Multiple District 22
Lions Low Vision Rehabilitation Network Demonstration Project

Lions LOVRNET Progress Report

November 1, 2014 to October 31, 2015

Multiple District 22 Lions Vision Research Foundation and

Lions Vision Research and Rehabilitation Center of the Johns Hopkins Wilmer Eye Institute

The Lions Low Vision Rehabilitation Network (LOVRNET) Demonstration Project is designed to develop, pilot test, and demonstrate a health care service network operated by local Lions Club member volunteers. The Lions LOVRNET Demonstration Project was initiated in response to the current nationwide shortage of low vision rehabilitation services. The Lions LOVRNET also is driven by the steadily growing need for low vision services as the incidence and prevalence of low vision increases with the aging of the population. The Lions LOVRNET aims to overcome the barriers to the provision and use of low vision rehabilitation services; to facilitate and coordinate low vision patient care; to educate the public and health care service providers about low vision and the benefits and availability of low vision rehabilitation; and to improve the quality of low vision rehabilitation services by measuring and disseminating patient outcomes.

A three-year grant was awarded by LCIF to the Multiple District 22 Lions Vision Research Foundation (LVRF), and a parallel three-year grant was awarded to the Lions Vision Research and Rehabilitation Center at the Johns Hopkins Wilmer Eye Institute by the Reader's Digest Partners for Sight Foundation, to jointly develop the Lions LOVRNET systems and to test and demonstrate the Lions LOVRNET operations in Multiple District 22 (Maryland, Delaware, and District of Columbia). This report describes the progress made in the second year of the project.

The project goals addressed in the second year of the Lions LOVRNET Demonstration Project include continuation of work on 3 of the 6 project goals begun in year 1 and work on another 6 project goals started in year 2. The project goals that were carried over from year 1 are:

1. Develop computer software systems for managing LOVRNET operations;
2. Promote Lions LOVRNET throughout MD22 and recruit Lions Club member volunteers;
3. Pilot test Lions LOVRNET operations with currently established low vision rehabilitation practices in MD 22.

Additional project goals on which work was focused in year 2 are:

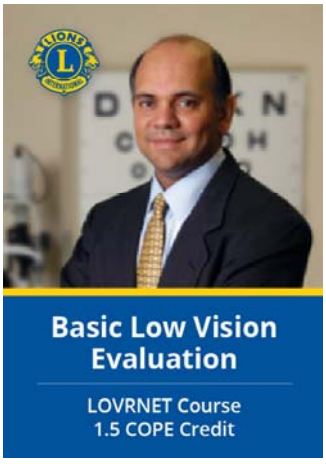
4. Develop Lions LOVRNET/Vision Council Low Vision Device Diagnostic and Evaluation Kit;
5. Develop and implement the e-commerce system for low vision optical products prescribed and purchased by doctors and the e-commerce system for over-the-counter non-optical daily living aids purchased by the public;
6. Recruit, train, and certify Lion volunteers to administer computer-assisted patient telephone interviews and Lion volunteers to provide direct services to LOVRNET patients;
7. Develop and implement Lions LOVRNET volunteer recognition program;
8. Pilot test LOVRNET Community Outreach programs to educate local ophthalmologists and encourage them to refer patients to LOVRNET;
9. Recruit and train doctors and therapists to add low vision rehabilitation to the services they offer patients and to join the Lions LOVRNET;

In the next sections we report the progress made on each goal in year 2:

GOAL 1: Develop Computer Software Systems for Managing LOVRNET Operations

From an operations perspective, the Lions LOVRNET is built around the collection, management, and dissemination of information that will help doctors and therapists provide low vision rehabilitation services. During year 1 we designed and began developing three online information management systems; during year 2 we completed, implemented, tested, and refined them. The three systems are:

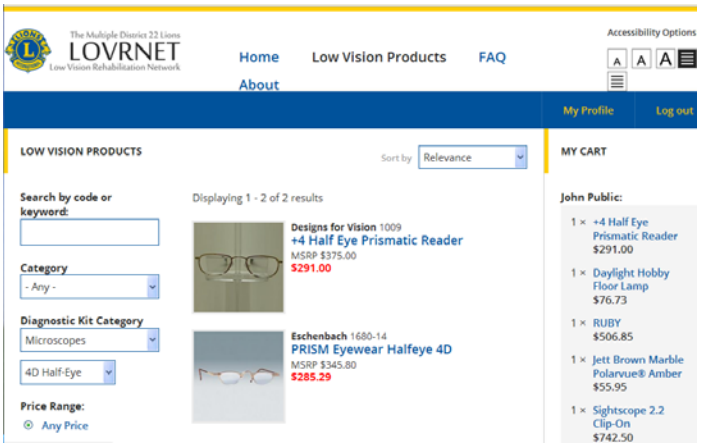
1. Learning Management System (LMS);
2. Patient Management System (PMS);
3. Content Management System (CMS).



These systems are now fully functional. The LMS is used to train and professionally certify low rehabilitation service providers (doctors and therapists) and to train and HIPAA-certify Lions LOVRNET volunteers. We have produced and are now offering on the LMS five online courses for continuing professional education in low vision rehabilitation and three online courses to train volunteers (course on how to conduct patient interviews, course on sighted guide techniques for those who provide rides to patients, and a HIPAA compliance training course for all volunteers). These courses are free to professionals and volunteers participating in Lions LOVRNET. The PMS is used for online LOVRNET patient enrollment and scheduling, assignment of patients to certified

LOVRNET volunteers, computer-assisted interviews by certified patient interviewers, generating patient reports for Lions LOVRNET doctors and therapists, and secure management of LOVRNET patients' protected health information. The CMS provides a Lions LOVRNET website with exclusive areas for LOVRNET patients, Lion volunteers, low vision rehabilitation professionals, and commercial partners (members of the Vision Council) who have personal accounts requiring login. The CMS also hosts a publically available Lions LOVRNET website for public education about low vision, Lions Clubs, and LOVRNET and to serve as a tool for Lions LOVRNET community outreach programs.

To help sustain Lions LOVRNET, advertising space on the various exclusive and public LOVRNET CMS web pages will be sold (mock ads are now displayed). Also to help sustain LOVRNET, the CMS is the platform for all LOVRNET e-commerce. Two shopping carts have been created and are now open for business. The public shopping cart is available to all registered and anonymous users to purchase over-the-counter (non-optical) low vision daily living aids. Presently there are 128 items offered on the public shopping cart. The second shopping cart offers optical and electronic low vision aids typically prescribed to patients. This second shopping cart is available only to LOVRNET-registered doctors. Seven different low vision device vendors (who are members of the Vision Council) offer their products on this "doctors only" shopping cart. Currently there are 225 items offered on the doctor's shopping cart, but vendors are still adding products. The doctor will order products on behalf of his/her patients and can have the products shipped to the practice, to the patient's home, or shipping can be split with some products going to the practice and some to the patient's home. The doctor buys the products from LOVRNET at a discount price and sells them to patients at the manufacturer's suggested retail price, leaving enough margin to cover dispensing costs. LOVRNET makes a profit on the sale of the device to the doctor. The LOVRNET e-commerce system includes processing of credit card transactions, calculation of sales taxes, calculation of shipping costs, and automatic order placements with vendors. All e-commerce data are transferred from the CMS to QuickBooks for business accounting. The e-commerce system components are now completed and integrated. We still have to test the accounting portion of the system. We recently hired a



new employee to manage LOVRNET's e-commerce and web ad business who will start work in about 6 weeks.

Goal 2: Promote Lions LOVRNET in MD22 and Recruit Lions Club Member Volunteers

Throughout project year 2, members of the LOVRNET Steering Committee and Task Forces, sitting District Governors and Lt. Governors, Lions Vision Research Foundation trustees, and Wilmer Lions Vision Center professionals gave presentations on LOVRNET at club meetings, region and zone meetings, and Lions Vision Research Foundation rallies and dinners throughout the five Districts of Multiple District 22. A Lions LOVRNET PowerPoint presentation is available for speakers to download from www.lionsvision.org. Speakers also are provided with Lions LOVRNET brochures to hand out at their events. In addition to giving presentations, Lion leaders also recognize LOVRNET volunteers by presenting "LOVRNET Certified Volunteer" lapel pins and certificates at club meetings and other Lion events.

Lions LOVRNET speakers also have given presentations and put on programs for special groups such as local chapters of AARP, Anne Arundel County Department of Aging workshop, public education forums, and the BISM Possibilities Fair for Seniors Losing Sight. LOVRNET had an exhibit at the Multiple District 22 Convention and presented a well-attended two-hour seminar on the Lions LOVRNET Demonstration Project. At all Lions events and presentations, Lions were recruited to volunteer for LOVRNET as patient interviewers and direct service providers.

LOVRNET Steering Committee Co-Chair PDG Ken Chew speaking to a Delaware AARP group.

LOVRNET Steering Committee member PID Joe Gaffigan (left) and LOVRNET Program Director Lion Dr. Bob Massof (right) speaking at the MD22 Convention LOVRNET seminar.

Lion Jim Hindman, a low vision patient himself, speaking at the MD22 Convention LOVRNET seminar.

Tanesha Vasquez, LOVRNET Administrator, at the MD22 Convention LOVRNET exhibit.

Goal 3: Test Lions LOVRNET Operations with Established Low Vision Rehabilitation Practices

LOVRNET gradually is ramping up operations as the systems come online and Lion volunteers are recruited, trained and certified. PDG Ted Ladd and PDG Richard Merriwether, co-chairs of the LOVRNET Patient Interview Task Force, launched an aggressive volunteer recruitment program with the goal of 100 volunteers by the end of Project year 2. The graph in Figure 1 illustrates the cumulative number of patient interviewers recruited by month over the past project year and the cumulative number of volunteers who were certified to conduct patient interviews. Patient interviewer volunteers were recruited at an average rate of 1.7 volunteers per week (blue line in Fig. 1).

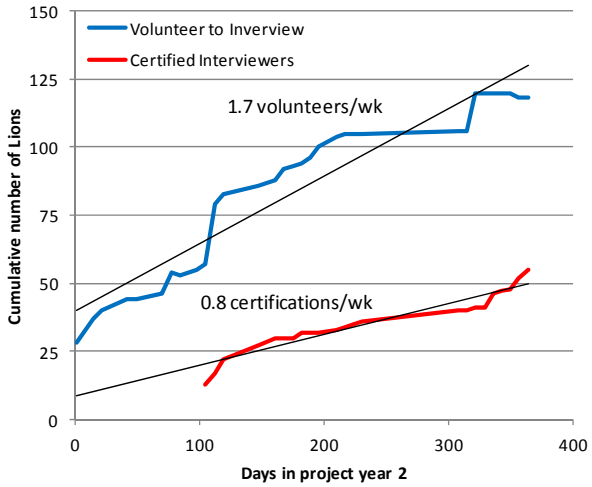


Figure 1. Cumulative number of Lions recruited as volunteer LOVRNET patient interviewers (blue line) and the cumulative number of volunteers who were certified as interviewers (red line) over the course of the second year of the project.

However, volunteers cannot conduct patient interviews until they have successfully completed patient interview training and HIPAA compliance courses, which are offered online, and have passed a background check. At that point the volunteer is certified as a patient interviewer. Over the past project year, Lion volunteers were certified to conduct patient interviews at an average rate of 0.8 per week (red line in Fig. 1). A concerted effort is now underway to increase the rate of volunteer certifications. Exceeding the recruitment goal, by the end of the second Project year, 118 volunteer patient interviewers have been enrolled and 55 have been certified.

The rate at which patient interviews can be conducted is limited by the number of certified interviewers. Because of the time required to recruit, train, and certify Lion volunteers, and because of the need to continually evaluate and refine the online computer-assisted telephone interview (CATI) protocol, develop logistics for scheduling, and develop and debug the LOVRNET Patient Management System (PMS) for enrolling patients, administering the CATI, and reporting patient interview results to the doctor – all while we gained experience with the interview process – it was necessary to start slowly. Therefore, we started pilot testing LOVRNET operations with the Columbia Lighthouse for the Blind (CLB) in Silver Spring, MD (in District 22C), which has a low vision rehabilitation service with relatively low patient volume. Dr. Alexis Malkin, a Wilmer-trained optometrist (former LVRF-sponsored Low Vision Fellow) specializing in low vision rehabilitation, expanded her practice by serving low vision patients at CLB one day per week. Dr. Malkin, who also was a part-time member of the Lions Vision Center at Wilmer, worked closely with LOVRNET over the past year to provide critical feedback on the interview and patient report process and to provide suggestions on how to improve its efficiency and value to the doctor.

Dr. Malkin accepted a faculty position at the New England College of Optometry in Boston in August 2015. Dr. Lauren Stephens replaced Dr. Malkin at CLB and has continued CLB's successful and productive partnership with LOVRNET. The graph in Figure 2 illustrates the cumulative number of low vision patients interviewed by the Lions LOVRNET from October 28, 2014 to the end of project year 2.

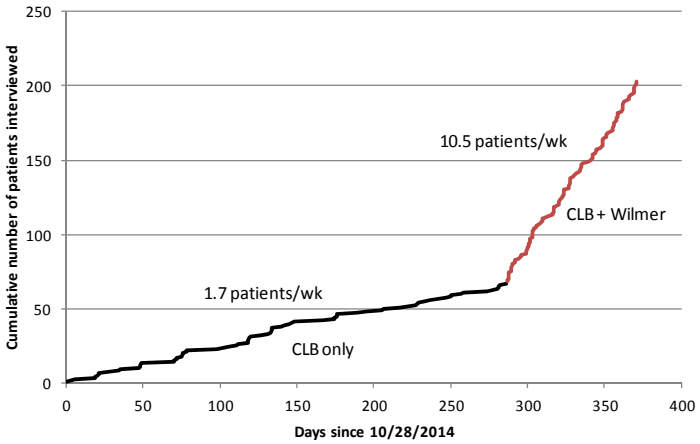


Figure 2. Cumulative number of patients who were interviewed by LOVRNET over the course of project year 2. For the first 3 quarters, only patients of the low vision service at the Columbia Lighthouse for the Blind (CLB) were interviewed (black line). Wilmer low vision patients were added in the fourth quarter and the rate increased from 1.7 to 10.5 patients per week (red line).

During the initial pilot phase, new CLB low vision patients were interviewed at an average rate of 1.7 patients per week (black line in Fig. 2). In August 2015, we expanded the pilot project by adding the Lions Low Vision Rehabilitation Service at Wilmer to LOVRNET, which abruptly increased the rate of interviews to 10.5 patients per week (red line in Fig. 2). The increased volume of online activity with the PMS that occurred at the beginning of August, 2015 revealed a number of server problems that were solved and revealed weaknesses and inefficiencies in the patient enrollment and interview assignment processes that were corrected. By the end of the second project year, LOVRNET had interviewed 205 low vision patients, with more than 65% of the interviews occurring in the last 3 months of the project year.

Based on previous experience in a nationwide study of low vision rehabilitation outcomes that employed LOVRNET interview instruments, we expected the average patient interview time to be about 1 hour. But, because the number of questions generated by the CATI depends on answers to screening questions, the range of interview times can be quite variable. That is, the range in the number of questions asked depends on the range of differences between patients in the number and depth of their general health problems and of their problems with performing daily living activities. Also, patients vary in their "chattiness". Many patients are lonely and the interview is a positive social interaction that can stimulate long conversations. Other patients are impatient and may want to complete the interview as rapidly as possible. Using the intake history part of the interview as an example, Figure 3 shows that there is a learning effect on the time it takes to conduct an interview. The points are the average amount of time (minutes) across interviewers to administer the intake history as a function of experience – the horizontal axis is the number of patients interviewed by the interviewer (the error bars bound the 95% confidence intervals on the averages). It can be seen that the average time to administer the intake history to an interviewer's first patient is 28 minutes. With experience, the average time steadily drops to about 19 minutes. A similar learning curve is seen for the Activity Inventory, the other lengthy interview instrument, and for the much shorter Geriatric Depression Scale, SF-36 Physical Functioning Scale, and Telephone Interview for Cognitive Status. For more experienced interviewers, the average total interview time is approaching the expected average of 1 hour.

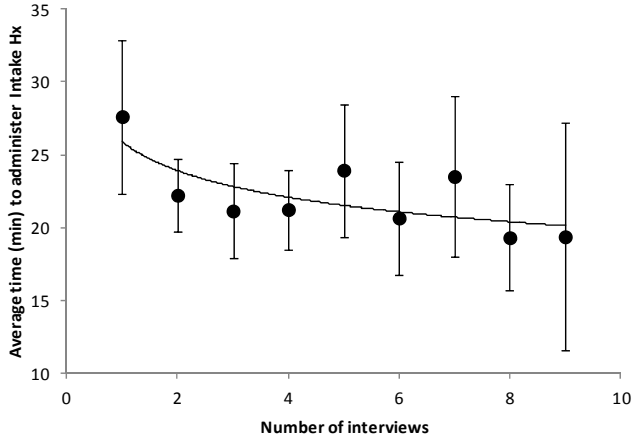


Figure 3. Average time in minutes of interviewers to administer the intake history as a function of the number of patients the interviewer has completed. The error bars are 95% confidence intervals for the averages (number of interviewers contributing to the average decreases from left to right).

On September 25, 2015, a conference call was held for LOVRNET interviewers to share their experiences, discuss problems, and make suggestions for how the process can be improved. Eleven experienced interviewers participated in the call. Based on the suggestions and identification of previously unrecognized problems, a number of changes are now being made to the PMS. A copy of a detailed report from one interviewer, Lion Dick Autz, and a summary of the discussion during the conference call is included in the Appendix of this report. Because of the success of this conference call, threaded online forums for LOVRNET volunteers are now being added to the LMS so that all volunteers will have the opportunity to share their

experiences, report problems, and make suggestions on their own schedule in a form that can be archived.

Goal 4: Develop Lions LOVRNET/Vision Council Low Vision Device Diagnostic & Evaluation Kit

In the first project year, we convened a committee of four national low vision experts (Drs. Ian Bailey, Ronald Cole, Michael Fischer, and Judith Goldstein) to define the contents of a standard low vision device evaluation kit to be used by optometrists and ophthalmologists providing low vision services in LOVRNET. This expert committee recommended that the kit contain 4 powers of microscopes (magnifying spectacles), 4 powers of hand magnifiers, 4 powers of stand magnifiers, 1 hand-held video magnifier, 1 type of hand-held telescope, 1 type of head-borne telescope, 6 types of sunfilters, and 1 type of task lamp. The committee's report and recommendations were given to the Vision Council, whose members agreed on how to populate the kits with their products so as to gain fair representation of each member's product lines. The members of the Vision Council donated their products to LOVRNET and assembled 11 LOVRNET/Vision Council Diagnostic and Evaluation kits, which were shipped to the LOVRNET Administrative Office at BISM. The Vision Council has promised to provide additional kits as needed. These kits are to be loaned to low vision doctors who participate in LOVRNET for as long as they participate. There is a separate drop down list in the doctor's shopping cart that enables the doctor to search for products keyed to the items in the kit.

Designs for Vision
+4 Half Eye Prismatic

Eschenbach
Noves Bino 6D Gold

Designs for Vision
+8 Half Eye Prismatic

Eschenbach
Noves Bino 10D Gold

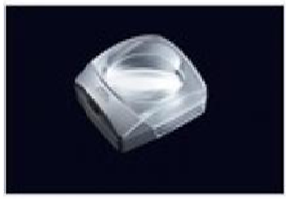
Optelec 3.5X/10D
LED Hand-Held
Magnifier

Eschenbach
Mobilux LED
3x (12D) 60mm

Eschenbach
Mobilux LED
4x (16D) 75x50mm

Optelec 6X/20D
LED Hand-Held
Magnifier

Eschenbach Makrolux Bright Field Magnifier 2.2x



Eschenbach Menas Lux 3.0x Illuminated Stand Magnifier

Optelec 5X/16D Bright White LED Stand Magnifier

Optelec 6X/20D Contrast Yellow LED Stand Magnifier

Eschenbach Magno Monocular Telescope 4x

Ocutech Sightscope 2.2 Clip-On Telescope

Eschenbach MaxTV 2.1x Distance Telescope

Optelec Daylight Floor Lamp

Jonathan Paul Eyewear Element Matte Black Polarvue® Gray

Eschenbach Solar Shield - Amber

Eschenbach Solar Shield - Yellow

Jonathan Paul Eyewear Element Midnite Oil Polarvue®

Freedom Scientific
RUBY
Video Magnifier

HumanWare
Prodigi Tablet
Video Magnifier

Examples of LOVRNET/Vision Council Diagnositc and Evaluation Kit contents as the products appear in the LOVRNET doctor's shopping cart.

Goals 5: Develop and Implement the LOVRNET E-Commerce System

The idea of having Lions LOVRNET serve as a reseller of non-optical and optical low vision devices, using an online ordering and sales system, grew out of discussions with the Vision Council on how to sustain LOVRNET after the initial period of grant support. These discussions occurred early in year 1 of the project. The Vision Council agreed to support the costs of the Diagnostic and Evaluation Kits to be loaned to doctors, which enabled a subcommittee of the LOVRNET Steering Committee, under the leadership of PCC John Lawrence, to re-budget funds originally designated for the kits to the development of an e-commerce system. Since the CMS already was being modeled after Emerald Education Systems's "Principles and Practice of Low Vision Rehabilitation"website, which runs on a Drupal platform, it was decided to build the e-commerce system on the same platform by customizing and integrating open source Drupal modules.

The LOVRNET e-commerce system was designed in project year 1 and developed in year 2. The components of the e-commerce system that had to be developed and tested are:

1. Searchable product database with all product pictures, descriptions, specifications, and prices;
2. Database for order and financial transaction information;
3. Interface to Avalar AvaTax software to calculate sales tax;
4. Implementation of 3D bin packing algorithms to estimate sizes and weights of shipping containers for each order from each vendor;
5. Interface to UPS, USPS, FedEx, and DHL application program interfaces (API) to calculate shipping rates from vendors for each order and shipping address;
6. Interfaces to credit card company APIs and to bank APIs for financial transactions;

7. Interface to LOVRNET bookkeeping software (QuickBooks) for transfer of accounting data;
8. Order placement and confirmation programs to communicate with vendors;
9. Graphical user interfaces for the online shopping carts.

Two Lions LOVRNET shopping carts were developed in project year 2, one open to the public that sells non-optical daily living aids for low vision and the second accessible only by doctors registered with Lions LOVRNET, which sells optical and electronic low vision devices. The doctors shopping cart enables doctors to specify orders for each patient and designate which products are to be shipped directly to the patient and which to the doctor's office. The system keeps track of order costs by patient and emails a full report to the doctor listing LOVRNET's price to the doctor and the manufacturer's suggested retail price (MSRP) for each product ordered. The LOVRNET Administration Task Force, led by co-chairs PID Ted Reiver and PID Joe Gaffigan, developed and implemented the financial systems for the LOVRNET e-commerce system. PDG Ken Chew and PDG Susan Timmons set up the accounts and bookkeeping systems, and filed the necessary legal documents to establish the business aspects of LOVRNET e-commerce.

Both shopping carts are now open for business, however, they will continue to be populated with products and further improved with feedback from user experience. To evaluate the publically available non-optical device shopping cart, direct your browser to www.lovrnet.org and click on "Low Vision Products". To evaluate the doctor's shopping cart, login at www.lovrnet.org with the username: demo_doctor and password: Password1 and click on "Low Vision Products". On the doctor's shopping cart, LOVRNET's prices to doctors are listed in red and the corresponding MSRPs are listed in black. CAUTION: Both shopping carts are live, so if you place orders with your credit card you will be charged and the products will be shipped to you.

Goal 6: Recruit, Train, and Certify Lion Volunteers

The success of Lions LOVRNET depends on the recruitment and retention of a large number of dedicated and productive Lion volunteers. Lions LOVRNET has four Task Forces, each of which depends on the service of Lion volunteers.

1. The ***Community Outreach Task Force*** is responsible for educating the public and health care professionals about low vision, low vision rehabilitation, and the Lions LOVRNET program. As part of LOVRNET Community Outreach, LOVRNET is revitalizing the Lions Eye Health Program (LEHP) by asking local Lions Clubs to conduct vision and eye health screening of seniors in collaboration with community eye doctors. To stimulate patient referrals to LOVRNET, Community Outreach volunteers are asked to develop working relationships with local ophthalmologists, invite them to speak at Club meetings and

other Lion events and to participate in LEHP screening programs, inform them about LOVRNET, and provide them with patient education brochures for their waiting rooms.

2. The ***Patient Interview Task Force*** is responsible for recruiting, training, and certifying Lion volunteer patient interviewers. This Task Force will require the largest number of volunteers. In MD 22 there are an estimated 15,000 new cases of low vision each year. If LOVRNET ultimately were to serve 80% of those patients, we would have to conduct 12,000 baseline interviews and 12,000 follow-up interviews per year. That goal translates to about 3.5 interviews per year for each of the 7,000 Lions in MD 22, or an average of about 8 interviews per month per club. If a cadre of Lion volunteers could average 1 interview per volunteer per week, LOVRNET would require a pool of 460 such volunteers.
3. The ***Direct Service to Patients Task Force*** is responsible for recruiting, training, and certifying Lion volunteers to provide transportation to patients for doctor appointments, troubleshoot problems reported by patients with the use of low vision devices, help patients make therapist-recommended modifications to the home environment (e.g., change lighting, tape down rugs, rearrange furniture, mark appliance controls), and help patients gain information about and enroll for services available to the blind and visually impaired (e.g., talking books, Maryland Relay, NFB Newsline, MTA mobility/paratransit program, corporate services and accommodations for blind and visually impaired customers). Half of low vision patients are more than 77 years old and have other health problems and disabilities besides those associated with their vision impairments. Nearly 40% of low vision patients live alone; 13% of all low vision patients report having no available source of assistance and 10% of all patients rely only on non-family members to provide assistance. Thus, we anticipate that 20% to 25% of low vision patients will require some direct services, which translates to approximately 2,800 patients per year, or roughly an average of 1 patient per month per Lions Club in MD 22.
4. The ***LOVRNET Administration Task Force*** is responsible for recruiting, training, and certifying Lion volunteers to enroll patients referred to LOVRNET and schedule them with local LOVRNET doctors; to assign patients needing interviews to Certified Patient Interview Volunteers; to assign patients needing assistance to Certified Direct Service Volunteers; and to assist the Administrative Office with LOVRNET operations. The CLB and Wilmer schedule their own patients and use the online PMS to enroll them in LOVRNET. Four practices are joining LOVRNET in the first 10 weeks of Project year 3 (one large 3-office practice in the DC metro area [22C], one small practice that serves both Howard [22A]and Frederick [22W] counties, and two practices in Delaware [22D]) are interested in having LOVRNET schedule and enroll their low vision patients. Together, these practices are expected to serve approximately 40 new low vision patients per week. This volume will require approximately 20 Certified Administration

Volunteers to schedule patients. The addition of these patients to LOVRNET also will increase the demand for patient interviews to approximately 50 interviews per week (not including follow-up interviews), which need to be assigned by Administration Volunteers. This task will require another 5 Certified Administration Volunteers early in project year 3.

As described in an earlier section of this report, 118 Lion volunteers have been recruited to conduct patient interviews, of whom 55 have been certified. PDG Sandi Halterman and PCC John Lawrence, co-chairs of the LOVRNET Direct Patient Service Task Force, started aggressive recruitment of direct service volunteers. As graphically illustrated in Figure 4, LOVRNET already has recruited 31 volunteers to provide direct service to patients. These volunteers were recruited at an initial rate of about 9.5 volunteers per week. However, because of the slow ramp up in participating practices, at the current stage of development recruitment ran far ahead of the demand for service. Therefore, recruitment of direct patient service volunteers was slowed to a rate of 0.6 volunteers per month. Of the 31 recruited direct patient service volunteers, 13 have been certified (it should be noted that there are a number of Lions not on our list who have provided, and continue to provide, direct services such as transportation, to low vision patients).

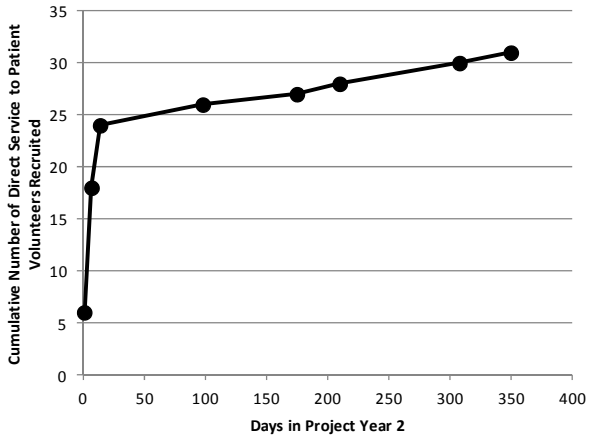


Figure 4. Cumulative direct patient service volunteers recruited during Project year 2. At the beginning, recruitment was rapid with a rate of 9.5 volunteers/ week. Because volunteers outnumbered the current need for service, recruitment was slowed to 0.6 volunteers/ month.

Interviewer assignment software has been developed for the PMS and is being used by Tanesha Vasquez, the LOVRNET Project Administrator, to assign interviewers to patients. Because the scheduling systems still are under development and testing, the recruitment and certification of LOVRNET Administration volunteers has not yet begun.

A surprising development in response to LOVRNET was interest expressed by a group of Johns Hopkins undergraduate students in volunteering to participate in patient interviews, eye health screening, and direct service. As a result, a campus Lions Club (22A) was formed at Johns Hopkins that had 40 members in its first year. Twenty of those student-members volunteered for patient interviews and more than 10 have been certified. Some student-members graduated last spring, but at the beginning of the 2015-2016 academic year, approximately 100

students registered interest in joining the Campus Lions Club, called the "JHU Visionaries" and many are now taking the training courses for LOVRNET certification.

Goal 7: Develop and Implement Lions LOVRNET Volunteer Recognition Program

Because LOVRNET's requires a large cadre of trained and experienced volunteers, it is important to have a program that recognizes volunteers for both the duration and volume of service they provide. It also will be necessary to recognize the volunteers' Clubs and to set the goal of at least one LOVRNET direct service volunteer in each Club. To begin a volunteer recognition program, the LOVRNET Steering Committee appointed Lion Bob Bullock to design a certificate and lapel pin for all MD 22 "LOVRNET Certified Volunteers", which were then approved for distribution. These certificates and pins, which display the MD 22 LVRF logo, have been presented to certified volunteers at their Club meetings and at other Lion events. This volunteer recognition program serves to not only give well deserved public thanks to Lions who volunteer to provide LOVRNET services, but also to publicize LOVRNET with other Lions. As the volume and duration of volunteer activities grow, it will be necessary to expand the volunteer recognition program by adding higher levels that will acknowledge those who provide long and distinguished tenures of service.

Goal 8: Pilot Test LOVRNET Community Outreach Program for Local Ophthalmologists

The purpose of the Community Outreach Task Force is to expand the knowledge, attitude and practices of ophthalmologists with respect to low vision rehabilitation and educate the public about low vision and low vision rehabilitation services. This Task Force recognized reports of prior efforts to reach this goal. The approach, taken by this Task Force for LOVRNET in project year 2 (and continuing into year 3) was to have personal contact with clinicians and their offices. The next part of the program will include a low vision and blindness public education program in our communities. A longer term goal is to expand the number of eye doctors willing to manage patients with low vision.

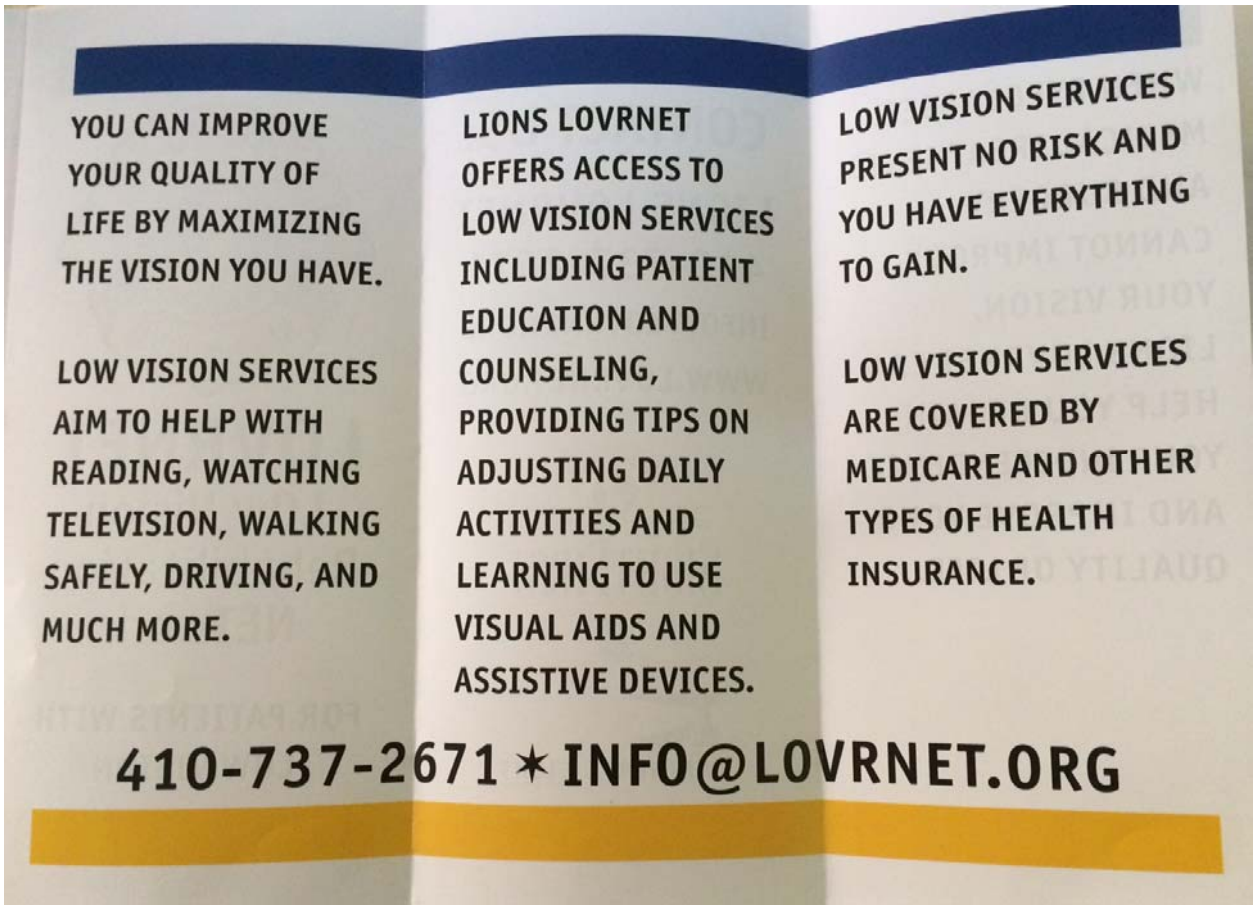
PDG Dick Bloomquist and PDG Bob Muchow, Co-Chairs of the LOVRNET Community Outreach Task Force, developed and pilot tested a visitation program to educate ophthalmologists about LOVRNET and to stimulate patient referrals. The design of their program was based on lessons learned from two previous efforts: the Smart Sight program developed by the Vision Rehabilitation Special Interest Group of the American Academy of Ophthalmology and a published study by low vision specialists at the New England College of Optometry. Co-Chairs

Bloomquist and Muchow, in consultation with Dr. Tiffany Chan, designed an information card for prospective referring doctors that contains a brief message about LOVRNET, directions on how to refer low vision patients to LOVRNET, and contact information. They also developed a LOVRNET patient information brochure that doctors can put in their waiting rooms or give directly to their patients to inform them about low vision rehabilitation and how to contact LOVRNET.

Co-Chairs Bloomquist and Muchow personally visited 27 ophthalmologists' offices, representing 40 doctors, throughout District 22W (Frederick, Hagerstown, Cumberland, and Oakland Maryland). They also visited 15 ophthalmologists' offices, representing 42 doctors, throughout District 22D (Delaware). During their visit they left the information card with the doctor and also left patient information brochures with the practice (one practice has already asked for more brochures). As a result of the 22D visits, three doctors indicated they would like to add low vision rehabilitation to their practices. One doctor (Dr. Daniel Baruffi in Wilmington), has formally signed a LOVRNET agreement, the second doctor (Dr. Tracey Marshall-Underwood in Dover) will formally join LOVRNET in December, 2015. Discussions have only recently started with the third interested doctor. At the beginning of project year 3, these Co-Chairs have moved their pilot program of visiting ophthalmologists' offices to District 22B.

The reception and responses by doctors and their staff was uniformly positive. As a result of this pilot project, nearly 20% of practicing ophthalmologists in MD 22 already have been contacted personally and made aware of LOVRNET. As a result of the visits, the Task Force incidentally learned that the Freedom District Lions (22W) founded the "Seemore Support Group" in July 2010 to help limited sight and blind people within Carroll County, with both rehabilitation and social events. The Task Force also identified three practices in District 22D

that have a history of referring low vision patients to Dr. Debbie Steele-Moore's low vision practice in Salisbury MD (22B), and practices in 22W that have a history of referring to Dr. James Jones in Oakland MD (22W). LOVRNET will reinforce these referral patterns and help ophthalmologists to increase their referrals to these practices.



Goal 9: Recruit and Train Doctors and Therapists to Provide Low Vision Rehabilitation

With the increasing success of the Task Forces in recruiting and certifying Lion volunteers, the availability of the Diagnostic and Evaluation Kits, and the completion of the LOVRNET e-commerce system, LOVRNET will add two practices that already provide low vision rehabilitation services and two new practices that will begin providing low vision rehabilitation services. These added practices will begin enrolling their patients in LOVRNET starting in December, 2015. The busy 3-office DC area practice (22C) alone will increase the current LOVRNET patient enrollment and interview rate by a factor of 4. The addition of the 2 part-time Delaware low vision practices (22D) and the part-time 2-office Howard County (22A) and Frederick County (22W) practice will further increase the rate of LOVRNET patient enrollments and interviews to 5 times the current rate (to 50 patients per week, which translates to 2500 baseline and 2500 follow-up interviews per year).

Dr. Daniel Baruffi (Wilmington, DE) signing the Lions LOVRNET agreement with PDG Ken Chew.

Presentation of the LOVRNET/Vision Council Low Vision Diagnostic and Evaluation Kit to Dr. Daniel Baruffi. Pictured are 22D DG Jim Coverdale, Lion Fred Williamson, Dr. Baruffi, PDG Ken Chew, and PID Ted Reiver.

The doctor specializing in low vision works to optimize the patient's remaining vision. For patients with less severe visual impairments and who have no other significant health or psychosocial problems, low vision services provided in the clinic, which include training in the use of low vision devices, usually are sufficient. In this case, patient training in the clinic can be provided by a professional therapist or by a skilled physician's assistant. Patients with more severe visual impairments, and especially patients with other health problems and/or difficulty coping with low vision, require more extensive low vision rehabilitation, usually provided in the health care system by an occupational therapist (OT), or in the social service/education system by a vision rehabilitation teacher or therapist. These patients need to be taught how to modify the way they perform daily activities so that they are less dependent on vision and to modify their environment to increase safety and efficiency. Low vision rehabilitation services for these patients, especially those with other function-limiting problems, most ideally would be provided in the patient's home and community. Unfortunately, there are relatively few OTs who have been trained to work with low vision patients and the services of vision rehabilitation therapists outside the health care system are not covered by health insurance. In MD 22, there are very few OTs who are able to provide low vision rehabilitation services. Lions LOVRNET will work with those OTs who now provide low vision rehabilitation services in the MD 22 region and facilitate patient referrals from low vision doctors enrolled in LOVRNET.

Owing to the age and health status of the home health care population, nearly 25% of home health care patients coincidentally have low vision. Most home health care agencies employ or contract OTs, but few have the specialized training required to work with visually impaired

patients. One component of the LOVRNET strategy is to offer training and professional support to home health care agency staff so they can more effectively care for their visually impaired patients. Since home health care agencies can provide outpatient rehabilitation services that are covered by Medicare part B, our aim is to partner with agencies in MD 22 so that LOVRNET patients can be referred to them for low vision rehabilitation in the home. If the patient is homebound and eligible for home health care services typically covered by Medicare part A, then the agency can admit the patient. However, most patients that LOVRNET would refer are not homebound and must be treated as outpatients. Since most agencies are not experienced billing Medicare part B, it will be necessary to train them and assist them.

Lions LOVRNET Low Vision Workshop for Home Health Care Administrators

To engage the home health care agencies that serve MD 22 and introduce the LOVRNET program and proposed role for home health care, we hosted a day-long workshop at BISM for home health care agency administrators from our area. The aim of the workshop was to teach the administrators about low vision, low vision rehabilitation, and LOVRNET within the framework of home health care. PCC Clare Newcomer provided an overview of the low vision problem, Lions LOVRNET, the role of Lions, and how the Lions are organized and operate. She also served as the workshop moderator. Dr. Bob Massof talked about the characteristics of the low vision population, the services they require, and the services that are available. Dr. Tiffany Chan talked about the role of optometrists and ophthalmologists in low vision care and the different types of vision enhancement tools and strategies that can be used to help patients make better use of their vision. Jim Deremeik talked about the therapist's role in low vision rehabilitation and adaptations in the way activities are performed and adaptations of the environment that can be used to make life more livable for people with low vision.

The main events were presentations from Lisi Coleman and Guy Davis on caring for the home health care patient with low vision and a presentation by Todd Montigney on documentation, coding, and billing Medicare and other third party payers for outpatient low vision rehabilitation services provided by OTs working for home health care agencies. Lisi Coleman is a home health care nurse and CEO of Evangeline Home Health Care in central Louisiana. As part of a quality improvement initiative for her agency several years ago, she worked with low vision experts at the University of Houston to develop a program for teaching therapists and nurses how to care for and rehabilitate home health care patients with low vision. She and Guy Davis then formed a consulting company, HomeSight, to teach other home health care agencies how to implement their program. Together at the workshop they described the types of services that need to be provided in the home to low vision patients and how their staff can

be trained to provide those services. Todd Montigney is managing director of Black Tree Healthcare Consulting, a company that specializes in third party billing services for home health care agencies. He laid out a strategy for how home health care agencies could bill Medicare part B and other insurance carriers for outpatient low vision rehabilitation provided to LOVRNET patients by their OTs. Interest was very high among the attending home health care administrators and we are continuing to follow up with them in preparation for their participation in LOVRNET.

Clare Newcomer, PCC
LOVRNET Steering Comm

Jim Deremeik, CLVT
LOVRNET JHU

Dr. Bob Massof
LOVRNET JHU

Dr. Tiffany Chan
LOVRNET JHU

Lisi Coleman, CEO
HomeSight, LLC

Todd Montigney
Black Tree Consulting

The workshop was recorded by Emerald Education Systems and an online course is being produced for LOVRNET to make it available on the LMS. This course will be used to introduce home health agency staff to low vision and participation in LOVRNET.

APPENDIX 1

Lions LOVRNET

Interviewers' Conference call

September 25, 2015- Noon

Attendees- Paul Hawkins, Sandi Halterman, Bob Muchow, Ken Chew, Marie Chew, John Lawrence, Ted Ladd, Charlene Travers, Gerry Beachy, Jim Deremeik, Kyoko Fujiwara, Clem Kusiak, Bob Massof, Melanie Donophan, John Warnick.

Bob Massof reported- detailed feedback from Dick Autz. Sent very thoughtful and nice email with suggestions- see email.

LOVRNET COMMENTS: (Dick Autz, Middletown Lions Club, 9/23/15)

First, let me concede that I appreciate that the Interview Software is a pilot and with review will undoubtedly be improved. So please accept my comments only as optimistic constructive criticism. I hope to be on the conference call on Friday.

Patients often do not know that a Volunteer was going to call them for an interview. The Doctor's office should also call the Patient to "authorize" an Interview Call is coming and to explain what it is.

Screen patients for their ability to perform a telephone interview. I have had a Patient of 95, deaf and unable to use the telephone. Eliminate those who cannot sustain the attention level needed to cooperate in a lengthy interview.

Sometimes Patients are wary of giving information over the phone. Considering the telephone scams these days I don't blame them. Much unscripted dialog is needed to assure Patients of the validity of the call, who I am, that this is not a survey that the information can be kept private, that the information going out on the Internet is secure, that their Doctor knows about this interview and wants the results, etc. The script at the beginning needs improvement. Possibly we should have the Patient call the Doctor for assurance of a legit process initiated.

The length of the Interview is excessive and much of the information Patients has provided thru other forms, documents, and they don't want to do it again.

Reduce the duplicate requests for information. We should not tell Patients the interview will take an hour when it often takes over two hours.

When Patients begin to cooperate they soon realize I don't know much about their overall situation, and are not asking questions that are appropriate. Only after unscripted dialog do you learn enough to begin to tailor the questions to fit the person you are interviewing. We need a comments section to add this information the scripts can't anticipate.

All Sections: Reduce the redundant, repetitive questions. For instance; once you discover the person cannot read the newspaper you can assume they also would not be able to read the magazine, pill bottles, recipes, etc. Set a software switch and reduce the length of the interview.

Reduce the number of screens required during the Interview. For instance; in the GD section I think all 20 questions could be put on 1 screen. Less screens means less repainting of screen from the Internet and possibly less hangs. Remove the Lions Logo from the screens, or make them very small. You can get more on the screen if you drop the logo. Over the 600+ screens that have the logo you could save a lot of room. Drop the Margin Boxes around the questions and put all the output to the screen beginning at top left.

Reduce the number of screens in SF-36 module. Remove Logo, put more on one screen.

Telephone Cognitive Status:

Counting backwards from 100 in increments of 7. Put the correct answers on the screen somewhere. Clarify whether or not you want to see wrong answers as they are given, or if when the Patient is incorrect to not continue. Change the word ACCEPT to RECORD, to eliminate accepting a correct answer or just recording what was said.

This program does not allow me to fix my own errors. I can't back up one or more screens to fix an error. I can't even repeat an entire section to fix an error. Put an exit interview switch on every page, with the ability to return where you left off.

No option to skip a question. No program switch to skip the AI and conclude the interview. Moreover, the straight line approach in the huge AI module doesn't

allow the skipping of any questions. When I interview a person in a wheelchair with severe problems it is plainly obvious they are not going to be going Fishing, Hunting/Shooting, Outdoor Recreation, Gardening, Playing Sports, Dancing, etc., but the program demands that you plod thru all these questions, and the Patient wonders why you are even asking. Yes, I know you could select "not Important" to save some time but the software requires an answer or it won't proceed.

The Base Question can be misconstrued, misunderstood. "How important is it for you to be able to (xxxxxx) without the assistance of another person?" Could be revised. The tendency is to make almost all activities "very important" even when the Patient knows they currently have help now and are not planning to lose that help and they don't really have a need to perform the tasks anymore. An example of this "exercise". Everyone thinks its important but if you are in a wheelchair for life there is little expectation that your vision rehab doctor is going to be able to change that. Once the selection of "important" is made it then leads you down a path of question of difficulty where all the answers are "Impossible". This is just a waste of time.

There are a lot of repetitive questions about what the Patient can read scattered all through the AI. Eliminate the repetition by having one screen ask all the "What can you read? Questions such as: Can you read the: 1) Newspaper Headlines 2) A Newspaper Column 3) Newspaper Stock Prices 4) Newspaper classified Ads 5) Labels on Medication bottles, 6) Instructions on Medication Bottles 7) nutritional food labels 8) Road Signs 9) etc. Now you have in one place in the database what the Patient can do, don't ask again.

The first comment I get when I ask "Can you read a clock and follow a schedule?" is "What size Clock?" Silly I know but refer to the list above about what the Patient can see and if necessary be specific.

Many Patients have already made adjustments to circumvent their low vision. I don't see but one question related; what rehab services have you had before? Why not ask what they must do to work around the problems?

The question in the AI about "How important is it for you to be able to drive without the assistance of another person?" seems silly. Do you want two people operating the same car coming at you, one one the gas and one on the steering wheel? Drop the "assistance" part of the question and its fine.

A few of the questions in the Intake are yes/no/refuse type answer but the question is written as a negative statement rather than a question to start with. For instance “Cannot get out of bed without help”. Change these questions to positive questions such as “Can you get out of bed without help?”

Add questions about Hearing Impairments, since when vision is a problem, dependence on hearing increases.

Interview Conclusion: Add a script. Here is my suggestion:

CLOSING REMARKS:

Congratulations, we have reached the end of the Interview!

All your information is kept private and as a Lion trained and Johns Hopkins certified interviewer I am bound by HIPPA laws (Health Insurance Portability and Accountability Act.) to protect your privacy.

Mr/Ms XXXXXXXX your patience and cooperation during this interview have been outstanding and I trust the results given to Dr. XXXXXXX will be extremely helpful in planning your rehabilitative process. Sometime after your Low Vision Rehabilitation is underway you can expect another call to ask you about the success of the process.

As a volunteer Lion I am committed to help my community. You have recorded my name so that any complaints or suggestions to improve this process can be given to your Doctor and will be relayed to the LOVRNET Staff.

Have a great day, goodbye.

Add a comments section to the interview that the Lion can add if needed to explain special circumstances encountered.

Add a clock to the interview process which will record the time taken so that improvements in the process can be measured.

Provide a topical summary of the interview or a progress bar that would help to answer Patients questions, “How much longer?”. I produced my own topical listing including about 44 AI subjects so I can see how I am progressing. Here’s mine, I’m sure yours is better.

The Interview Summary

Intake History 15 questions

AI (approximately 575 questions)

In order presented by SFW.

1. Personal Care
2. Clothes
3. Care of Health
4. Eating
5. Meal Preparation
6. Household Cleaning
7. Personal Communications
8. Process Mail
9. Keeping Current/News
10. Time and Scheduling
11. Paying Bills
12. Shopping
13. Care of Children
14. Driving
15. Care of an Adult
16. Pet Care
17. Use of Telephone
18. Attend Parties
19. Entertain Guests
20. Cooking/Baking
21. Dining Out
22. Attend Plays/Concert
23. Attend Meetings
24. Dancing
25. Leisure Entertainment
26. Exercising
27. Sewing
28. Knitting
29. Woodworking
30. Metal working
31.
32. Art Work
33. Electrical Work
34. Building Models
35. Playing Music
36. Fishing
37. Hunting/Shooting
38. Outdoor Recreation
39. Gardening
40. Playing Sports

41. Leather work
42. Use Computer
43. Collecting
44. Read Newspaper
45. Photography

Geriatric Depression Scale – 20 questions

Physical Functioning Test – 10 questions

Telephone Cognitive Scale – 15 questions

Dick Autz

Massof reported- we are focusing mainly on how we can improve interviews. Well aware of technical problems. More interesting in interacting with patients.

Ken Chew- some patients received paper questionnaire to fill out. This does not need to be filled out when patient completes the telephone interview. Paper format questionnaire (Jim Deremeik) Some cases patients are getting paper since this is sent when the appointment is made. With time we hope to eliminate the paper copies. Once we pull away from paper copies, we can't reinstate.

If they complete the interview they don't have to complete the paper. Email notice will be sent to everyone with points.

Jim Deremeik- Hopefully Irene who is making calls will tell people do not fill out papers. In which case do not complete Intake History.

Ken Chew- lady wanted to go back and change questions. Bob Massof- in the future this will be fixed and folks will be able to go back and correct items. Building features in as content is finalized.

Paul Hawkins- Have conducted 3-4 interviews. None of the patients were aware they were going to be contacted said they have paper questionnaire. Patients are aware they are being contacted. (CLB will start doing enrolling patients and a script will be created in order for patients to know a call will be coming soon)

Dick Autz- does the Dr. give anything to the Rehab specialist?

Massof- meeting with clinicians to work out things with interviews- in the past the average time has run about 60 min. may have to modify how the questions are drilled down.

Tanesha- most patients have a positive attitude. Longest interview probably has taken 1.5 hours. And usually the interviews are less than one hour. I try to move through quickly regarding patients doing medal work, hunting and shooting (depending on the patient goals, while conversing during the interview).

Marie Chew- demographic of patients are all different.

Massof- list of sections of activities. Daily living is most important out of the interview. Rebab process are addressed differently.

Follow up interview is faster since it eliminates things that aren't scored the 1st time around.

If patients can't make it through AI, it's ok. Some questions will be irrelevant to the patients. There will be an option to skip questions.

Marie Chew- depending on how they feel at this time? She was an upbeat person. (Patient interviewed)

Massof- text box will be created for comments if interviewers would like to let the doctors know info.

Lack of attention span for example can be placed in the comments box for Dr.

GDS is looking for people who might be at risk of developing depression.

Gerry Beachy- Good parts are he really enjoys talking with patients since they enjoy talking at this part in their life- Repetition- folks complain about. 1.5hrs least time spent most 3 hours. Very educated woman. She said she did metalwork.

Massof- Reading impact. Visual info. Other patients may have strokes and brain issues. Tumors. Or glaucoma.

What to look at how intervention is improving goals or how adaption is not improving visual goals.

Cooking may be to (3) different sections on cooking.

Reading a novel is a very different tasks than cooking ingredients on box,

Spot reading task are not time sensitive. If a novel is read and you cannot read above a certain speed and your comprehension may be affected.

Gerry Beachy- suggestion- in software. If patient says I don't ever cook. Will more questions just don't show up. For example. A man lost his wife and he never cooks at all.

Basic AI question- Dick Autz-. How important "without the assistance of another person"?

Read

Drive

Two most important things patients would like to do.

Massof- Ques will be modified. Do you drive now? (These questions are already in the intake)

Assistance is most important since we don't know if they need assistance.

Part of the reason for rehab is to relieve the care giver burden.

Pawl Hawkins- regarding the entire interview questionnaire – would like to look at entire interview.

Massof- Will be posted online.

John Warnick- is an incomplete interview provided to Doc? Yes, if you finish sections of the interview, those completed questions will be sent to Doc.

For exampe. If you do half of AI. It'll save interview. But if you stop halfway the information will not be forwarded. This will be looked into.

Aides used- we would like to remind the patients are how they doing things now with tools. Such as CCTV

Patients unaware if call is a con- maybe contact # can be provided to confirm.

Time ticker will be placed inside interview-

Gerry Beachy- find it's very rewarding to patient and interviewer.

The interviews play an important role to Doctors and patients.

Respectfully submitted,

Tanesha Vasquez, Project Administrator