Seniors' attitudes towards home-based assistive technologies

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* Introduction

* Methods

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* TigerPlace: A new model for Aging in Place

* Discussion

Assistive technology

* Assistive technology is technology used by individuals with disabilities or functional limitations in order to carry out tasks that might otherwise be difficult or impossible.

* Such technology can include mobility devices such as walkers and wheelchairs, as well as hardware, software, and other advanced telecommunication technologies.

"Smart" Homes

* A residence equipped with technology that enhances safety of residents at home and monitors their health condition.

* *"A residence equipped with computing and information technology which anticipates and responds to the needs of the occupants, working to promote their comfort, convenience, security and entertainment through the management of technology within the home and connections to the world beyond."* Frances K. Aldrich In Harper R (ed.)Inside the Smart Home, Springer Verlag, London:2003

Study Aim

* To explore the perceptions and expectations of seniors in regard to "smart home" technology installed and operated in their homes.

Methods

* 3 focus group sessions.
* 15 older adults in a Continuing Care. Retirement Community in Columbia, Missouri
* Each session lasted about one hour.
* Sessions were audio-taped and transcribed.
* Content analysis performed on the transcripts.

Results

	Total	Male	Female
Number of participants	15	7	8
Users of a personal computer (PC) at home	14 (97%)	7	7
Users of email program and web browsing	10 (66%)	6	4
Users of advanced software applications (e.g., image processing software, financial organizer)	4 (26%)	2	2

Results (cont.)

* Overall, participants had a very positive attitude towards the use of technology to improve daily living and monitor their health condition.

Limitations as experienced by participants:

Vision loss
Hearing impairment
Loss of tactile senses
Memory loss
Loss of balance
Difficulty reading fine print
Difficulty using small buttons
Difficulty processing information when displayed together with features perceived as distracting
Difficulty using computer mouse

Areas where technology can help:

- Emergency help
- Assistance with hearing and visual impairment
- Prevention and detection of falls
- Temperature monitoring
- Automatic lighting
- Monitoring of physiological parameters
- Stove and oven safety control
- Property security
- Intruder alarm
- Reminder system announcing upcoming appointments or events
- Timely and accurate information on adverse drug events and contra-indications

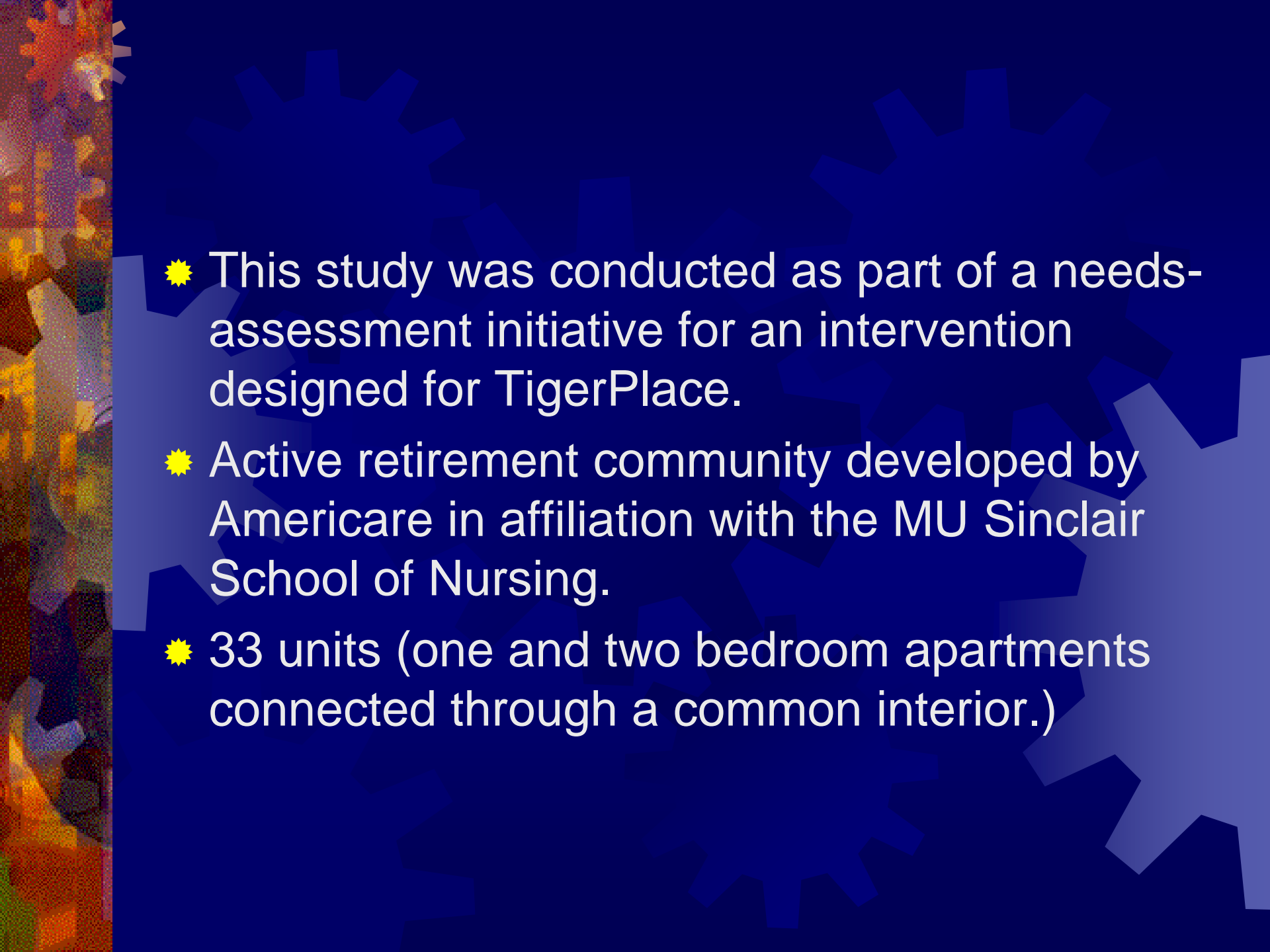**The participants voiced some concerns related to the use of technological devices:**
- possible privacy violation resulting from the use of cameras
- lack of human responders or a possible replacement of human assistance by technology
- the user-friendliness of the devices
- the need for training tailored to older learners

Challenges

- Privacy and Confidentiality

- Accessible Design

- Reimbursement

- Promoting dependency rather than supporting independence

Challenges

* Several factors must be considered when determining if use of technology is appropriate for a particular resident such as:
  * resident's stability of disease process
  * level of functional limitations
  * infrastructure at the resident's home
  * resident's mental state
  * attitude towards the system and willingness to provide informed consent

- This study was conducted as part of a needs-assessment initiative for an intervention designed for TigerPlace.

- Active retirement community developed by Americare in affiliation with the MU Sinclair School of Nursing.

- 33 units (one and two bedroom apartments connected through a common interior.)

Foundation for New Model of Long Term Care

- ☀ Community Case Management/Care Coordination.

- ☀ Getting people the right services at the right time to maximize regaining or maintaining health and independence.

Missouri Legislation

* 1999

* 2001

* TigerPlace is one of four Aging in Place pilot sites in Missouri.

Senior Care
A Practice of MU Sinclair School of Nursing

☀ *Specializing in care of frail elderly.*

☀ *A licensed home health agency.*

☀ Opened March 1, 1999.

☀ A department within the MU Sinclair School of Nursing.

Senior Care

- Care coordination and home services.

- Medicare, Medicaid, and Private Pay.

- Wellness Centers at NBA Lenoir Retirement Community,
  Oak Towers, and TigerPlace.

INDEPENDENT LIVING BY AMERICARE™ & THE SINCLAIR SCHOOL OF NURSING

TigerPlace™

TigerPlace is an exciting new retirement community which is being developed by the MU Sinclair School of Nursing in affiliation with Americare Systems, Inc.

TigerPlace

* State-of-the-Art environmental design.

* 33 apartments
  * Studio, One or Two bedrooms
  * Covered Patio (except in the studio apt)
  * Optional Garages
  * Spacious Kitchen
  * Full Baths

TigerCare Provided by Senior Care

* Coaching for exercise and healthcare needs.

* Annual assessment & ongoing plan for services.

* TigerCare Center open 3 days each week.

* Unlimited access to nurses in TigerCare Center.

Our goals for TigerPlace residents

- ☀ Stay healthier and active longer.

- ☀ Avoid expensive and debilitating hospitalizations.

- ☀ Avoid the need for relocation to a nursing home.

For the University of Missouri

TigerPlace will offer exciting opportunities to members of the MU community

* Educational
* Research
* Practice

Current Grant Applications

- Technology Interventions for Elders with Mobility and Cognitive Impairments
  - Marjorie Skubic, Associate Professor, Electrical and Computer Engineering
  - Submitted to the National Science Foundation

- Technology to Enhance Aging in Place at TigerPlace
  - Marilyn Rantz, Professor, MU Sinclair School of Nursing
  - Federal Initiative
  - AOA Funded

- Technology Interventions for Seniors Aging in Place
  - Harry Tyrer, Professor, Electrical and Computer Engineering
  - NIH Funded

Practice

* Examination space for resident to use with health care providers.

* Clinic space for Veterinary medicine.
    * Pets will be an integral part of TigerPlace
    * TigerPlace Pet Initiative (TPPI)

* Common space for other research projects.
    * Exercise rooms
    * Community room

TigerPlace opened June 2004!

Conclusion

- The findings indicate that technology can enhance nursing care if designed and utilized to address patients' needs and expectations rather than to simply follow current technological developments.