Creating Research Capacity in Developing Countries: The Role of International Collaborative Networks of Information Professionals: A Case Study of Ophthalmic Resource Centres in Asia and Africa

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Abstract:

The goal of building health care capacity in developing countries is dependent upon establishing clinical and research Communities of Practice (COP). There is a need for infrastructure, funding, high-level support, advocacy and a community vision. Particularly, to function in the knowledge economy, Communities of Practice require the capacity to generate, disseminate, absorb and respond to knowledge. Information literacy, research development programs and the availability of trained information professionals are key.

Case study:

VISION 2020: The Right to Sight is the global initiative for the elimination of avoidable blindness, coordinated jointly by the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB). Seva Foundation (USA) and Seva Canada, two partners in this initiative, support Centre for Community Ophthalmology in Asia and Africa. These Centres are designed to produce the clinical and management personnel, management systems, and community activities required for both sustainable hospital and outreach programs, as well as training programs.

Seva's solution incorporates support for Resource Centres and a network of vision science librarians developing both traditional and digital library services, linked with their professional colleagues through the *Association of Vision Science Librarians (AVSL).*

Our paper focuses on documenting the successes and challenges of this loosely connected network of international research units with markedly differing 'information ecologies' : differing size, infrastructure a variety of personnel resources with different training potential, a myriad of language barriers and sometimes unstable political climates.

Summary

Resource Centres supporting Centres for Community Ophthalmology and an international **network** of vision librarians focusing on **professional outreach**, operating in cooperation with an **international campaign** to eliminate preventable blindness by the year 2020, and with the support of not-for-profit agencies (including Seva Foundation, Seva Canada, and the Lavelle Fund for the Blind) and Canadian government granting agencies, are important partners in vision care, education and research, participating in building health care capacity in developing countries.

The Background: The Problem and the Players

Vision 2020: the Right to Sight

According to World Health Organization data, more than 300 million people in the world are visually impaired. This includes 270 million with low vision (vision that cannot be corrected with spectacles, intra-ocular or contact lenses, or surgical intervention) and 45 million who are blind [1]. Blindness is an important barrier to development, and correlates with low levels of educational and employment opportunities and achievement, social isolation, and in the worst case, premature death. Blindness has impacts far greater than simply not being able to see; it affects one's ability to function productively in the world. The WHO estimates that 90% of blind people today live in low-income countries and cluster in the lowest socio-economic levels in those countries. For 145 million of those living with low vision, their visual limitations could be corrected with spectacles.

Without systematic, global changes in the way vision care is delivered, by 2020 WHO expects the number of blind people to increase to 76 million. However, WHO estimates that 80% of all blindness is avoidable through prevention or cure [1]. Progress is being made in many areas: in 1987, the blinding disease onchocerciasis (commonly called river blindness) affected 80 million worldwide, of whom two million were blind or visually impaired, including more than 40% of the population above the age of 40 in hyperendemic areas [2]; today, control of the disease is termed 'a success story,' 'undeniable' and 'exemplary,' [3], due to the development of effective drugs, improved understanding of disease transmission, education of populations at risk, and improved delivery of clinical care, including the decision by the pharmaceutical company Merck to donate its drug, ivermectin, to anyone who needed it, for as long as they needed it.

VISION 2020 (www.v2020.org) is an initiative jointly launched by the World Health Organization together with nearly 100 international nongovernmental organizations involved in eye care and the prevention and management of blindness. Its aim is to prevent 100 million people from becoming blind by the year 2020. Initiatives include themes such as that for this year's World Sight Day, to be observed October 8: Gender and Eye Health. Women have a significantly greater risk of vision loss than men. Even in Australia, our host country for this meeting, which ranks 29th out of 208 nations in per capita income per the World Bank in 2007 [4], vision loss is the 7th highest cause of disability for women, but not even among the top 20 for men; in the developed world, the imbalance between men and women is primarily due to women's longer lifespan [5] but in developing countries, to socio-economic barriers to girls and women being treated for vision problems. Fully two-thirds of the world's blind are women and girls. [6]

Seva (Seva Foundation, USA and Seva Canada)

Seva is a Sanskrit word for service. Seva was formed in 1978 with a mission to alleviate suffering caused by disease and poverty-by building partnerships that respond to locally defined problems with culturally sustainable solutions. Seva supports projects in the areas of health and

wellness, community development, environmental protection and cultural preservation. Specific to this discussion are current projects focusing on the prevention of blindness and the restoration of sight in India, Nepal, Tibet, Cambodia, Bangladesh, Egypt, Tanzania and Guatemala through the development of Centers for Ophthalmology.

Centers for Community Ophthalmology and their Resource Centres

An important part of the VISION 2020 initiative involves rapidly increasing working models of high volume, sustainable eye hospitals and producing the staff and systems they require. This has led to establishing Centers for Community Ophthalmology, each of which is the training and research arm of an active community-service oriented eye hospital. Seva has convened these Centers into a network spanning every region of the world. The aim of each CCO is to refine best practices in clinical and surgical service delivery and to offer training and management systems development to eye hospitals in its region. Collaborative training sessions, research projects, and advocacy projects involving Seva and multiple CCOs are accelerating regional access to these priority tools. Resource Centres at the CCOs provide support for the clinical, teaching, administrative and research functions of their institutions through outreach, traditional library services, and access to learning resources and management tools. For the success of the resource centres, the employment of well-trained, high-functioning and assertive information professionals is key. Seva currently supports resource centres within these Centers for Community Ophthalmology: Lions Aravind Institute of Community Ophthalmology/Aravind, in Madurai, India; ICARE/LV Prasad, Hyderabad, India; Sadguru Netra Chikitsalaya, Chitrakoot, India; Vivekananda Mission Ashram Netra Niramay Niketan, Chaitanyapur, India; Lumbini Eye Institute, Bhairahawa, Nepal; Kilimanjaro Centre for Community Ophthalmology, Moshi, Tanzania; Al Noor Foundation and Centre for Community Ophthalmology, Cairo, Egypt; Visualiza, Guatemala City, Guatemala. Other centres are supported by additional VISION 2020 partners.

AVSL: The Association of Vision Science Librarians

From the first gathering of five US-based optometry school librarians in 1965, the Association of Vision Science Librarians (AVSL) has grown to over 130 members in 26 countries. Using a combination of traditional publishing paths, a recently redesigned Website (www.avsl.org) and a very active email group, we communicate 24/7 around the globe. Our members include solo librarians and those who work in large multi-specialty academic libraries; we serve vision-care delivery programs including small clinics and CCOs, optometry schools, ophthalmology departments, corporate research-programs, and professional organizations. Some of our members are simply biomedical librarians interested in the literature of vision. New members are welcomed with open arms: no dues or fees are charged, and there are no obligations for membership other than to participate to the extent possible with resource sharing and collegial assistance. Our Union List of Vision-related Serials, now in its ninth edition, includes 1173 unique titles held by 34 of our member libraries, including several from India, Australia, Canada, and Puerto Rico, as well as the continental United States: truly an international resource. AVSL is a special interest group of both the Medical Library Association and the Association of Schools and Colleges of Optometry.

AVSL has a strong community of practice; there are two regularly scheduled annual meetings, and a longstanding mandate for outreach to support and develop professional capacity in vision care centres in developing countries.

Action: The *i-connect* Workshops

i-connect 2007

In early 2007, the Lions Aravind Institute of Community Ophthalmology (LAICO), a CCO in the southeastern Indian city of Madurai, hosted the first *i-connect* workshop, bringing together librarians from six countries on four continents. Seva provided funding and the organizing assistance of several expert consultants and volunteers. A workshop goal was to plan and lay the foundation for the development and maintenance of information Resource Centres at six CCOs supported by Seva and to build a community of Resource Centre professionals. A second goal was to facilitate face-to-face meetings among librarians from linked vision research centres in Tanzania, India and Nepal, and to foster scientific and information exchange programs. Three North American representatives of AVSL and one from Hyderabad, India, attended the Aravind meeting. Based on their belief and experience that professional networks are crucial to the success of librarians working in specialized settings, their additional goals were to develop ties among the attending librarians, to involve them in AVSL, and to contribute to the professional skills and knowledge base of participants by bringing them up to date on open access issues and opportunities and specialized resources in the vision literature. The ultimate workshop goal, of course, was to participate in the reduction of blindness, by providing support to the clinicians, researchers and administrators at their respective institutions.

i-connect 2008

In late 2007, the International Network for the Availability of Scientific Publications, (INASP), provided a small grant ($2,000 US) to organize a national-level workshop in Nepal, the "National Workshop on Vision Science Resource Centre Collaboration." The workshop took place early in 2008 at the Lumbini Eye Institute (LEI) in Bhairawaha, Nepal. The primary aim of this second meeting was to 'broaden the circle' of library professionals developed at *i-connect* 2007 to include the vision science librarians of Nepal. This was an opportunity to share current practices and to develop and expand the *i-connect* network of librarians, and to mentor the professional practice of the LEI librarian, Sudha Risal Sharma (development of a national workshop) and the Aravind librarian P. Kirubanithi (presentation of a training session on Greenstone Digital Library).

In attendance were eight vision librarians from Nepal as well as two of the Indian librarians from the first *i-connect* workshop, and three North American members of AVSL. They were able to look at technologies and strategies available to best serve individual Centres, and to facilitate relationship building among vision science librarians, to expand interlibrary sharing of information, and knowledge of online resources. The pre-workshop session devoted to demonstrating the Greenstone Digital Library software, introduced at the first *i-connect* meeting, allowed for discussion exploring its use for the centres in Nepal. This was also an opportunity to link the network with librarians at Tribhuvan University Central Library in Kathmandu and facilitate discussion regarding useful resources and prospective collaboration. A secondary goal was to establish an Asia chapter of AVSL.

Challenges to increasing capacity, collections and connections in libraries in developing countries

The current mandate of Resource Centres, as defined within CCO development documents, is to meet the users' needs through the development of collections and information services in centres, to facilitate the exchange of ideas, experiences, and knowledge and training, all of which are needed for the success of the institutions they serve. Often there is a gap between the theoretical role and the actual role. The *i-connect* meetings, and the subsequent affiliations of Resource Centre staff with AVSL, have helped to overcome some of the challenges they face.

In developing countries, most centers providing ophthalmic care have meager access to information resources, both conventional (print, audio, and video) and electronic. A major reason for this lack of resources is simply cost; medical information resources are the most expensive of any class of information, and the resources available to purchase and acquire them are not available in developing countries.

There are other challenges. Often, Resource Centres and their staff lack prestige, so they may be housed in inadequate space, with reduced hours and outdated materials. Often the 'library' is a reading room with limited access. Resource Centres often lack appropriately trained staff as a result of several factors. Funding for staff positions may be missing or grossly inadequate; available staff often lack the necessary training and experience with which to maximize available resources; and isolation of Resource Centre staff limits their effectiveness and reduces morale. There may also be, among Resource Centre staff, a lack of awareness of available resources, and of ways to make the best use of the funds they have to acquire traditional information resources. Staff may also be unaware of ways to access even those available at no cost, such as open access journals and books, and programs such as HINARI and PERii (INASP).

Additional infrastructure-related problems are as frequent in these centres as elsewhere in the developing world: lack of reliable electricity and Internet connectivity complicate access to free and open-access electronic or online resources; needed materials are rarely available in the first language of the staff who need them; the knowledge base, including clinical care guidelines, from parts of the developed world may not be applicable in developing country settings. Often, within countries, networking with related institutions has not been developed.

In addition, literacy is a problem in many settings. This includes basic reading and interpretive skills, but also information literacy skills which workers need to identify information needs and the resources to meet those needs, and skills using technology to access information. Further, many of the health care workers at the CCOs have minimal training in medical, ophthalmologic or optometric terminology and concepts.

While not focused specifically on vision care centers, the recent review by Pakenham-Walsh and Bukachi [7] identifies additional aspects of this problem.

Success in increasing capacity, collections and connections in libraries in developing countries

The Lions Aravind Institute for Community Ophthalmology (LAICO) Library: A Model Resource Centre

The LAICO library is not a typical RC; its size, the population served, and the institutional support available are unique. However, its staff, collection and services provide an example and a model of best practices. LAICO serves as a major node for the connected CCOs, connecting on a peer level with comparably sized libraries (ORCEA, Tanzania; LV Prasad, India) and serving as a resource for smaller affiliated sites.

LAICO's mission is to contribute to the prevention and control of global blindness through teaching, training, consultancy and research in eye care delivery. LAICO partners with select NGO hospitals all over India and in other developing countries, to develop them as models of excellence in eye care. The focus areas of the institution facilitated by the on-site Resource Centre resources and trained staff are:

- Teaching and training
- Capacity building
- Development of models for replication
- Research
    - Population based studies
    - Epidemiologic studies
    - Clinical trials
    - Operations research
- Tools for planning and implementation

As medical and particularly ophthalmic libraries nowadays globalize with integrated ophthalmic resources, it is important that staff professional training keeps pace. In this particular environment, information specialists accumulate the eminent resources and segregate them for the users at different levels within the institution including research specialists, management personnel, eye care professionals,- and all other users of eye care information resources.

Information specialists in this changing information environment should also be aware of the updates in-eye care and related fields and should make the eye care professionals aware of relevant resources. They have the capability of benchmarking the resources published by various eye care organizations and should individualize service to affiliated eye care organizations and users. It is also necessary to keep abreast of available technological enhancements that facilitate access to the user's desktop.

In keeping with these goals, LAICO Library is doing good service and providing support to the user community in many ways:

1. Daily services within organization including satellite hospitals
2. Providing services to Aravind Managed Eye Care Services (AMECS), CCOs, and other local institutional libraries
3. Developing a digital library for their own digital resources

WITHIN ORGANIZATION SERVICES

LAICO library has been providing support to all Aravind satellite hospitals including the main hospital library. This support covers:

1. Recruitment and training
2. Resource updates, including subscription to journals and magazines
3. A digitization project of all institutional reports and created resources
4. Conducting library committee meeting and CME regularly

As with all library collections and services, knowing the user population is the first step. It is also an ongoing, never-ending process, as the population served changes over time. As the RC's services expand, user expectations develop and expand. LAICO has recently conducted a survey[1] to better understand user needs and expectations.

COMMUNITY OF USERS:

User needs are of two types. Expressed needs and requests, for example, a request for a copy of a specific article or a literature search on an intervention, a description of a surgical procedure or the factors with which to calculate the risk of inheriting a genetic condition within a family, are responded to based on the collection and resources available within the RC or the wider network both of other RCs and of AVSL. Equally important are services by which needed information is brought to the attention of the user, through formal or informal current awareness services. Library updates, including acquisitions, planned events, changes in RC services and policies, and the availability of training in the use of resources, are provided in the form of an electronic library newsletter. All modes of communication between the RC staff and the user population are encouraged: email, paper-based, telephone, and direct interaction in the RC and throughout the institution.

THE COLLECTION:

Based on their the understanding of user needs, the LAICO RC staff work to identify sources of information in all formats to satisfy those needs. Books, journals and other resources are acquired through purchase, but resources available free of charge are also identified and acquired in all formats, whether by download or linking, according to copyright permissions, usability factors, software considerations, etc. The network of AVSL libraries is invaluable in providing copies of materials not otherwise available, as well as copies needed in response to specific requests. Digitization of some material is done both to provide access and for preservation.

THE CONNECTION

Making the collection and services of the RC readily and transparently available to users is absolutely essential. LAICO relies on a network-based database system, using off-the-shelf software (GSDL) which provides both librarian and user interfaces. Individual items are indexed within the database for easy retrieval by the users. The goal is to make as many resources as possible available to our users at their desktops. Aravind comprises several centers with a networked connection, which presents unique challenges and opportunities in the digital distribution of information throughout a multi-site institution. Satellite RCs in each of the

[1] Appendix 1

outlying centers work in coordination with the LAICO RC to provide the best possible, most responsive service to all users.

OUTSIDE SERVICES AND SUPPORT

LAICO library also provides this support to all our AMECS, Centers for Community Ophthalmology (CCO) and some neighboring institutions:

1. Setting up the resource center including infrastructure
2. Training for resource persons from each centre for enhancing their skills in manipulating databases, developing their searching skills in PubMed, Google, and Google Scholar.
3. Resource sharing
4. Conducting library refreshment programs such as Continuing Education so as to better equip the existing resource person.

BUILDING PROFESSIONAL CAPACITY

LAICO supports their Library staff outreach to the profession. This includes an internship program providing training for 6 months to fresh library graduates. Development of Open Source initiatives in Asia is facilitated by LAICO championing Greenstone Digital Library (GSDL)[2] software to affiliated library and information centers.

The Lumbini Eye Institute (LEI) Library: Developing Capacity and Professional Expertise in Nepal

The Lumbini Eye Institute (LEI) was established in 1983 as the Rana Ambika Shah Eye Hospital in the Lumbini district in Nepal. It serves people mostly from very poor socio-economic backgrounds and is the only eye hospital to offer sub-specialty services in the entire western, mid-western and far-western region of Nepal. Indians from the two most-populous states of Uttar Pradesh and Bihar cross the national border to avail themselves of low-cost cataract surgery and specialized ophthalmology services. In 1993, LEI also started offering academic courses including a residency program in ophthalmology and several paramedical courses.

LEI BACKGROUND AND SUPPORT:

The library was started with a small collection of books in one rack. In response to the increasing information needs of staff and students, the library collection gradually increased through the generous support of Seva. Seva (USA and Canada) have been actively working in Nepal for the past quarter of a century to eliminate avoidable blindness in the country. Due to ongoing connections with ophthalmic research teams, Seva understands the significance of research for evidence-informed policy. It has been encouraging the institutions it supports to strengthen research capacity at all levels, with particular focus on development of Resource Centres and connections between them and library consultants to encourage the development of a culture of literacy necessary to the development of local capacity for research.

[2] GSDL is a library professional software and suite of software to build and disseminate the library digital collection to all the users at their desktop.

In 2004, the LEI Library became a full-fledged unit with two dedicated staff members. Access to high-quality international journals increased with free access provided by INASP and HINARI.

LEI SERVICES AND CHALLENGES:

Research is important for evidence-informed policy and provides information about various aspects of health status in a region. This becomes all the more important in a developing country where other reliable sources of information are not available. In line with this core thought, research studies undertaken at LEI primarily focus on generating data and information about various aspects of eye health status in Nepal.

At LEI, the library supports researchers in literature review as well as reference questions, and training in bibliographic programs. As the research undertaken at LEI relate to regional and national eye health status, literature review needs to give equal, if not more emphasis, to studies undertaken in Nepal. The logistic challenges involved in literature review are similar to those faced by other librarians in developing countries. Important among these are:

a. Not all research studies are registered with the appropriate authority as per depositor regulations;
b. The monitoring mechanisms to ensure registration of research studies is weak;
c. A significant number of important research studies are published in journals that are not indexed instead of national/ international journals indexed by Medline, Embase, etc. so are often not searchable, and thus are not captured when researchers assess extant literature;
d. It is difficult to keep pace with the growing volume of medical literature without features offered by digital technology such as search function, etc. ;
e. Abstracts of articles published in national journals are not available online;
f. Complete back files of certain international journals are not available through the existing free access facility provided to libraries in developing countries.

For the librarian, there is significant stress level due to the system-level difficulties to do his/ her job effectively.

LEI NETWORKING SUCCESSES:

LEI and associated organizations, recognizing the importance of improving regional networking opportunities for librarians to facilitate better information access for researchers, made sure that the LEI Library was included in the Seva- organized *i-connect* 2007, the meeting that brought together librarians from nine institutions in India, Nepal and Tanzania at the Aravind Eye Hospital, Madurai in India. *i-connect* 2007 also saw the active participation of members of the Association of Vision Science Librarians (AVSL) and a representative from the International Centre for Eye Health (ICEH) who shared previous networking project results.

This opportunity was transformative in a number of ways. The opportunity for a site visit to a primary node library and discussion with the librarians within the LAICO system and the sharing of PowerPoint presentation descriptions of sites and their challenges and successes allowed the LEI librarian to develop a realistic plan for the development of her library. It was

also an opportunity to consider professional development goals, and to link to the greater community of practice/network of vision science librarians locally and internationally.

During the next year, the LEI librarian arranged for funding, organized and hosted *i-connect* 2008 which was held at the Lumbini Eye Institute. The goal was to explore networking opportunities for resource-sharing amongst vision science librarians in Nepal. This initiative was generously supported by Seva and INASP. This was an opportunity for vision science librarians from eight institutions in Nepal to share experiences, develop a connection to the AVSL team and better understand the resources available through INASP.

Discussions and knowledge gained ranged across issues such as what is impact factor, creating bibliographic references in the style recommended by the Vancouver Group, how to search vision science literature, including specialized databases, using free resources such as Zotero, implementing GSDL software suite, etc. The participants also agreed on exploring the networking opportunity beyond the workshop and sharing resources. A significant outcome was the knowledge the librarians gained of the repository of research studies conducted in Nepal archived at the Tribhuvan University Central Library.

In 2007, after attending the first *i-connect* workshop, the LEI librarian realized the importance of networking with other librarians to increase access to national and international journals and research studies. Since then, the LEI library has been active in staying connected with librarians at institutions in Nepal and abroad. This has resulted in the following specific advantages to LEI:

a. Improved access to national/ regional research studies in Nepal;
b. Increased access to back issues of international journals and research studies and to needed articles from these journals.

The biggest advantages of networking are the cost-effectiveness of the approach and the opportunity to interact with professionals from other regions and nations. The impact of networking has been consistently growing over time and is fast reaching the stage where networking with librarians could materially improve the quality of research and contribute significantly to building national research capacity.

As nations, organizations and individuals move increasingly towards co-operation, it is imperative that librarians should increase interaction amongst themselves with national as well as international professionals and maximize their knowledge and resources for the betterment of the library science profession and national research and development.

The AVSL Community of Practice Successes

Our successes, as a community of practice of information professionals with an international scope, despite the challenges, are notable. The AVSL has added many new members, enriching our organization. We maintain a significant exchange program, in which we are able to share both materials and information at the point of need. This includes filling in gaps in journal collections and finding new homes for duplicate, gift and no-longer-needed materials; supplying copies of articles; using our collective resources of knowledge, experience, materials, and inspiration to answer difficult reference questions, design literature search strategies or share expertise in designing user education programs.

It is important to note that the exchange truly is circular: a request for an article from a library in Nepal may be answered by a librarian in New York, and a reference query from the University of California may be answered by a colleague in Argentina, with additional insights coming from India and England. With four Indian members' holdings in our Union List, the librarians on the Indian subcontinent now have much better access to those 'local' holdings, and no longer need to direct all of their article requests to the U.S. An article from a Chinese journal which no longer is received by any library in the U.S., even the National Library of Medicine, was located by a member in China, scanned and emailed within hours of the researcher walking into the requesting library, in California. Of course we want this behind-the-scenes work to be transparent to our users, but sometimes we cannot help saying "This came from my colleague in Tanzania, who sends his greetings along with the pdf file," or "The librarian in Nepal wrote that she has received the shipment of journals, and sends her thanks. Isn't it wonderful to have a good use for the journals you no longer need in your office!"

Because so many of our members are solo librarians, perhaps assisted by clerical or student assistants, and because some have not had the opportunity for educational preparation at the level expected in developed and many developing countries, or for continuing professional education, the network members have become 'virtual colleagues.' That may include sharing objectives, slide files and handouts for courses we teach at our institutions; or sharing our regularly-revised list of essential books and journals for vision collections, the Opening Day Collection, available on our Website and in a modified version for the Indian[3] setting. All handouts and slide files from our annual conference are distributed electronically after the meeting to all members, and are also available in the Members Only section of our Website.

All professionals know the value of mentorship relationships to both the mentee and the mentor. AVSL has facilitated such relationships between more experienced senior members with junior members from several CCO resource centres; these relationships have resulted in research for advanced degrees for several members; a poster presented at an international vision research conference this year; and a paper submitted to a Medline-indexed journal authored by two members and an ophthalmologist. Our newly-revised Website welcomes members in five languages other than English: French, Spanish, Portuguese, Hindi and Mandarin Chinese.

We believe our experience documents the successes and challenges of this loosely connected network of international clinical and research units with markedly differing 'information ecologies' : differing size, infrastructure and IT capabilities, a variety of personnel resources with different training potential, a myriad of language barriers and sometimes unstable political climates. At the Resource Centres, and among their supporting network of AVSL colleagues, librarians themselves are key to the knowledge infrastructure and the development of best practices[4] that will help make the goals of VISION 2020 a reality.

[3] http://laico.org/v2020resource/files/openingday_collection.pdf
[4] See Appendix 2

Acknowledgements

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[5] The Gender and Blindness Network developed by these two organizations has incorporated an embedded librarian role in their research capacity development plans and grant applications for over 6 years.

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Appendix 1: LAICO SURVEY

UNDERSTANDING THE USERS: (INTERACTION BETWEEN USER AND LIBRARIAN)

Introduction:

It is essential role of librarian in the resource center to interact with users on their request. Interaction can offer valuable and clear understanding of the user needs. User point of view librarians struggle in searching the exact information given by users spending very meager time with the librarian.

For example:

1. They are in remote place contact over phone or via email.
2. Due to busy schedule on clinical activities they spend minimum time to interact with librarian for their literature search
3. Request are sent through his/her assistant

Information seeking behavior:

Users want to get the literature for the purpose of Study, Thesis, Research activities, Paper publication, CME, Seminar, Grand rounds and the Class presentation. The following table shows us to assess the information seeking behavior of the Ophthalmologists.

Sl. No.	Designation	Purpose	Key Words
1.	MO	Research	Vitreous Hemorrhage
2.	Chief Medical Officer	Conference	Central Corneal Thickness in POAG and NORMAL
3.	MO	Grand Rounds	Lid Tumors Basal Cell Carcinoma Meibomian Cell Carcinoma
4.	MO	Research	30HZ Scotopic ERG Flicker in CRVO
5.	MS	Study	Pseudotumour with Coexisting CRVO
6.	MS	Grand Rounds	Ciliary Body Tumour in Children
7.	DNB	Thesis	Choroidal Macular Edema in Uveitis
8.	MO	Paper	Role of 5 Fluorouracil and Low Molecular Weight Heparin in Proliferative Vitreoretinopathy Surgery
9.	MO	Paper	Pathogenesis & Biochemical Aspects of Diabetic Retinopathy
10.	DNB	Symposium	Epidermoid Cyst (Intracranial)
11.	DO	Symposium	Intravitreal Injection in Endophthalmitis
12.	DNB	Study	Corneal Transplantation & Systemic Malignancy
13.	DNB	Thesis	Slit-lamp Retroillumination

			Photography Technique for Posterior Capsule Opacification after Cataract Surgery
14.	MO	Study	Trabeculectomy with ECCE and Manual Phaco
15.	DNB	Study	Congenital Glaucoma
16.	DNB	Thesis	Filtering Bleb Function after Cataract Surgery
17.	Pediatric Fellow	Study	Double Elevator Palsy
18.	Physician	Study	Chikungunya Fever
19.	Retina Fellow	Case Report	Optic Nerve Head Granuloma
20.	MO	Research	Bacterial Keratitis
21.	MO	CME	Congenital Anomaly of Cornea Penetrating Corneal Injuries
22.	MS	CME	Papilloedema in Neurocysticercosis
23.	Pediatric Fellow	Project	Optic Atrophy in Children in South India
24.	MS	CME	Intraventricular Cysticercosis
25.	MO	Conference	Laser Iridotomy in Chronic Angle Closure Glaucoma
26.	AO	Paper	IOL Manufacturing in India and Cataract Surgery
27.	DNB	Thesis	Pediatric Uveitis
28.	MS	Project	Barriers on Uptake of Low Vision Services
29.	Pediatric Fellow	Conference	Posterior Lenticonus
30.	MO	Conference	Secondary IOL in Children

Exploring on user request:
Role of librarian is to interact with users' on their request. Skilled or experienced professional are needed to fulfill the users demand. They only are able to assist to the users with understanding and they can explore the term /phrase given by the users.

Librarians can do the bibliographical searches at primary level through the library databases then looking for the relevant resources from PUBMED and other online databases.

Based on the request, librarians do follow up the users for the further clarification to retrieve the exact information from the huge search results.

User satisfaction:
We can assess the user satisfaction through their appreciation and conveying their thanking letter when they get exact information and prompt services received from librarian.

Appendix 2: LAICO BEST PRACTICES FOR CCO AFFILIATED RESOURCE CENTRES

Every library or resource center (RC) is unique with regard to such factors as population served, location, size, institutional support, and staff. Each is a particular mix of challenges and opportunities. The following sections are intended to offer ideas on best practices; these will be aspirational in most settings, but all RCs will be able to meet some of them, and exceed others, bringing new, higher standards to the field.

The Community

As with all library collections and services, knowing the user population is the first step. It is also an ongoing, never-ending process, as the population served changes over time. As the RC's services expand, user expectations develop and expand, and the information literacy skills of the users also increase.

The resource center staff must understand the particular mission of the Community Center for Ophthalmology (CCO) in which it operates. This includes medical doctors (ophthalmologists, optometrists, physicians with other specializations), research staff, and trainees at all levels, nurses, paramedics, ophthalmic assistants and other health care workers, and administrators and non-medical support staff. Most of these will be employees, but there may also be volunteers with varying backgrounds, including international experts in research, medical care, or the delivery of care. It also includes members of the community: patients and their families; health care providers not primarily affiliated with the institution but interacting with it on behalf of patients; government officials. Understanding their needs may involve surveys, interviews, small and large group meetings at which RC resources are presented and questions about services and sources answered; it will also include interacting with individuals who approach the resource center in person, by email or telephone or postal/courier mail. All interactions present an opportunity to gather information with which to tailor services and resources to best meet needs.

User needs are of two types. **Expressed needs and requests** might include:

- a copy of an article not online
- an explanation of the basic physiology of vision
- drug side effects
- the detailed description of a surgical procedure
- the role of Vitamin A in child vision development
- factors to calculate the risk of inheriting a genetic condition within a family
- illustrations of hygiene practices to prevent hand-to-eye disease transmission

These needs are responded to based on the collection and resources available within the RC or the wider network both of other RCs and of the Association of Vision Science Librarians (AVSL).

Equally important are **anticipated needs.** Here we include information services by which needed information is brought to the attention of the user, through as many mechanisms as the imagination and hard work of the RC staff allow:

- formal or informal current awareness services

- library updates, in paper, e-mail or Web page formats, including information on acquisitions, planned events, changes in RC services and policies, and the availability of training in the use of resources
- collection development, so that needed materials are readily available when need arises

All modes of communication between the RC staff and the user population are encouraged: email, paper-based, telephone, and direct interaction in the RC and throughout the institution.

The Collection

Based on their knowledge and understanding of user needs, present and future, the RC staff work to identify sources of information in all formats to satisfy those needs. Books, journals and other resources are acquired through purchase, but resources available free of charge are also identified and acquired in all formats, whether in print or other hard media, by download or by linking, according to applicable copyright permissions, usability factors, software considerations, etc. Considerations include

- whether the content can legally be used in a networked setting
- reliability of electricity and Internet connectivity
- language of text
- content at appropriate level, whether for staff or patients
- readability
- price for purchase, subscription or access fees

A basic collection, including both general and specialty texts, journals, and information in other media, will be common to all resource centres; versions of the Association of Vision Science Librarians' "Opening Day Collection" for both developed and developing countries provides guidance which is particularly helpful for RC staff who may be initially unfamiliar with the field of vision. In addition to ophthalmic, optometric and vision content, resources of use to administrative and management staff must be identified and acquired.

The network of AVSL libraries is invaluable in assisting RC collection development by providing copies of materials not otherwise available, as well as material needed in response to specific requests.

At the RCs, digitization of some material may be done, both to provide access and for preservation, but always with attention to copyright restrictions. The RC staff plays an important role in educating the users about intellectual property as well as in information literacy.

Capacity building

Making the collection and services of the resource centre readily and transparently available to users is absolutely essential to both the success of the CCO and the integration of the RC into the work of the CCO. Increasingly, as information technology infrastructure becomes available and staff recruited to the RCs have appropriate skills to implement, maintain and teach the use of automated systems, they are appropriate to these settings. There is a wide range from which to choose, both for purchase and free of cost. The Greenstone Digital Library system is used by the resource centers at many CCOs, and allows networking by multiple RCs, allowing

the sharing of resources and services by central and satellite centers and data exchange among independent centers. This facilitates provision of the best possible, most responsive service to all users. In many cases the goal is to deliver information to the user's desktop.