

Project Title: Creating an Evidence Base for Vision Rehabilitation
Principal Investigator: Stuen, Cynthia, Ph.D., D.S.W.
Organization: Lighthouse International
Mechanism: RFA: HS04-011: Transforming Health Care Quality through Information Technology (THQIT)
Grant Number: UC1 HS 015052
Project Period: 09/04 – 08/08, Including No-Cost Extension
AHRQ Funding Amount: \$1,442,113
Summary Status as of: August 2008, Conclusion of Grant

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Knowledge Creation

Summary: The primary purpose of this completed project was to implement the Electronic Vision Rehabilitation Record (EVRR[®]), a patient care system that would improve the consistency and quality of vision rehabilitation interventions across agencies and individual providers, with the goal of appropriately restoring safe functioning and self-reliance for those with visual impairment. Vision rehabilitation services include: individualized therapeutic interventions and counseling designed to restore functioning, safety, and self-sufficiency to people with vision loss; offering assistance with techniques of orientation and mobility; independent living, including cooking and child care safety; and psycho-social interventions.

The field of vision rehabilitation, however, lacks standardized measurement and evaluation tools to quantify improvement. Hence, the first step required was to establish uniform definitions and measurements of functioning across vision rehabilitation health care providers, and then to collect sufficient evidence to support and document best practice assessments. The subsequent implementation of the project and its activities were intended to assure that patients receive consistent, high-quality, standardized care, thereby delaying the functional decline associated with vision loss.

The system compiled a large outcome-measures database by which to evaluate the effectiveness of current best practices and contribute to the quality improvement process. Three major activities were involved in the development of best-practice protocols. The first was the development of a training manual that integrated the use of best-practice protocols and the operation of the EVRR system. As the EVRR system was re-designed and moved to a Web-based application, the training manual was revised accordingly and integrated into the system, with a redesigned search and Frequently Asked Questions function. The online manual is accessible for blind and visually impaired users. The second key task was training rehabilitation staff in the use of the system and its core components by an IT expert, and in assessment of patient functioning, operation of the scheduling, visit record, and progress noting function by the respective intervention subject matter experts. The third major task was the formation of a group of providers who were extremely proficient users and who were assigned as the “go-to” persons in each of the intervention areas in case users had questions on system use. These “EVRR Champions” also participated in monthly meetings with IT and research and evaluation staff members to report on progress in the use of the system among providers, as well as to provide suggestions on how the system can be improved.

Specific Aims

- Significantly increase patients' functional ability from the pre-service to the post-service period in each of the interventions, i.e., orientation and mobility, independent living/vision rehabilitation teaching, and psycho-social services. **(Achieved)**
- Determine socio-demographic and service predictors of optimal post-intervention functional ability. **(Achieved)**
- Achieve optimal levels of perceived patient satisfaction. **(Achieved)**

2008 Activities: Data collection continued through the official ending date of the project, with analyses occurring afterward. Some findings were published in 2008, and additional project outputs were prepared for dissemination.

Preliminary Impact and Findings: Receiving orientation and mobility services consistently emerged as a predictor of self-assessed optimal functioning and provider rated optimal functioning. All interventions delivered had an impact on improving functional ability with the exception of the psycho-social intervention at one partner agency. The patient surveys indicated EVRR users valued the system and were satisfied with their care. Due to technical problems encountered during the course of this project, Lighthouse International was forced to completely overhaul EVRR by redesigning it as a Web-based system as opposed to a server-based system. In addition, assessment instruments were modified and new assessments were designed (e.g., occupational therapy). Some of the features of this new software include the following: user friendly, Web-enabled, fully accessible for visually impaired users, multi-browser support, built-in administrative tools, defined user roles, tool tips with Integrated Help and Frequently Asked Questions, error handling, system audit trail, and integrated scheduling with Microsoft® Outlook. Post-service self-assessments of functional ability were significantly higher for all the interventions at almost all agencies. Paired sample t-tests for provider ratings showed a similar trend with significantly higher provider ratings from pre- to post-assessment for most interventions at all agencies. Hence, it appears that the use of the EVRR system and its tools, specifically interventions that are based on standardized assessments, facilitates the restoration of functioning in patients with impaired vision and consequently helps in reducing the disabling effects of vision loss. Receiving orientation and mobility services consistently emerged as a predictor of self-assessed optimal functioning and provider-rated optimal functioning. This suggests that in order to improve patients' overall functioning, many individuals with impaired vision could benefit from receiving instructions in safe travel/mobility techniques.

Selected Outputs

Stuen C, Parsard J. EVRR—A Technology Solution for Service Providers. In: Proceedings of Vision 2008 International Conference on Low Vision; July 2008; Montreal, Canada. International Society of Low-Vision Rehabilitation and Research.

Available at: Agency for Healthcare Research and Quality. Supported Electronic Record System Focused on Best Practice for Vision Rehabilitation.

http://healthit.ahrq.gov/portal/server.pt?open=514&objID=5562&mode=2&holderDisplayURL=http://prodpportallb.ahrq.gov:7087/publishedcontent/publish/communities/a_e/ahrq_funded_projects/health_it_implementation_stories/healthimplementationstories/ahrq_supported_electronic_record_system_focuses_on_best_practices_for_vision_rehabilitation.html . Accessed May 2009.

Grantee's Most Recent Self-Reported Quarterly Status: This grant has been completed. Based on patient and provider surveys, implementation of the EVRR system was successful, and related

interventions improved patient quality of life. Demonstrations and orientation programs have been given by Webinar to 10 clinics around the world, encouraging further integration of information technology into ophthalmology. The Canadian National Institute for the Blind and the Fife Society for the Blind in Scotland are now deploying EVRR, making the potential for an international database a reality

Milestones: Progress is mostly on track.

Budget: Spending is roughly on target.