



**NYS HEALTH**  
FOUNDATION

*Improving the state of New York's health*

**Young Adult Institute/  
National Institute for People with Disabilities Network's  
*Telehealth: Improving Healthcare for People with  
Developmental Disabilities***

**Grant Results Report – Aug. 2008**

## **BACKGROUND INFORMATION**

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**Grant Title:** Telehealth: Improving Healthcare for People with Developmental Disabilities

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**Foundation Program Officer:** Kelly Hunt

## **ABOUT THE GRANTEE**

Since its inception in 1957, Young Adult Institute/National Institute for People with Disabilities Network (YAI) has sought to build brighter futures for individuals with disabilities and their families. In doing so, YAI has become a national leader in providing services, education, and training in the field of developmental and learning disabilities.

## **Telehealth: Improving Healthcare for People with Developmental Disabilities**

### **THE PROBLEM ADDRESSED**

Since passage of the Willowbrook Consent Decree in 1975, New York State has led the nation in moving people with developmental disabilities from custodial care at institutions to therapeutic settings in community-based residences. Additionally, with increased availability of public funds to pay for home-based care, more individuals receive health care support in individual homes, with family members, and in congregate settings. Some of these individuals have been leading independent, productive lives for more than 30 years. As people with developmental disabilities age, they face the same complex medical challenges as the general aging population, need more medical supervision, and risk being institutionalized in nursing homes. For this group, the limited nursing services that are available under the current residential model are rapidly becoming inadequate.

### **PURPOSE OF THE PROJECT**

Young Adult Institute/National Institute for People with Disabilities Network (YAI) aimed to improve health care for people with developmental disabilities living in group or individual residences through deployment of a “telehealth” system. Group residences have 24-hour telephone access to a nurse, but the nurse may be on-site only a few hours per week. The telehealth system uses specialized, home-based equipment and communications software to provide off-site nurses with data on the health status of a person with diabetes, hypertension, heart disease, obesity, or other chronic condition. This regular feedback to the health care provider increases nursing support, provides accurate, current medical information (“early warning”) that can forestall problems, enhances record accessibility, reduces the need for visits to physician offices, and reduces the likelihood of nursing home placements.

## UNDER THE GRANT

YAI serves more than 700 people with developmental disabilities or medical challenges in group homes and supportive apartments throughout the New York City metropolitan area. “We looked at all our locations and sought to pilot telehealth with people who had the most health needs, either because of aging or medical conditions that required closer monitoring than our nursing supports normally provide,” says Matt Sturiale, YAI Director of Long Island Services. Nursing staff worked with paraprofessionals to orient and train clients on the mechanics of the telehealth system.

Viterion V500 telehealth equipment was installed in 12 group residences serving 60 clients. Different telehealth equipment, the Viterion V-Link, was distributed to 15 clients living in YAI supportive-living units. In total, 75 clients were served in Rockland, Westchester, and Nassau Counties, as well as New York City’s five boroughs. (The original grant proposal estimated that 90 individuals would be served, but the equipment was more expensive than anticipated.)

The ideal telehealth candidate in a supported-living apartment is an individual with mild mental retardation or autism who is highly motivated to use the equipment in order to maintain a greater level of independence. Clients with poor fine-motor skills or those who refuse to comply with health care regimens are not likely users. For example, a person must be able to sit still for 45 seconds for blood pressure and pulse measurements.

With the telehealth equipment:

- **Nurses** have 24-hour Web access to consumers’ medical status without making a site visit. The telehealth system can transmit vital signs, blood sugar readings, and images taken with a digital camera (used for clients with cellulitis and basal cell carcinoma). The telehealth software also can display trends in health status. As a result, YAI needs fewer nurses to manage clients’ health care needs.

“Our clients have been getting more and more medical problems, mostly due to aging,” says Jean Murphy Pettinato, R.N., Nursing Administrator for YAI residences. “We would have expected to

see an increase in nurse visits to monitor clients' ongoing medical conditions. Instead, with more telephone triage, nursing visits actually decreased. Now, when a nurse does go on-site, she is spending time more productively and not simply gathering information.”

- **Clients** report that the system's voice-activated greetings and instructions make it easy to use. It also encourages them to take an active role in maintaining their health. Because their health information is now Web-based, clients—in theory—can share their health records with multiple health care providers, facilitating collaboration, and giving a more complete picture of their condition over time. However, project staff found that most clinic doctors could not easily access Web-based data. Printed-out records, however, could be brought right into an examining room.

## **BARRIERS TO ACHIEVEMENT AND CHANGES TO ORIGINAL WORK PLAN**

During the grant period, some individuals using the system developed additional medical problems (e.g., falls, colds and flu, and allergies) and needed additional ways to monitor their health status.

One client refused to use the equipment despite staff encouragement. Two others could not participate because blood pressure cuffs were too small to fit them, and larger cuffs could not be adapted to the equipment.

Clients also experienced some difficulties dealing with the attached camera. Since the equipment is not readily portable, bed-bound clients cannot easily take a photo for a nurse to evaluate. “The technology is always being upgraded, and we are hoping the manufacturer will make future versions more portable,” says Sturiale.

The telehealth equipment used in the group settings was more durable than the individual units and less sensitive to errors—for instance, those that might be introduced through use of non-dedicated residential phone lines.

## PROGRAM RESULTS

Pre- and post-program administrative data suggest that telehealth technology improved care for these patients by reducing emergency room visits, after-hours calls to nurses, and physician visits. For example:

- **Emergency room visits remained constant in 2006 and 2007**—73 and 274 visits, respectively, despite clients' deteriorating health status. *All visits* were prompted by issues (e.g., falls, psychiatric problems, or infections) *other than* those being monitored by the telehealth units.
- **After-hours calls placed to nurses decreased 17%**, from 221 in 2006 to 184 in 2007.
- **Physician visits decreased, as these examples illustrate:**
  - One client who made eight cardiologist visits in 2006, before using telehealth equipment, made only four in 2007.
  - A client in a supportive-living apartment decreased the number of pulmonary disease visits from 12 in 2006 to five in 2007; and decreased endocrinology visits from eight to four.
  - One client visited a dermatologist eight times in 2006, but, with use of the telehealth camera, only twice in 2007.

## DISSEMINATION OF FINDINGS

Staff members at YAI have shared their project at a number of conferences. They conducted a national one-day conference specifically on the use of technology in the care of the aging. They also presented at a New York State Nurses Association conference on serving people with developmental disabilities. Several other agencies serving this population have visited YAI group homes to see the equipment in action.

Finally, staff members have worked to raise awareness of the issues around technology and aging—especially in the context of an increasing shortage of nursing professionals—with the New York Office of Mental Retardation.

## **THE FUTURE**

The equipment that YAI purchased is warranted for five years, and to date, a few units have been replaced by the manufacturer.

“Currently we are evaluating equipment that monitors movement and falls in apartments,” says Sturiale. “This project has given us a good foundation for working with technology and the individual. We are looking for revenue and resources and continuing to work with everyone involved—nurses, doctors, and clients—to employ appropriate technology to monitor the health issues of people with developmental disabilities.”