The VGo Project: 
Using Telehealth to Improve Health Outcomes of Individuals with Intellectual and Developmental Disabilities

Introduction

Individuals with intellectual and developmental disabilities (I/DD) experience poorer health outcomes compared with the general population. Many of these health disparities are a secondary condition and are unrelated to the individual's cognitive disability. These secondary conditions can also be curtailed or prevented if proper supports are in place. Monitoring and address these conditions can prevent them from developing into more serious illnesses or diseases.

Common health disparities for individuals with I/DD can include obesity, hypertension, heart disease, diabetes, tooth loss, and foot injuries. Factors such as lack of access to quality care and supports, inaccessible medical equipment and health care facilities, lack of transportation, and lack of educated health care providers to support this population in making healthier choices all contribute to the poor health outcomes for individuals with I/DD.

The VGo project, funded through a 12-month grant from the Verizon Foundation, aimed to reduce these health disparities by using a robotic device called VGo. This device facilitated two chapters of The Arc, The Arc Macon (Georgia) and The Arc Gloucester (New Jersey) to provide telehealth care to individuals with I/DD. These chapters were selected to participate in the program due to their prior experience in the health field. Both chapters received a VGo robot and funds to purchase a compatible iPad tablet. Through VGo, these chapters were able to increase the frequency and timeliness of interactions between individuals with I/DD and chapter nurses by eliminating travel time. Nurses using VGo were also available to serve a larger number of individuals.

The project focused on three main objectives: increasing positive outcomes for existing conditions; preventing new or acute conditions from worsening or becoming chronic conditions; and providing health education to people with I/DD and reinforcing healthy choices. The data collected throughout this program helped chapters locate where VGo provides the most meaningful impact to improve health outcomes of individuals with I/DD.

VGo Implementation Methods

The Arc Macon and The Arc Gloucester received an online training session from Verizon on how to properly operate and troubleshoot VGo. This interactive learning session was instrumental in familiarizing our chapters with VGo and its capabilities - such as its photo and video capability, zoom functions, and how to navigate the device. The information provided our chapters with essential knowledge needed to confidently and comfortably maneuver and handle VGo.

VGo easily connects to most available Wi-Fi connections; however, it also has the 4G/LTE technology that allows it to be utilized beyond the constraints of Wi-Fi. Reliable Wi-Fi connections are not always available in in rural communities. VGo’s 4G/LTE technology permitted The Arc of Macon, whose many day and residential programs are in the country, to fully use VGo with ease.
One VGO device was given to each of the two chapters and throughout the year VGo was rotated to different residential and day programs where the need was greatest. Chapter nurses utilized VGo each week to interact with individuals with I/DD and staff regarding the health concerns of specific participants; training for staff and health education for people served by the chapter. Each interaction was documented and details were sent to The Arc of the United States for analysis. While not all participants needed the assistance of the VGo during its time at each location, participants were very eager to learn about its functionality and purpose. As participants got more acquainted with VGo they were more willing to learn and accept treatment using it.

In addition to addressing individuals’ health concerns, placing VGo in day programs also allowed our chapter nurses to support and reinforce healthy decisions made by participants. For example, nurses used VGo to “stop by” the program at lunch time to monitor the types of foods participants were consuming. They also used VGo to observe a health promotion event, to teach a health lesson and to supervise the staff’s interactions. Over time participants began to look forward to visits from VGo and staff noted that participants would pay more attention to health lessons taught with VGo than by the in-person staff member.

**Data Collection**

The Arc of the United States worked closely with the Verizon Foundation to create a data collection process to determine where VGo was most effective. Once metrics were established and data was collected The Arc of the U.S. analyzed the data and found determined that VGo was effective in these four categories:

1. To treat pre-existing health conditions or concerns;
2. To treat new health conditions;
3. To provide health promotion education;
4. To support healthy behaviors or facilitate healthy activities.

For each instance that VGo was utilized, the chapter documented the type of interaction, frequency, time, and outcome of usage. We also determined how much of the nurse’s time was saved on each interaction by using VGo. The two participating chapters are located in very diverse geographical locations – one chapter is in a rural area of Georgia, while the other is set in a small town in New Jersey. Travel time between different day or residential programs in Georgia could be up to an hour drive one way, using up much of the nurse’s valuable time and reducing the frequency of interactions and number of participants he or she could serve.

Another area for study was to better understand the type of follow-up care required, if any, by participants served by the nurse using VGo. We learned that when follow-up care was needed, that care was provided through the scheduling of an appointment with a physician and in more serious cases, a trip to the hospital or emergency room. We’re delighted to report that follow-up care for routine or minor health concerns was effectively addressed by nurses using VGo. This cost savings was an important finding of this demonstration program and helped us meet our goal of reducing the number of hospital visits and physician appointments through more frequent monitoring and communications with VGo.
Results

VGo has been used to help advance each chapter’s educational, medical and research activities to help improve the health outcomes of individuals with I/DD. Throughout the 12-month program chapters utilized VGo 125 times and interacted with 180 individuals (141 individuals with I/DD and 39 staff members). The accessibility and functionality of VGo helped save chapter nurses 104 hours by reducing or eliminating travel time, while at the same time increasing communications between the chapter nurse and individuals with I/DD. Throughout all of these instances, there were only six times the health concern could not be resolved using VGo. Those six individuals were referred to a physician for further consultation.

In addition to providing medical care, VGo was also utilized 26 times to provide health education to participants in a residential or day program. This included reinforcing healthy decisions during snack or lunch times, encouraging participants during wellness activities and exercise sessions, and teaching health lessons to day program participants. Participants at The Arc Gloucester’s Bakery day program grew to like VGo so much they even gave it the nickname Dr. V. This relationship helps signify how much participants enjoyed their daily interactions with VGo. The frequency of VGo visits helped to speed along the nurse-patient relationship and trust that would usually take chapter nurses much longer to develop through in-person visits alone.

VGo also helped make routine processes more efficient for chapters. With VGo, nurses conducted six safety inspections for the chapter’s therapeutic adaptive devices to ensure proper maintenance, monitored safety drills and helped train and supervise chapter staff on routine procedures such as insulin injections, blood pressure readings, cleansing and follow-up care for wounds, and physical therapy assessments. A simple task of monitoring a participant’s blood pressure without VGo used to take chapter nurses an hour including travel time. With VGo’s capabilities the task is reduced to 10 minutes, resulting in a much more efficient process for the nurse and staff.

Best Practices

Throughout the course of the program we realized that VGo worked best in group homes or day programs as opposed to individual residences since the numbers of people reached were higher. Chapters took the initiative to place VGo in locations they traveled to more frequently. These locations usually had a larger number of individuals with chronic health needs that required more continual check-ups throughout the week.

VGo was also instrumental in providing training, not only for individuals with I/DD, but for staff as well. VGo helped direct support staff independently provide a higher level of care. Staff took on tasks, such as taking blood pressure readings or properly bandaging and inspecting wounds for infection, while the nurse guiding them through the process using VGo. This decreased the nurses time, provided direct support staff with more hands-on training, and increased their level of confidence and skills.
Replication

If other chapters of The Arc have the opportunity to replicate this initiative, we would suggest purchasing a tablet with 4G/LTE capability. While VGo has the technology built into it, it’s not effective if the nurse is unable to connect on his/her end. A tablet would enable nurses to create a hotspot for the internet from almost anywhere they go with their tablet allowing for optimal connectivity to VGo. This is especially important in rural locations.

Summary

In conclusion, our chapters vastly benefited from utilizing VGo. It eliminated travel time, reduced associated travel expenses between locations and allowed chapter nurses to provide more timely care to the individuals they serve. Telehealth is the slowly becoming the future for health care and can be especially beneficial to the disability population, which generally needs more frequent care and has greater health concerns than the general population. Telehealth helps remove many obstacles that often stand in the way of individuals with I/DD receiving the quality care they are entitled to. Through utilizing a device like VGo we can change the way individuals with I/DD receive daily care to help improve chronic conditions and closely monitor new concerns in order to prevent them from developing into more serious issues.