Summary Evaluation of Nursing Home Technology Pilot Projects, Including Successes, Challenges and Lessons Learned
Nursing Home Technology Pilot Grant Program
June 2009

Background Information

On August 13, 2007, the Minnesota Department of Health (MDH published a Notice of Grant Opportunity in the State Register. Grants were to fund pilot projects that use new and innovative technology to improve resident quality of care and quality of life.

Funding for this one time grant opportunity was a result of civil money penalties (CMP), which are assessed to noncompliant nursing homes. A total of $120,000 was available for the program, and a single grant could not exceed $40,000. Because funding was from civil money penalties, only federally certified nursing homes were eligible for these grant dollars.

Twenty five facilities submitted an application, totaling $678,585.31 in funding requests. The Department convened a proposal review committee consisting of a variety of long term care stakeholders to assist the Commissioner of Health in making grant awards. Nine facilities were awarded grants; two received full funding and seven received partial funding.

Funding was available for one year, starting January 1, 2008 and ending December 31, 2008. Grant recipients provided the Department with quarterly progress reports and a final narrative that included project successes, challenges and lessons learned. The following pages are a summary of that information.

For more information about the Nursing Home Technology Pilot Grant Program, please contact Kay Herzfeld, MDH Compliance Monitoring Division, at kay.herzfeld@state.mn.us or (651) 201-3704.
Improving Elder Driven Care through Voice Technology
Bigfork Valley, Bigfork, MN

Technology Name: AccuNurse by Vocollect Healthcare Systems
Grant Award Amount: $22,000 (partially funded)

Project Description Summary
Installation of voice recognition technology/AccuNurse System to provide staff with hands free audible resident care plans, reminders, checklists, and to serve as a paging system without the use of overhead announcements. Documentation of cares will be done at point of care.

Project Successes, Challenges and Lessons Learned
Bigfork Valley cancelled their project in June of 2008 due to several problems with the AccuNurse System. According to Bigfork, one of the problems they experienced was related to system downtime. When the network goes down, the system does not take documentation, and there is no indicator on the AccuNurse system that tells one when it is down. The biggest problem they experienced was with voice recognition. AccuNurse would not accept voice commands and this would cause lost documentation and extreme amounts of staff time. AccuNurse visited the facility to address the issues, but they remained unresolved. Bigfork also believed that elder interactions were diminished with the staff’s use of the AccuNurse System. Due to these problems and others, Bigfork determined that they needed to stop using the system immediately or risk being in violation of state regulations. AccuNurse did reimburse Bigfork for some of the expenses incurred. The remaining grant money will go back to the civil money penalty fund.

Project Contact:
Sandra LeBlanc-Boland, Fund Development Coordinator
Phone: (218) 743-4116
E-mail: sleblanc-bolan@bigforkvalley.org
Use of Webcams to Assist Residents and Families in Maintaining Connection
Bridges Medical Center, Ada, MN

Technology Name: View Sonic Web Cam, by CDW Government, Inc.
Grant Award Amount: $11,000 (partially funded)

Project Description Summary

Purchase and install webcams for residents to maintain contact with family members. Two computers, outfitted with webcams, speakers, and microphones will be purchased and installed in the Medical Center. Eight webcams and 8 desk top speakers will be purchased for a lending library for family member use. Bridges Medical Center will contract with a technical support person to assist with this project.

Project Successes, Challenges and Lessons Learned

Residents enjoy connecting with family via webcams and enjoy seeing their family member while talking to them. It’s also comforting for family to see their loved one and see that they are doing well.

The webcams have been very user friendly. Bridges has not found a need for a technical support person as the staff hasn’t experienced any issues connecting residents and families.

Bridges initially set up the program with the Director of Nursing overseeing the program, but found that there were too many clinical issues that the Director of Nursing had to oversee on a daily basis that the program was more suitable for the Activities Department to manage. Bridges is also in the process of recruiting volunteer high school and college students to assist with the web cam program in achieving a higher use rate in the facility as well as offer an opportunity for youth to connect with residents.

At the close of the grant period, the majority of the residents were not using the webcams. However, the families that were still using the webcams, enjoyed them. Bridges continues to offer it to families on admission and quarterly.

Project Contact:

Cindy Scherfenberg, Care Community Director of Nursing
Phone: (218) 784-5248
E-mail: cindy.scherfenberg@bhshealth.org
Restaurant Style Dining -
Utilizing Technology in a Skilled Nursing Facility
Elim Care and Rehab, Milaca, MN

Technology Name:  Ticket Ordering System
Grant Award Amount:  $11,000 (partially funded)

Project Description Summary

Purchase ticket ordering system and other kitchen equipment to provide a restaurant style dining experience which will address resident needs, restrictions and preferences.

Project Successes, Challenges and Lessons Learned

The program was modeled after Elim Care Milaca’s sister nursing home, Parkview Care Center in Buffalo, MN. One of the main technology items that the grant money was to help pay for was the estimated $10,500 ticket ordering system. After Elim Care Milaca learned that Parkview Care Center discontinued the use of the ticket ordering system because they found it to be too cumbersome and not as efficient as they expected, they decided to not purchase the ticket ordering system for their project. Instead, they had their staff take menu orders, which provided for greater staff involvement in the dining experience and more personal interaction and connection with the residents. Elim Care highly recommends that other facilities implement the restaurant style dining program as it has improved their residents’ dining experience.

Since the Grant Proposal Review Committee was specific about how the grant dollars should be used and stated that the money should be used for technology, or in this case, the ticket ordering system and not kitchen equipment/capital improvements, it was mutually decided that the project no longer qualified for continued grant funding. Therefore, the grant funding was discontinued. The remaining grant money will go back to the civil money penalty fund.

Project Contact:

Laura Broberg, Assistant Administrator
Phone:  (320) 983-2185
E-mail:  lbroberg@elimcare.org
Technology Name: (m) Power System by Dakim
Grant Award Amount: $8,500

**Project Description Summary**
Purchase and install one (m) Power System specifically designed to improve cognitive fitness and improve quality of life.

**Project Successes, Challenges and Lessons Learned**
One (m) Power unit was installed. Equipment was easy to install and configure. The hardware is light and easy to transport, which made it easy to bring to resident’s rooms and/or other common areas for use in group settings (each unit can have up to 20 residents using it). No hardware issues have occurred since its installation. However, Emmanuel Community found that even though the equipment is easy to transport, the proper connection had to be configured through the computer network before it can be installed at another location, as it needs access to the network every night to update information. Data ports for internet connection were limited in their building.

The system was easy to use for staff and they needed minimal training, as the system was self explanatory. Volunteers and the Auxiliary were also trained and assisted residents with use. Dakim provided marketing materials that were very interesting and informative.

Residents needed a lot of encouragement to use the machine on their own, and most residents preferred to use the system in a group setting. Emmanuel Community Nursing Home staff would transport residents for group sessions. Staff would read the questions, and have residents press the answers. When this was done in a group setting, it offset the cost in terms of staff time, but if it has to be done individually the cost per resident increases. Emmanuel Community found that residents were intimidated by the computer terminology/technology. They encouraged staff not to use computer terminology, but to refer to the (m) Power system as a game, such as “Trivia Challenge”. They hoped this would encourage more residents to use the system.

Overall, those residents who used the system really enjoyed it and found the difficulty level just right. The system updates and downloads new information for participants on a nightly basis, so they have new material to challenge them the next time they interact with the unit.

Two of the 11 residents who used the system and participated in the study, showed a decrease in depression/improvement in their mood status score on the MDS since starting sessions with the (m) Power. Emmanuel Community believes that if residents consistently used the system every day (Dakim recommends three times a week), these results would improve.

**Project Contact**
Corinna Honer, Director of Business & IT Systems
Phone: (218) 844-7111
E-mail: corinnahoner@ecumen.org
Technology Name: Wireless Computer System through Itasca Computer Resources Grant
Award Amount: $11,000 (partially funded)

Project Description Summary

The project involved designing and installing a computer Internet network. Project funds were also used to purchase two laptop computers equipped with web cameras and sound cancelling headphones/microphones to provide wireless access and Internet access for residents. The facility contracted with Itasca Computer Resource, Inc. for planning and overseeing the wireless side of the project in addition to recommendations and equipment ordering. The facility collaborated with the Warba school district to promote intergenerational activity through the use of student volunteers. The overall goal of the project was to promote Internet technology to enhance the quality of life of residents and to increase personal connections for residents at Evergreen Terrace with their friends and family living a distance away. The initial target group for participation in the program were residents that were experiencing depression, and residents requiring alternate means of communication with family such as hearing impaired, stroke patients.

Project Successes, Challenges and Lessons Learned

Since program launch date, activity staff and volunteers provided 1:1’s, three days weekly working with the computers, and emailing with selected residents. Accompanying care plans were added to the medical record. The nursing home activities program also provided weekly computer classes to interested residents for expanded activity programming. A very successful relationship was developed between the nursing home and students from a private school in the Warba school district that volunteered and continues to volunteer once a week to help residents with e-mail and maintain regular correspondence with families.

Residents have enjoyed “surfing” the web during weekly classes, but only a few are able to enter into this activity independently due to physical disabilities, weakness, poor eyesight and other misc. reasons. Participants did become more computer and Internet savvy. Short term residents admitted for rehab appreciated being able to continue to use computers during their rehabilitation. Resident’s involved in the program did express that they felt more connected to families.

Resident and family satisfaction surveys of participants were conducted. Residents involved in the program were administered a follow up depression and cognition test according to project timelines. While satisfaction scores went up, minimal changes were observed on the depression and cognitive testing despite program interventions and regular 1:1’s.

A challenge throughout the first year of the program and even now is the number of families utilizing the web camera aspect of the program. This continues to be a disappointment and was an unexpected development. Staff continue to promote this aspect of the program during family care conferences, admission family conferences and other opportunities.
Evergreen Terrace also reported experiencing some technical difficulties. Some relocating of wireless access points was necessary, due to block construction in the building. To date some areas of the building give stronger signal than others. Those problems have since been resolved.

**Project Contact**

Connie Anderson, Assistant Administrator  
Phone: (218) 326-3431  
E-mail: canderson@missionhealthcare.org
Using Soundbeam Technology to Provide Music Creation Opportunities for Individuals with Cognitive and Physical Limitations
Good Samaritan University Specialty Center, Minneapolis, MN

Technology Name: Soundbeam Technology, Soundbeam Project in Bristol, England
Grant Award Amount: $7,999.00

Project Description Summary

Purchase the Soundbeam technology, an electronic instrument which emits an ultrasonic beam of variable length and triggers exciting programmable musical sounds. The Soundbeam will be incorporated into a variety of music therapy interventions. The technology will provide auditory and temporal cues and motivators that can be easily produced by residents with severe physical limitations for gait training and range of motion exercises. It will also be integrated into existing group and individual music sensory stimulation sessions to provide accessible motivators for intentional movement, as well as to enhance experiential music listening. Finally, the technology will be integrated into existing creative music therapy sessions and improvisation ensembles on the Huntington Disease, Men’s Behavior, Young Adult/Brain Injury and Dementia Units 4-5 times a week to provide music making opportunities for physically limited individuals who are unable to effectively manipulate traditional music instruments.

Project Successes, Challenges and Lessons Learned

According to Good Samaritan, the Soundbeam has proven to be both a challenging and worthwhile endeavor. The Soundbeam is being used in several applications on their specialized care units. It has served as an aid in rehabilitation sessions with Occupational and Physical therapy, as well as being an instrument for improvisation, self-expression and sensory stimulation. The Soundbeam has also been used in group settings on the Young Adult unit and the Huntington Disease unit.

Overall it appears that the Soundbeam Technology has been well received and has shown an increase in residents’ attentiveness, emotions/expressions, range of motion/movement, etc. Individuals have been able to express themselves in ways that were previously unavailable.

Most of the challenges relate to the learning of the technology. The Soundbeam in and of itself has a high learning curve. In order to take advantage of the full sonic capabilities, one would also have to know the associated technology (e.g. sound module and synthesizers). Other challenges have included the time it takes to set up the instrument. Plugging in the cords and cables can take up to fifteen minutes. Positioning the beams and setting the client’s preferred sounds can take up to another fifteen minutes. In order to address this, Good Samaritan University Specialty Center bought a cart to keep the equipment on and plugged in. However, they found it still takes a while to achieve the desired configuration.

This project was highlighted during a presentation at the Care Providers of Minnesota Convention and Expo in November, 2008 and at the Great Lakes Regional Music Therapy Conference held in Minneapolis in March of 2009. This project was also featured in an article published in the April 2009 edition of the Minnesota Good Age, Journal of Active Living and is available at http://www.mngoodage.com/index.php?&story=13463&page=153&category=59
Project Contact

Bill Webb, Creative Arts Therapeutic Recreation Director
Phone: (612) 673-6298
E-mail: bwebb1@good-sam.com
**Using Technology to Improve Intellectual Wellness**  
*(m) Power Cognitive Fitness System*  
Presbyterian Homes of Arden Hills Care Center, Arden Hills, MN

**Technology Name:** (m) Power Cognitive Fitness System by Dakim, Inc.  
**Grant Award Amount:** $8,500 (partially funded)

**Project Description Summary**

Purchase and install (m) Power Cognitive Fitness System to improve intellectual wellness of residents living at Arden Hills Care Center. It also intends to increase daily participation in activities for each resident, improve resident satisfaction, slow the rate of decline in Mimi Mental State Exam (MMSE) scores for participating residents, and improve their emotional well-being.

**Project Successes, Challenges and Lessons Learned**

Twenty-three residents used the (m) Power over the grant period timeframe. Some of the initial residents in the study became inactive, due to physical/medical decline, moved to a different floor, expired, etc. and others were added to the program to replace those who no longer participated. Fourteen users were remaining at the end of the grant period. Six users were considered “active users”, which means they used the program once a week or more. The remaining residents used the program 1-2 times a month or less. The six residents who actively used the program showed an increase in their MMSE scores. In regard to behaviors, none of the residents in the study showed decline in behavior and one showed improved behavior. Family members commented about the increase in conversation during their visits. The most active user showed an increase in conversation, readily recalling accurate dates, and improved recall of daily events.

The positives include the easy hook up and installation of clients and the technical support staff (Dakim, Inc.) were prompt and courteous. Also session times are short, the material changes for the resident, and residents like the use of headphones with the equipment.

Challenges included the fact that the system uses a touch screen, and some residents might be able to use the program better if switches were added. Residents with weak hands have ended up with wrong answers because their fingers may touch a picture when they are reaching for the correct answer. One resident commented that it would be nice if the program had more personal integration (used your name in the session). Finally, Presbyterian Homes found that residents perform better in a distraction free environment, which means the computer needs to be placed in a private area - or as one resident stated “out of sight, out of mind”.

**Project Contact**

Michelle Sullivan, Community Coordinator at Presbyterian Homes of Arden Hills  
Phone: (651) 631-6049  
E-mail: msullivan@preshomes.org
Using Modern Technology in Developing Resident-Centered Care
Redeemer Health and Rehab Center, Minneapolis, MN

**Technology Name:** It’s Never 2 Late (IN2L) Software Program; It’s Never 2 Late, Inc. in Centennial, CO

**Grant Award Amount:** $20,000 (partially funded)

**Summary of Project Description**

Purchase and install the “It’s Never 2 Late” System to slow down the progression of cognitive disease, engage participants in cognitive stimulation activities, promote intergenerational activities that are community based, help improve and maintain range of motion function, and allow for new age communication with family members outside of the facility. Work with families and students to help customize the audiovisual experience.

**Project Successes, Challenges and Lessons Learned**

The computer software and hardware is very user friendly. IN2L staff has been very supportive and are available for assistance if needed.

Redeemer Health and Rehab has received positive comments from members about the IN2L System and are receiving positive results in meeting the goals of their program. The IN2L system has been incorporated into a variety of activities in their monthly activity calendar, including game shows, exercise sessions, and religious programming. One of the residents’ favorite uses of the IN2L system is to use it during chapel services where the scriptures and hymns can be projected on a large screen, making it easier for residents to read and follow-along. A Schizophrenic resident has found an activity that keeps her interest for hours. One family member commented about being pleased to see that his loved one could use the IN2L system to communicate with her daughter in China. So many residents are requesting to use the system, outside of scheduled program activities, that Redeemer Health and Rehab had to implement a daily sign up sheet and limit time on the system to one hour.

**Project Contact**

Mary Hafner, Administrator
Phone: (612) 746-0219
E-mail: mhfner@elimcare.org
Implementing “It’s Never 2 Late” Adaptive Computer Technology for Residents’ Use in St. Mary’s Nursing Home
St. Mary’s Regional Health Center, Detroit Lakes, MN

Technology Name: It’s Never 2 Late (IN2L) Software Program; It’s Never 2 Late, Inc. in Centennial, CO
Grant Award Amount: $20,000 (partially funded)

Summary of Project Description

Purchase and install the “It’s Never 2 Late” software program, for resident to use in playing games, sending and receiving e-mails, taking part in remote visiting, surfing the net, shopping on line, and participating in a variety of educational and therapeutic activities. All of these will engage the mind and soul and help address problems residents experience with dementia, loneliness, depression and boredom.

Project Successes, Challenges and Lessons Learned

The system has many wonderful features that residents, family members and staff can appreciate. Whether it is the specially designed screens and keyboards, or the features that are appropriate to the era of the residents, the system is amazing.

The system is complicated, however, in that there are many features and some nursing home staff and elders have very little experience with computers and technology. It is imperative to select staff, who not only have an interest in working with residents on the system but, who are comfortable and have experience working with computers and technology.

The overall success of the system can be directly related to the amount of staff and volunteer time, as well as resident interests and abilities. The amount of time (i.e. number of sessions over a period of months) it takes to orientate residents and to help them become proficient on the system is substantial. St. Mary’s Regional Health Center (a.k.a. Oak Crossing) tried to recruit student volunteers from the local high school to assist residents with the system, but was unsuccessful. They recommend that facilities dedicate staff, possibly staff in addition to the regular core staff, or dedicating a direct care staff person for an entire shift to help residents use the system.

Project Contact

Christy Brinkman, Senior Administrative Leader
Phone: (218) 844-0700.
E-mail: cbrinkman@trustedcareforlife.org