

person-centred technology for persons with dementia

Susanne Murphy, MSc, OT Reg.(Ont.)
Lecturer,
Occupational Therapy Program
School of Rehabilitation Therapy
Faculty of Health Sciences
Queen's University

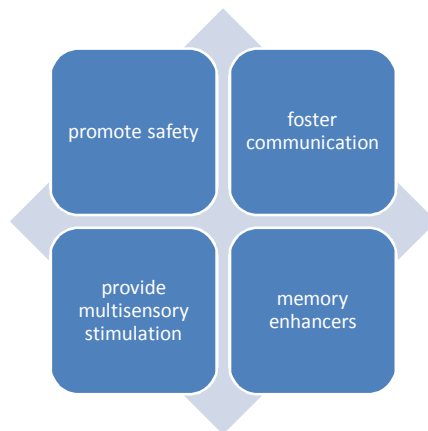
learning objectives

- By the end of this presentation participants will be able to:
 - state how the 'fit' of technology will influence use of technology for individuals with dementia;
 - describe at least one environmental adaptation and one technology solution that might be used for individuals with dementia; and
 - state at least one limitation to implementing technology for individuals with dementia.

dementia



classification of technologies



interventions

- Care and treatment happens at different levels:

- person
- **environment**
- **occupation**



(Law, Cooper, Strong, Stewart, Rigby, Letts, 1996; Conway, 2008)

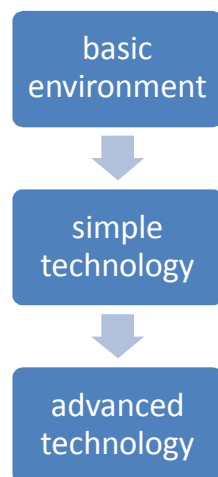
technology and 'fit'

- person centred response
 - technology must meet the needs of the person
 - support current occupations
 - be able to change (the technology...not the person)
 - must involve the person/caregiver(s) in the complete process
 - technology must take into account the impact upon the home environment and how the individual will interact in the environment
 - should not make occupations more difficult

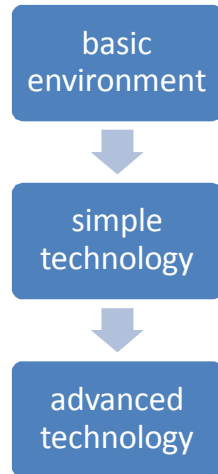
technology and assessment process



elements of change



basic environmental adaptations



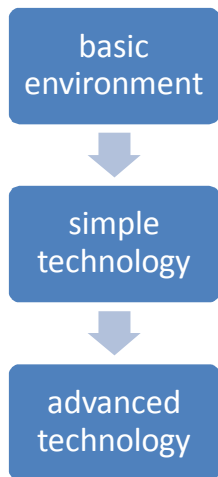
- use colour contrast to accommodate for visual or perceptual changes
- consider the use of grab bars and/or handrails to increase safety
- minimize clutter
- remove visual distractions/glare
- keep surroundings familiar (only change what needs changing)
- use labels or signs

basic environmental adaptations

- low contrast
- high contrast



simple technology

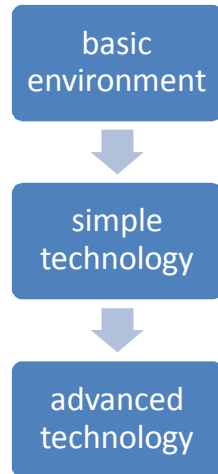


- Hot water tank mixing valve
- Reminder devices, key locators, clocks, timers and/or night lights with sensors
- Entrance sensor lights
- Magnetic locks / appliance locks
- Receptacle covers
- Pressure sensitive plugs
- Sound and movement monitors
- Simplified and/or universal remotes
- Picture phones
- Digital photo frames
- Electronic medication reminders
- "talking label"

simple technology adaptation



advanced technology



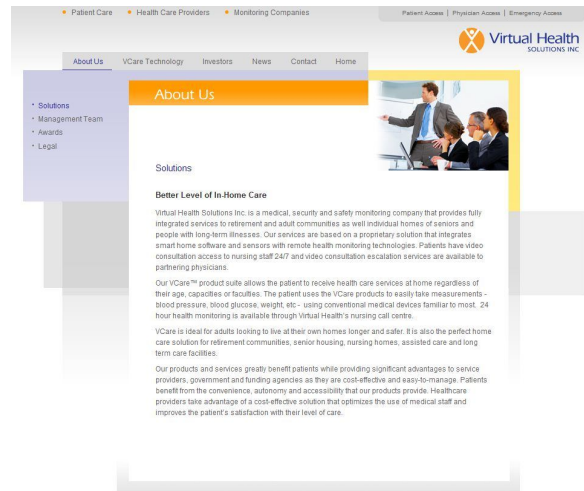
- Automated home systems
- Emergency response systems / personal alarms / medical monitoring
- Bed alarms / sensors
- Flood detectors
- Video monitoring with live web streaming
- Induction utensils
- Property exit sensors
- Computers for voice over internet protocol (VOIP)

advanced technology adaptations



(<http://research.microsoft.com/en-us/um/cambridge/projects/sensecam/video.htm>)

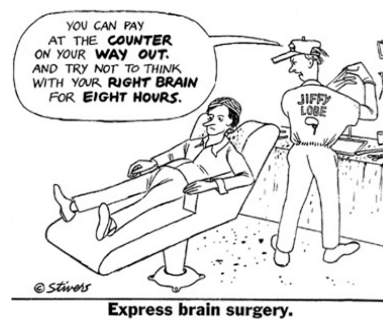
emerging technology



(http://www.virtualhealthcaresolutions.com/vcare_technology/)

limitations to the implementation of technology

- Cost
- Ethics
- Social / cultural forces
- How the individual experiences the technology and the meaning attached to it



review of literature

Brittain, K., Corner, L., Rosinson, L. & Bond, J. (2010). Ageing in place and technologies of place: the lived experience of people with dementia in changing social, physical and technological environments. *Sociology of Health and Illness*, 32(2), 272-287.

Malinowsky, C., Almkvist, O., Kottorp, A. & Nygard, L. (2010). Ability manage everyday technology: a comparison of persons with dementia or mild cognitive impairment and older adults without cognitive impairment. *Disability and Rehabilitation: Assistive Technology*, 5(6), 462-469.

Niemeijer, A.R., Frederiks, B.J., Riphagen, I.I., Legemaate, J., Eefsting, J., Cees, M & Hertogh, P. (2010). *International Psychogeriatrics*, 22(7), 1129-1142.

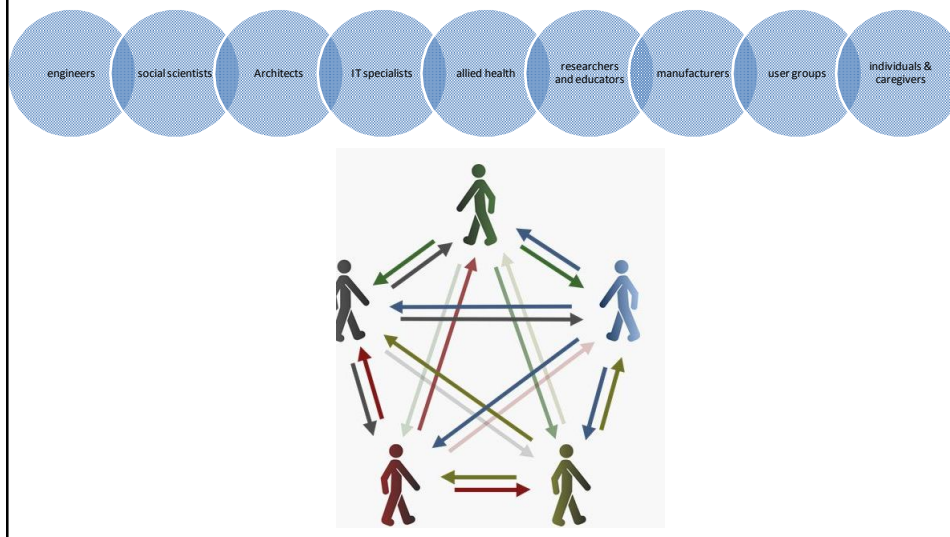
Nygaard, L. (2008). The meaning of everyday technology as experienced by people with dementia who live alone. *Dementia*, 7(4), 481-502.

Orpwood, R., Sixsmith, A., Torrington, J., Chadd, J., Gibson, G. & Chalfont, G. (2007). Designing technology to support quality of life of people with dementia. *Technology and Disability*, 19, 103-112.

Torrington, J. (2009). The design of technology and environments to support enjoyable activity for people with dementia. *European Journal of Disability Research*, 3, 123-137.

Westphal, A., Dingjan, P. & Attoe, R. (2010). What can high and low technologies do for late-life mental disorders? *Current Opinion in Psychiatry*, 23(6), 510-515.

interested partners



your thoughts....



Community, not technology, is what people with dementia need

ANDRE PICARD | [Columnist profile](#) | [E-mail](#)

From Thursday's Globe and Mail

Published Wednesday, Jan. 19, 2011 4:24PM EST

Last updated Thursday, Jan. 20, 2011 5:07AM EST

(<http://www.theglobeandmail.com/life/health/dementia/community-not-technology-is-what-people-with-dementia-need/article1876209/>)

resources

- medical vendors in your area
- Alzheimer Society of Canada
 - <http://www.alzheimer.ca/english/index.php>
- Alzheimer's Disease Education and Referral (ADEAR) (USA)
 - <http://www.nia.nih.gov/Alzheimers/Publications/CaringAD/caregiving/keeping.htm>
- Alzheimer's Association (USA)
 - http://www.alz.org/professionals_and_researchers_everyday_technologies_for_alzheimer_care.asp
- Arizona Technology Access Program – Assistive Technology & Alzheimer's Disease: A resource guide for caregivers. Available at <https://www.azdes.gov/InternetFiles/Pamphlets/pdf/AAA-1101AFORPD.pdf>.
- Intelligent Assistive Technology and Systems Lab (IATSL), located in the Department of Occupational Science and Occupational Therapy at the University of Toronto. <http://www.ot.utoronto.ca/iatsl/projects.htm>
- Knowledge Media Design Institute (KMDI), University of Toronto. <http://www.kmdi.utoronto.ca/>
- Living with dementia: How the environment, technology and you can help
 - <http://www.dementiatechnology.org.au/>
- at Dementia – information on assistive technology for people with dementia
 - http://www.atdementia.org.uk/editorial.asp?page_id=161

references

- Alzheimer Society of Canada (2010). *Rising tide: the impact of dementia on Canadian Society*. Report prepared by the Alzheimer Society of Canada.
- Brittain, K., Corner, L., Rosinson, L. & Bond, J. (2010). Ageing in place and technologies of place: the lived experience of people with dementia in changing social, physical and technological environments. *Sociology of Health and Illness*, 32(2), 272-287.
- Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., Letts, L (1996). The person-environment occupation model: A transactive approach to occupational performance. *COT*, 63(1), p. 9-23.
- Malinowsky, C., Almkvist, O., Kottorp, A. & Nygard, L. (2010). Ability manage everyday technology: a comparison of persons with dementia or mild cognitive impairment and older adults without cognitive impairment. *Disability and Rehabilitation: Assistive Technology*, 5(6), 462-469.
- Niemeijer, A.R., Frederiks, B.J., Riphagen, I.I., Legemaate, J., Eefsting, J., Cees, M & Hertogh, P. (2010). *International Psychogeriatrics*, 22(7), 1129-1142.
- Nygaard, L. (2008). The meaning of everyday technology as experienced by people with dementia who live alone. *Dementia*, 7(4), 481-502.
- Orpwood, R., Sixsmith, A., Torrington, J., Chadd, J., Gibson, G. & Chalfont, G. (2007). Designing technology to support quality of life of people with dementia. *Technology and Disability*, 19, 103-112.
- Torrington, J. (2009). The design of technology and environments to support enjoyable activity for people with dementia. *European Journal of Disability Research*, 3, 123-137.
- Westphal, A., Dingjan, P. & Attoe, R. (2010). What can high and low technologies do for late-life mental disorders? *Current Opinion in Psychiatry*, 23(6), 510-515.