Chapter Twelve:

Enhancing Older Adults’ Well-Being through Technology

Dr. Babcock
Information and Communication Technologies

- **Information and communication technologies** is a broad category encompassing telecommunication devices or software that either provide electronic access to information or enable communication, or both.

- Internet usage among older adults will likely increase because many baby boomers have used the Internet and email in the workplace.

- Older adults interested in getting “wired” have a variety of options, e.g., libraries, community centers, etc.
  - In New York State, the Older Adults Technology Services (OATS) is a nonprofit organization that helps older adults live healthier, more connected and socially engaged lives by using technology.
More grandparents are communicating with their grandchildren online.
Information and Communication Technologies: Lifelong Learning

- The Internet can help elders remain intellectually engaged and connected to their peers with similar interests.

- One study based on a large national sample showed that frequent computer use was associated with better overall cognitive performance.

- **SeniorNet** is an organization whose mission is to “provide older adults education for and access to computer technologies to enhance their lives and enable them to share their knowledge and wisdom.” It has online courses to help elders learn more about the computer and online world.
Older adults are heavy consumers of news; people age 55 and older represent the largest percentage of daily print newspaper readers.

Baby boomers, however, are an important component when discussing the decline in print newspaper readership.

Who uses the Internet for their main source of news? And does this spell a turn toward a decrease in the level of civic engagement?

- 65% of adults younger than 30
- Almost 50% of those 30-49, and about 30% of those 50-64
- About 14% of those 65 and older
Managing Health Online

- Technology can enhance elder health in numerous ways.
- Health information on the Internet
  - The following are some of the things Americans look up online:
    - A specific disease or medical problem: 66%
    - A certain medical treatment or procedure: 56%
    - Physicians or other health professionals: 44%
    - Medical test results: 16%
    - End-of-life decisions: 7%
Managing Health Online: Health Information on the Internet

- The Medical Library Association is a nonprofit educational organization that is comprised of more than 1100 member institutions such as cancer.gov, Centers for Disease Control and Prevention, and Medline Plus, to name a few.

- The Medical Library Association also recommends specialized websites for cancer, diabetes, and heart disease.
Some health insurance companies have their own websites on which members can:

- Read about common health problems such as high blood pressure, asthma, different kinds of cancers, etc.
- Get advice about screening, treatment, prevention, finding a participating physician, or specialist.
- Review plan benefits and claims for payment from healthcare providers and other account information.
Managing Health Online: Telehealth

- **Telehealth** transmits a patient’s health status and vital signs via computer or telephone lines directly to a health provider.
  - The VA health system is at the forefront in using telehealth.
- **Telemonitoring** is the monitoring of care recipients from a distance using electronic devices.
- The use of telehealth and other strategies for elders to take a greater role in managing their health assumes a level of health literacy.
Managing Health Online: Health Consultation Online

- Increasingly, physicians and nurses are communicating with their patients online.
- Public and private organizations are using or experimenting with disease management and wellness apps for smartphones, online health coaching and pharmaceutical information, wireless breathing monitors, and health text messaging services on mobile phones.
A common ageist stereotype of older workers is that they are technophobic and unwilling to adapt to innovations in the workplace. The baby boom generation are not afraid of technology—they just might not have the same relationship to tools and gadgets that younger generations do.

To remain competitive in today’s workplace that is characterized by the rapid pace of technological change in a knowledge-based economy, older workers would benefit from effective training and retraining.
Technologies to Help Aging in Place

- Designing housing that fits elders’ changing needs is a central component in helping them to age in place.
  - **Universal design** is a product, building, or landscape that is accessible to and usable by the broadest range of users.
  - **Gerontechnology** is a recent field of research and practice aimed at using technology to improve older adults’ autonomy.
Technologies to Help Aging in Place: Universal Design and Smart Homes

- Homes are increasingly being designed and built or modified with the idea that they can be used throughout a lifetime.

- Assistive technology is one aspect of universal design—designing the environment to allow the widest range of possible users and to facilitate active aging.

- **Smart homes** are residences equipped with technology that connects all the devices and appliances in a home to communicate with the residents.

- Robotics will likely be part of the aging-in-place future.

- Technology also exists for medication management.
Technologies to Help Aging in Place: Universal Design and Smart Homes

- **Remote patient monitoring** means collecting patient data, such as vital signs, from a distance to monitor health status.

- **Aware home technology** systems support aging in place for persons with dementia by monitoring daily activities such as medication use, trends in ADLs, and assisting elders’ communication.

- **Medical alert systems** can be a necklace or bracelet. It serves as a communication device, alerting a monitor, emergency personnel, or a designated individual when an elder needs help in an emergency such as a fall.

- Specialized apps for smartphones, laptops and tablets can be a big help in the caregiving process. Monitoring a loved one can also be made easier through GPS technology.
Can Computer Games Promote Elders’ Well-Being?

- Research is emerging that links computer game-playing to cognitive health.
  - Rise of Nations game
  - NeuroRacer
  - **Brain Games** are computer-based games designed to stimulate brain activity.
Can Computer Games Promote Elders’ Well-Being?: Computer Games and Physical Exercise

- **Sensor-type games** are computer-based games that respond to inputs detected by a sensor, such as stepping on a pressure-sensitive device.
  - These games are not just for entertainment and recreation purposes; they can help collect data about a person’s physical decline over time.
  - The games may motivate older adults to exercise more, enhance rehabilitation, and possibly avoid falls.