

# Rural Healthcare Pilot Clinic: Low Vision Clinical Video Telehealth

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Uncorrectable vision loss due to conditions such as macular degeneration and diabetic retinopathy restricts travel (especially by automobile) and is one of the barriers to receiving low vision rehabilitation faced by partially sighted individuals who live in rural areas. In 2011, the U.S. Department of Veterans Affairs (VA) Blind Rehabilitation Services (BRS) began pursuing innovative care delivery strategies to help veterans with visual impairment, especially those residing in rural or highly rural areas. The intent was to improve access to care and increase patient satisfaction. It is likely that family members and/or friends of the visually impaired are more willing to drive a few miles to a local VA healthcare facility instead of several miles to a specialty clinic.

As part of the strategy, funding was sent to VA facilities for the purchase of telehealth equipment. Telemedicine continues to advance and has been critical to improving health across rural regions. VA Telehealth Services clinics are set up around the country for cardiology, neurology, psychiatry, etc. Ophthalmology/optometry clinics within several VA hospitals utilize store and forward (S&F) technology for telehealth encounters, sending digital retinal images for medical opinions or diagnoses.

This Educator's Podium describes the ongoing pilot low vision clinical video

telehealth clinic at our facility, the Buffalo VA in western New York.

The effective delivery of low vision rehabilitation services utilizing telehealth is not without challenges and requires significant planning. A significant challenge in this case was to implement the telehealth services without compromising the Buffalo VA's Vision Impairment Services for Outpatient Rehabilitation (VISOR) comprehensive vision rehabilitative care, which includes individualized adjustment programs. A main challenge for low vision telehealth in general is that specific optometric testing, such as visual acuity measurement, lensometry, refraction, ocular health assessment, and confrontation visual fields, cannot be performed through clinical video telehealth (CVT). Therefore, a team approach was developed, which involved the low vision optometrist at the Buffalo VA VISOR clinic and the local primary care optometrists/ophthalmologists at three rural VA facilities up to 105 miles away. Accessing and utilizing specific clinical information from local eyecare providers (VA and non-VA) allows low vision rehabilitation to be completed by a low vision optometrist via CVT.

## Setting Up the Pilot Clinic

The Cisco TelePresence PrecisionHD USB camera, which delivers high-definition business-quality video, is set up at the Buffalo VA VISOR clinic. This technology enables a face-to-face expe-

rience with remote participants over the network as if they are in the same room (telepresence). Cisco Jabber licensed video software (previously called Movi) is deployed on the VA network and allows extended video communication. The value VA derives from telehealth is not in implementing telehealth technologies alone, but in how it uses the technologies to target care/case management to facilitate access to care and improve the health of veterans.

To establish our pilot program, telehealth clinical coordinators at the provider site (Buffalo VA) and at the three rural clinical sites (up to 105 miles away) worked with the VISOR team. The coordinators: 1) facilitated the ordering, setup and training with the telehealth equipment with our BRS team; 2) established and implemented service agreements between the various facilities; 3) hired telehealth clinical technicians (TCTs); and 4) trained the TCTs on the proper use of the telehealth equipment. Designated days and times were set up for clinical video telehealth appointments on the provider side and the patient side to enable proper scheduling and documentation.

Our low vision/blind rehabilitation VISOR team traveled and met the telehealth clinical coordinators and technicians at the rural sites to observe the telehealth clinical room and list the low vision equipment available for demonstration and training with patients.

### *Patient location*

The patient's ocular health and refractive status need to be determined by either the local or VA optometrist/ophthalmologist. This comprehensive eyecare examination appointment is necessary before a telehealth low vision evaluation can be scheduled because it cannot be performed through CVT. Specifically, to maintain continuity of care with patients and their VA eye doctor and telehealth low vision optometrist, the following are necessary:

- unaided distance and near visual acuities
- current spectacle correction with distance and near acuities
- refraction with best-corrected visual acuities at distance and near
- visual field testing (confrontation or electronic)
- other relevant tests results
- current diagnosis and treatment options.

The VISOR low vision optometrist reviews the electronic health record of each patient who has been evaluated by the local VA optometrist/ophthalmologist. For veterans who are followed by a local non-VA eyecare provider, a letter is sent to request clinical information. The local eye doctor completes the form and returns the document by mail or fax to the clinic. The reported clinical information from services that can only be done face-to-face is reviewed by the low vision optometrist. Provided the information is current and sufficient, a request for a telehealth consult is submitted to the patient's local VA.

Next, the patient is called by a TCT and scheduled for a one-hour low vision telehealth evaluation with the Buffalo VISOR low vision optometrist followed by a one-hour telehealth assessment with a BRS therapist. For both appointments, the local VA TCT is with the patient in his or her designated local office with appropriate CVT equipment. Each local site varies with regard to the low vision adaptive devices that are accessible for the low vision optometrist or BRS therapist for directing the TCT to properly assist the patient.

TCTs do not require specialized train-

ing on the proper utilization of low vision devices prior to the telehealth evaluation. They have been trained on the proper use of telehealth equipment only. The ultimate success of this CVT program depends on the equipment working properly, enabling the provider, patient and TCT to see each other "video face-to-face." Observation through CVT allows the low vision optometrist and BRS therapist to properly educate and train each patient with the help of the TCT.

### *Provider location*

A low vision optometrist provides a low vision CVT rehabilitation evaluation, which is similar to a face-to-face evaluation in that it is a thorough assessment of a patient's functional vision so that he or she can receive the appropriate help in coping with the obstacles to independent living that can lead to depression. **Figure 1** illustrates the provider's use of the equipment, viewing the monitor showing the two people on the "patient side." This creates a "video face-to-face" clinical setting. **Figure 2** illustrates how the two people

on the patient side can see and speak to the provider through their camera and monitor. In this example, the visual and auditory information helps the patient understand the proper use of the device. Having a family member or a TCT with the patient is helpful as needed if the patient has difficulty seeing, hearing or understanding the provider. The provider can verify visually and verbally also.

The BRS assessment consists of low vision therapy and home adaptive skills training to help patients cope with the obstacles they face. Proper training and education begins during, but is not limited to, the first visit (CVT or face-to-face). A face-to-face low vision rehabilitation follow-up appointment is scheduled by the BRS at the patient's home to assess other areas of adaptive living skills as needed, which includes a home safety checklist, orientation and mobility training, computer access training, etc. The current vision-related activities assessed (core areas) are meal management, home management, financial management, family

**Figure 1**  
**The provider side of the low vision telehealth clinical setting.**



care management, communications, personal care, leisure time activities, job site adaptations, orientation and mobility, low vision devices, CCTV use, computer access training, and other. Whether low vision services are initially CVT or face-to-face, results are unique to each patient.

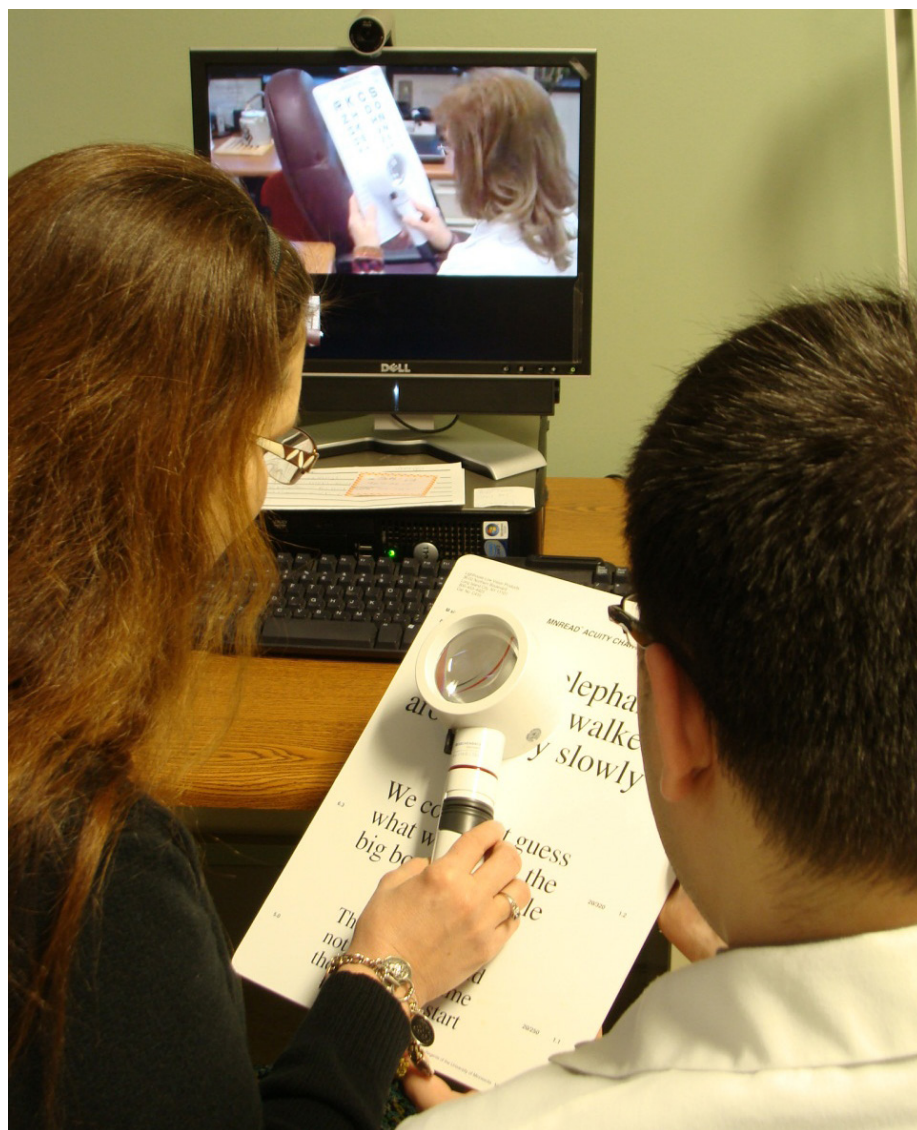
## Discussion

CVT currently allows low vision rehabilitation with a low vision optometrist and a blind rehabilitation specialist at the Buffalo VA in a timely manner, without the need for the patient to travel several miles. CVT and the team approach involving highly qualified professionals who are dedicated to optimum vision rehabilitation enable each patient to maximize his or her independent abilities by beginning low vision rehabilitation as early as possible. In the private sector, further information is needed to assess whether insurance carriers will compensate providers for telehealth vision rehabilitation services in satellite private offices.

The challenges faced during the low vision telehealth evaluation include patients not remembering to bring their glasses on the day of their appointment. During a face-to-face low vision evaluation, trial lenses can be used to demonstrate the effective use of their documented prescription, but trial lenses are not readily available on the patient side of CVT. While the initial low vision evaluation in this pilot clinic is conducted using CVT, interventions — prescriptions, provision of low-vision devices and BRS home visits — are similar.

Other challenges include patient hearing loss. Some patients have difficulty understanding the provider through the speakers. Having a family member or TCT present during the evaluation is helpful, as he or she can repeat instructions at a closer distance to the patient. Another disadvantage is the inability to demonstrate and train all devices available during the CVT session because each facility carries a limited variety. Communication via CVT assesses initial needs and enables an early discussion of options available. Scheduling face-to-face follow-up home visits within days of the initial telehealth assessment provides ongoing training as

**Figure 2**  
The patient side of the low vision telehealth clinical setting.



needed. Subsequent home training (VA or non-VA) could be expanded if the patient's home personal computer technology has the appropriate capabilities, i.e., the therapist (provider side) must be able to view the patient with a family member (patient side) using his or her personal monitor. Further information is needed to assess whether insurance carriers and/or Medicare will pay providers for telehealth vision rehabilitation services utilizing the patient's own technology.

The low vision CVT clinic at the Buffalo VA began scheduling patients in November 2012 with one low vision CVT clinic per week. That number

has been increased to three to five per week. Patients have provided positive feedback, noting they appreciate the CVT program because it allows them to receive services they would not otherwise be able to receive. This positive feedback is encouraging in light of our plan to expand our CVT program to eight additional rural VA community outpatient centers within the southern tier of western New York. This expansion also includes home-based primary care and is currently in progress. In the future, a retrospective review of medical records of participants will assess the validity of this unique pilot low vision clinical video telehealth clinic.