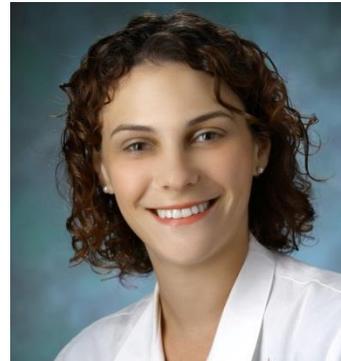


Low Vision Rehabilitation: Models of Care Delivery

Chair: Alexis G. Malkin, O.D., F.A.A.O.

Co-chair: to be determined.

Dr. Malkin is an assistant professor of clinical optometry at the New England College of Optometry (NECO) where she is an attending optometrist at Lynn Community Health Center and the Chief of Low Vision Services at Boston Medical Center. Dr. Malkin



completed her residency at Northport VA Hospital and fellowship at Johns Hopkins University School of Medicine, Wilmer Eye Institute. She has published papers investigating quality of life and outcomes in low vision patients. She has also lectured at the American Academy of Optometry, Current Concepts in Ophthalmology at the Wilmer Eye Institute and at other national conferences. Dr. Malkin has presented scientific papers and posters at Vision 2014 and multiple ARVO meetings (2010, 2015-2017). Dr. Malkin was an active member of the Low Vision Research Network Study Group and is currently the project director of the Massachusetts LOVRNET project, which is focused on patient advocacy and access to care as well as models to providing care.

Symposium abstract

This symposium will provide an in depth discussion with 4 different models of low vision rehabilitation care. One of the biggest challenges facing low vision rehabilitation providers is a lack of access to care across both developed and developing countries. This lack of access comes from a combination of sparse numbers of service providers combined with concentration of providers in urban areas. The symposium presenters have each explored different models for low vision care provision in their communities. Dr. Malkin will discuss low vision services in the community health center population. This talk will explore the differences observed in the patients presenting to these centers as compared to what has been described in the literature, as well as additional challenges posed by reliance on interpretation services and limited support will be discussed as well. Dr. Bittner will share research findings from a recently developed model for remotely delivered telerehabilitation services as a potential solution for the

sparsity of providers in rural areas and to help facilitate follow-up low vision rehabilitation training sessions for patients with limited transportation options. Dr. Gothwal will discuss the pyramidal model in use at LV Prasad where basic low vision services can be provided in the community with education for when to refer patients to tertiary centers or centers of excellence. Finally, Dr. Ross will discuss the mobile clinic in use in Massachusetts to provide care to those in areas where there are insufficient providers or where patients have greater transportation limitations.

Symposium Speakers:

Alexis G. Malkin, O.D., F.A.A.O., New England College of Optometry

Ava Bittner, O.D., PhD, F.A.A.O. Nova Southeastern College of Optometry

Vijaya Gothwal, PhD, BOpt, FAAO: Meera and L B Deshpande Centre for Sight Enhancement, Institute for Vision Rehabilitation, and Brien Holden Eye Research Centre – Patient Reported Outcomes Unit, L V Prasad Eye Institute, Hyderabad, India

Nicole C. Ross, O.D., MSc, FAAO, New England College of Optometry

Abstract 1

Low Vision Services in Community Health Centers in the US

Alexis G. Malkin

Background: Low vision patients have transportation limitations that require service to be available locally. Thus, LV needs assessments need to be conducted on a local level to better estimate the needed distribution of services. LV patients presenting to community health centers have a different demographic background than other reports in the literature. LV service providers in a county with one community health center with vision services were surveyed and a retrospective chart review was conducted.

Content: Essex County, Massachusetts has an estimated annual incidence of 763 and prevalence of 7625 people with low vision (<20/40). There is no significant difference between foreign born and US-born NHANES samples in the estimated incidence and prevalence rate vs age for any of the LV definitions. The percent of foreign-born citizens in Essex County is 15.3% with concentrations as high as 35% in the urban areas in the county. In the county, there are a total of 2 LV service providers at 3 service locations, serving a total of 120 LV patients per year (16% of the annual incidence). Retrospective

chart review was also conducted to understand the demographic variance in a community health center as compared to past studies.

Conclusions: Essex County, MA has a severe shortage low vision services. Travel to more distant providers is not feasible. Using a county-specific needs assessment enables better planning of service delivery, especially for populations that are most underserved. The patient population being evaluated in the low vision service in a community health center is different than past studies have shown.

Disclosures: None

Funding: None

Abstract 2

Development and Implementation of a Model for Delivering Remote Telerehabilitation Services to Low Vision Patients

Ava K. Bittner (speaker), Tony Succar, Pat Yoshinaga, Angie Bowers, John Shepherd, Andrew Jacobson, Nicole C. Ross

Purpose: A recent Cochrane systematic review found no publications with results for telerehabilitation for low vision (LV). We aimed to perform the initial steps to develop, execute, refine, and evaluate components for the delivery of follow-up LV telerehabilitation services involving remote communication between a LV provider in-office and patient in their home.

Methods: We conducted telerehabilitation encounters with eight older adults who had bilateral vision loss due to AMD or diabetic retinopathy, recently received a hand-held magnification device for reading, and self-reported difficulty with returning for follow-up training at the provider's office. Subjects and three LV providers (1 OT; 2 ODs) rated the use of loaner devices (i.e., iPad mini, Android tablets, Verizon MiFi, external speakers, weBoost antenna) and commercially available, HIPAA compliant, secure videoconferencing (zoom.us) to facilitate communication between the subject at home and their in-office provider while MNread charts were used to evaluate reading.

Results: Video quality was rated 'excellent' by three subjects and two providers, 'very good' by three providers, and 'good' by four subjects and three providers. We encountered issues with the audio quality for three sessions at which only Android tablets were used and there was reduced signal strength; otherwise the audio was rated

as good to excellent by providers and subjects for other sessions at which we implemented an iPad and/or the signal was better. The providers gave training they thought would be helpful to improve magnifier use for all subjects except one who was already proficient. Six of eight subjects (75%) reported improved magnifier use post-tele-rehabilitation. All except one participant had never used videoconferencing previously, and three subjects (38%) had never used the Internet.

Conclusions: Subjects' and providers' feedback is valuable to determine requisite hardware and software components for tele-rehabilitation and supports the feasibility of this model to improve magnifier use for reading.

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Disclosure: None

Abstract 3

Low Vision Service Delivery: Challenges in the Developing World

Vijaya Gothwal

People who receive low vision rehabilitation (LVR) can benefit from services that improve their functional ability and quality of life. There is a lot of variation in the low vision (LV) service provision across the world and it depends on level of service (for e.g. primary, secondary, or tertiary), type of care delivery, and the nature of service provided. Paradoxically, people in developing countries tend to receive fewer services despite more than 90% of the world's visually impaired residing in these nations.

Despite LV being included in national health plans in developing countries, it is still difficult for these governments to fully fund LV services. A global survey reported that LV services were present in 85% of countries in the Asia-Pacific region which has a combination of developed and developing nations.

Efforts addressing visual impairment in India have focused primarily on curative services for avoidable blindness. Low Vision in India is yet to achieve recognition as a public health problem as few centres provide LV services. Current service delivery for LVR is a mix of centre-based and community based rehabilitation (CBR) that focus more on incurably blind population. Although rare in a developing country setting, the L V Prasad Eye Institute (LVPEI), a tertiary eye care facility, South India has been a pioneer in providing comprehensive LVR services through both center-based and CBR for over 2 decades. LVPEI has been delivering eye care including LVR through its pyramidal model

across four South Indian states - Telangana, Andhra Pradesh, Karnataka and Odisha. LVR services have been an integral part of the pyramidal model of eye care across the LVPEI network and till date, over 140,000 people with LV and blindness have been provided the LVR services in the form of centre-based and CBR services across the LVPEI network. This is a unique distinction as LVPEI was one of the earliest organizations in the world to institutionalize a LVR centre as part of its eye care hospital services from its inception.

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Disclosures: None

Abstract 4

The NECO Mobile Eye Clinic: A novel solution to address state-wide access to care for the low vision patient population

Nicole C. Ross, Micaela Gobeille

Background & Aims: The incidence and prevalence of uncorrectable, permanent vision impairment is on the rise as is the need for low vision rehabilitation (LVR). In addition, many limitations exist with current in-office delivery of LVR services. The barriers to in-office LVR include: access to providers locally, patient's ability to travel and public awareness of LVR. The NECO Mobile Eye Clinic has been operating in Massachusetts since 2011. The optometrists who provide care on the mobile clinic work directly and collaboratively with therapists, orientation and mobility instructors, and case-workers of local state agencies. Its purpose is to: provide LVR exams and care, provide a venue for local training in LVR for potential local providers, improve overall awareness of LVR services, and investigate different models and best practice of LVR.

Content: Recent analysis suggests there are 37 low vision eye care providers in Massachusetts to serve an estimated 84,315 low vision patients. The aim of the NECO Mobile Eye Clinic has been to serve areas of the state, with less than 2 low vision providers per county. The mean round trip travel time for these patients to in-office low vision clinic is 210 minutes. Since 2011, over 1,200 patients have received low vision evaluations, over 1,800 optical low vision aids have been dispensed, and 36 provider education events or seminars have been provided. In exploring outcomes of LVR by a mobile clinic versus an in-office clinic utilizing the activity inventory visual function

questionnaire pre and post rehabilitation, we found the two models of care had equivalent patient outcomes.

Implications: Mobile clinic is a novel delivery model for LVR that has served to improve access to care, awareness of low vision services and presented the opportunity to explore the outcome measures of different models of care delivery.

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