective way. Assistive technology promotes independent living and saves on the cost of attendant care to individuals and government, according to SCATP. This statement is not validated with how costs are saved.

It is important to note that when assistive technology is provided, it is actually utilised and utilised appropriately. Abandonment and incorrect prescription can also cause problems.

EMPLOYMENT

Employed individuals require less social security payments and provide the government with revenue from taxes. In addition, equipping individuals with assistive technology to enter the workforce, the need for carers decreases. Time previously spent by family members caring for individuals can also be diverted to paid employment. People with a disability and older people are commonly amongst the poorest in society. Literature from Canada (Hailey & Jones, 2003), Italy (Verza et al, 2006) and New Zealand (Hocking, 1999) all support the notion of benefits from the ability to work. Investment in assistive technology by government gives individuals the means to enter the workforce and contribute to the economy. Individuals who gain employment not only reduce the burden on social security, they also become tax payers. Bricknell (2003) concentrates on the costs of individuals abandoning assistive technology, and consequently missing out on participating in the economic field.

AVAILABILITY

It is important that assistive technology be available and supplied when needed. The problems associated with its unavailability are discussed by the Audit Commission, the ACROD Technology Subcommittee report (2000), Dowling (2002) and Bringolf (2005). Each proposes that assistive technology be assessed holistically. There is good Australian literature on this issue.

When assistive technology is unavailable, or there are delays in obtaining it, costs increase. The Audit Commission highlighted that costs arise when individuals' needs change during the waiting period. Also, extra home care may be needed and paid for while waiting for equipment to arrive. Dowling (2002) argues that children may actually outgrow requested assistive technology while waiting for it.

The Australian literature proposes that assistive technology be assessed holistically. It needs to be considered as a part of the whole package of health services to the individual. Dowling (2002) emphasised that even though a particular item of assistive technology may not be the cheapest in its range it may be cheaper when considered as part of a package. For example when a basic hoist is given instead of a specialised one, an electric bed may need to be purchased to reach the basic hoist. Bringolf (2005) adds that by having the equipment prescribed and supplied as a complete assistive technology system, the child's health (and that of carers) will benefit and therefore the health budget will gain longer term.

The unavailability of assistive technology costs the government through prolonged hospital stays, admittance to institutional care, the need for paid care, surgery, medical treatment and assistive technology which becomes necessary as a result of not having it to begin with. All these costs could be prevented if assistive technology is made readily available to individuals in need of it. The government's early investment in assistive technology will help save future costs.

CONCLUSION

The literature shows that monetary benefits are available to individuals and government. No literature was found, however, that placed a dollar value on the savings available through providing assistive technology. A quantitative study into the costs associated with providing assistive technology as opposed to nursing home, hostel or institutional care is needed. State governments' provision of assistive technology in Australia provides cost savings to the health care system. Through employment opportunities, the government can make financial gains through increased taxation revenue. The literature reviewed indicated that monetary benefits are present and should be exploited to maximise the benefits from assistive technology.

RECOMMENDATIONS

The Commonwealth Government should commission a report into the provision of assistive technology based on the UK Fully Equipped report of 2000. This would provide quantitative information to validate the monetary benefits of assistive technology to individuals and the community. In addition, Australia's ageing population should be educated about the monetary, health and social benefits of utilising assistive technology.

Edited extract from a paper by Agata Molenda, Department of Economics, University of Western Sydney, August 2006. A copy of the full paper and recommendations is available from ILC NSW.