



# Evaluating the Use of Technology in Long-Term Care Settings

Allison Prouty, Kevin E. Hansen, Ph.D., J.D., and Jennifer Johs-Artisensi, Ph.D., MPH  
Health Care Administration Program, University of Wisconsin – Eau Claire

## Introduction

- Technology has the ability to better coordinate older adults' care needs (Degenholtz et al., 2016) and improve older adults' social relationships, among many other benefits of its use (Czaja, 2016)
- However, nursing homes have not had as many incentives to upgrade their technology as hospitals have (Alexander et al., 2016)
- From industry-specific publications, technology use in long-term care has been evaluated in the following ways:
  - Social media (e.g., Facebook, Instagram, Twitter), electronic health records, cell phone apps

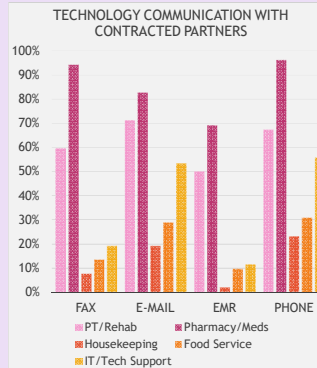
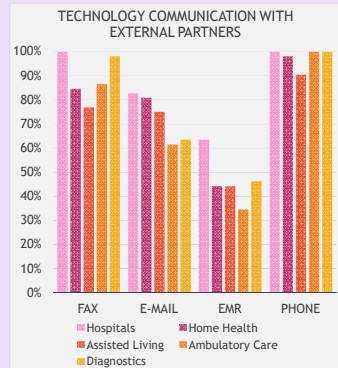
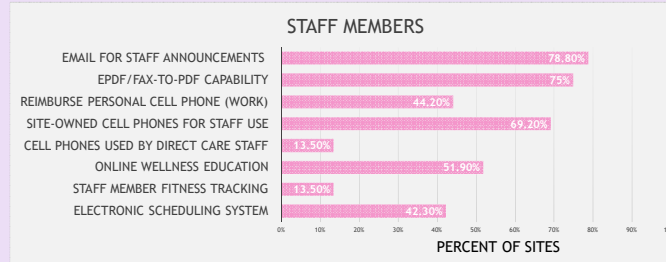
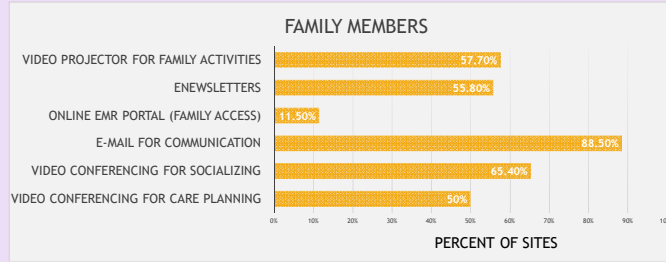
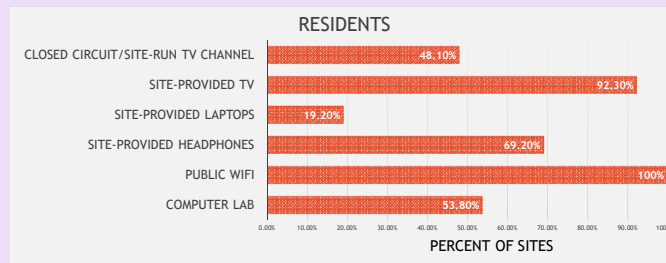
## Rationale

- Given the lack of existing research into health care use of technology, this study was conducted specifically to evaluate the use of technology in long-term care settings
- The objective of this research project was to gather information from a sample of nursing homes to determine the following questions:
  - What technology is being used?
  - How is this technology being used?

## Methods

- The convenience sample included 52 nursing homes in the Midwest, which were sent a survey questionnaire inquiring how their use of technology affects **residents, family members, staff members, and external partners** in the following areas:
  - Quality of Care
  - Quality of Life
  - Internal Communication
  - External Communication
- For the purposes of this survey, the sites were asked questions specifically about **technology** as opposed to **equipment** (e.g., WoundVac systems, motorized wheelchairs, ceiling track systems)
- Surveys were distributed utilizing Qualtrics
- For each site, an overall technology score was calculated based on level of use of various types of technologies
- All analyses were completed with the use of Microsoft Excel and SPSS

## Results



## Results

- This research discovered new data to represent how prevalent the implementation of technology is in long-term care settings, incorporating two of the largest growing industries: technology and long-term care
- Of the 52 sites surveyed:
  - 48% are for-profit
  - The average star rating was 3.75
  - 5.7% have 50 beds or fewer, 32.7% had 51-100 beds, 61.5% had more than 100 beds
- All sites surveyed were skilled nursing facilities, 48.1% have hospice, 63.5% have memory care, 55.8% have assisted living, and 34.6% have independent living
- Analyses indicated that a site's technology score was correlated with profit status ( $r(50) = .425, p = .002$ ) and facility size ( $r(50) = .302, p = .029$ )
- Results showed that a site's technology score was not correlated with either star rating or chain membership
- For sites using EMRs ( $n = 48$ ):
  - 66.7% have EMRs integrated with financial and billing systems
  - 47.9% are set up electronically to receive records from other care providers (e.g., hospital)
- For resident charting:
  - 30.8% sites utilized tablet devices
  - 67.3% sites utilized laptops
  - 84.6% sites utilized hallway computer kiosks
- 40.4% of sites reported if a resident had an in-room phone, there was an extra charge for this

## Conclusions

- Based on the data, it appears that nursing homes continue to use phone and fax as their primary method of communication
- Less than half of sites use an online scheduling system for staff members
- Over 3/4ths of sites utilize email to communicate with staff members
- Video conferencing (e.g., Skype, FaceTime) is used more frequently for social interaction rather than care planning with family members
- Future research could expand the sample of sites surveyed and could conduct this survey over multiple years to evaluate changes in technology within long-term care settings