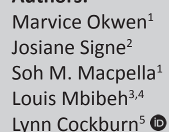
African Vision and Eye Health
ISSN: (Online) 2410-1516, (Print) 2413-3183

Professional collaboration for vision and healthcare in Cameroon



Authors:
Marvice Okwen[1]
Josiane Signe[2]
Soh M. Macpella[1]
Louis Mbibeh[3,4]
Lynn Cockburn[5]

Affiliations:
[1]Mbingo Baptist Hospital, Bamenda, Cameroon

[2]Magrabi International Council of Ophthalmology Cameroon Eye Centre, Okala, Cameroon

[3]Private, Mbingo, Cameroon

[4]Cameroon Christian University, Bamenda, Cameroon

[5]University of Toronto, Toronto, Canada

Corresponding author:
Lynn Cockburn,
l.cockburn@utoronto.ca

Dates:
Received: 19 Oct. 2017
Accepted: 07 July 2018
Published: 29 Nov. 2018

How to cite this article:
Okwen M, Signe R, Macpella SM, Mbibeh L, Cockburn L. Professional collaboration for vision and healthcare in Cameroon. Afr Vision Eye Health. 2018;77(1), a434. https://doi.org/10.4102/aveh.v77i1.434

Copyright:
© 2018. The Author(s). Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Read online:

Scan this QR code with your smart phone or mobile device to read online.

Professional collaboration is challenging when resources are minimal and communication is compromised, as is the case in many parts of Africa. In this article, a group of health professionals from the North-West Region of Cameroon report on efforts to improve within-profession, interprofessional and interorganisational collaboration in eye care services. The article describes what collaboration is in healthcare and how it benefits patients, professionals and health systems, using eye and vision care services as an example. Obstacles such as the absence of a coordinated eye care system and the lack of institutional support are described. Seven successful strategies to promote collaboration in this context are identified, and their applications in this context are described. These strategies are as follows: being committed to collaboration; being client-focused; supporting interprofessional and continuing education; embracing new technologies; building relationships between professional groups; building relationships with organisational administrators; and building relationships in healthcare systems. Three additional aspirational strategies are: developing regional healthcare programmes; developing professional and continuing education programmes; and developing collaborative patient and public education. By providing this open report, the authors aim to stimulate discussion about how collaboration and cooperation improve quality healthcare services and support professional career development.

Introduction

Professional collaboration can be extremely challenging in settings where resources are minimal and there are many demands on time, energy and money. This article reports on how a group of health professionals in a low-resource African setting realised their efforts to improve interprofessional collaboration, addressing interprofession and interorganisational collaborative practices despite many challenges. We begin by describing what collaboration is and briefly review the literature about why collaboration is important in health and vision care, regardless of the context. We then use a case study approach to describe the current practice situation in the North-West Region of Cameroon, providing a focus on the efforts being made to improve collaborative practice among vision care professionals in this region. We identify the obstacles encountered as well as possible solutions and describe the ways interprofessional collaboration has been enhanced.

Writing this article was a collaborative exercise that provided an opportunity to further reflect on what collaboration looks like in our African context. The article developed out of discussions that were part of the Groups for Rehabilitation and Inclusive Development (GRID) Network, a community of practice model that supports professional development in the region.[1] The authors believe that it is important for front-line workers to reflect on and share their experiences about interprofessional collaboration despite the obstacles that are faced. We hope that in sharing these collaborative experiences, lessons and reflections, the article will assist others to think about and improve interprofessional collaboration in their own settings.

Some professional groups and settings use the term ‘patient’ while others prefer ‘client’. In this paper, we use the terms interchangeably, to mean the person receiving service.

Background

The World Health Organization recognises the importance of collaboration and provides this definition of what it looks like in healthcare practice:

> Collaborative practice in health-care occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers, and communities to deliver the highest quality of care across settings. Practice includes both clinical and

> non-clinical health-related work, such as diagnosis, treatment, surveillance, health communications, management, and sanitation engineering. (p. 13)[2]

Collaboration in healthcare is evident when healthcare professionals communicate well with each other, assume complementary roles to cooperatively work together and share responsibility for problem-solving and decision-making to formulate and carry out plans for patient or client care. Specific collaborative activities include sharing of information, discussion of complicated cases, and referrals to colleagues.

There are many benefits to collaboration, and research evidence that supports these benefits is building. Collaborative work among health professionals has been shown to improve patient care and outcomes, improve the skills and knowledge of professionals, and reinforce good and necessary communication, leading to better and more cost-efficient health systems.[3,4,5] Collaboration among physicians, nurses, rehabilitation providers and other healthcare professionals increases team members' awareness of each other's knowledge and skills, leading to continued improvement in decision-making.[5,6] When it works well, collaboration may lead to a sense of improved working conditions, and in turn professionals might be more encouraged to remain in their positions and stay in the country,[7] a significant goal in African settings that are losing large numbers of health practitioners to northern settings.[8] Vision specialists are one of the healthcare groups that is needed in Africa.[9]

It is also useful to examine what happens when collaboration does not turn out well. When healthcare professionals working on a team do not communicate effectively, patient safety is at risk: there can be a lack or misinterpretation of critical information, unclear orders or overlooked changes in patient status.[5] There are other costs and losses when teams don't collaborate – patients don't receive the care they should receive, resulting in unnecessary impairments, the loss of function and even death[10,11,12]; there are possibly unnecessary financial costs with waste of health services' precious funds and resources[9]; and skilled professionals can become burned out and leave healthcare systems.[13,14]

There have been calls for collaboration from many health leaders external to our Cameroon setting. For example, the Framework for Action on Interprofessional Education and Collaborative Practice, which was published in 2010 by the World Health Organization,[2] discusses the importance of interprofessional collaboration and identifies the mechanisms that can contribute to collaborative teamwork. This framework document outlines several action items that can be used by policymakers and others. It recognises that each local area is unique and has specific health and social needs, so that collaborative practice strategies must be tailored to meet those specific needs and challenges. To improve health outcomes, the WHO framework identified five action areas to advance collaborative practice.[2] Decision-makers are encouraged to take the following actions:

> *Structure processes* that promote shared decision-making, regular communication and community involvement;
>
> *Design a built environment* that promotes, fosters, and extends interprofessional collaborative practice both within and across service agencies;
>
> *Develop personnel policies* that recognize and support collaborative practice and offer fair and equitable remuneration models;
>
> *Develop a delivery model* that allows adequate time and space for staff to focus on interprofessional collaboration and delivery of care; and,
>
> *Develop governance models* that establish teamwork and shared responsibility for health-care service delivery between team members as the normative practice. (p. 30)[2]

When collaboration is recognised as vital in low-resource settings, it can be difficult yet possible to implement within and across organisations by giving attention to key factors. Sitas et al.[15] identified several potential barriers for collaborative projects to navigate, including a lack of clear and shared project objectives, preconceived assumptions that impair collaboration, entrenched disciplinary thinking and terminology that is not understood by all actors. They identified enabling factors such as efforts to ensure collaboration as the project was being established and the use of knowledge brokers in promoting systems thinking that is grounded in practice.

Within Cameroon, calls for improved collaboration have been made by Fokunang et al.[16] and Meredith et al.[17] The Cameroon Health Sector Strategy 2001–2015 notes that there has been a lack of collaboration in the health system[18] and calls for more collaboration within the various levels of health service provision, between conventional medical practitioners and traditional practitioners, between public and private providers, and with patients. There are only a few papers from within the North-West Region calling for improved collaboration,[19] and almost none in the literature related to vision care. Nkumbe conducted a situational analysis of human resources for eye care.[20] He reported that 'the main barriers to the provision and uptake of eye care services were lack of human resources, poor collaboration among stake holders, cost of services, and patient beliefs' (p. 13).[20] Yet there is evidence of collaboration in Cameroon health services and research. For example, collaboration has been noted between conventional medicine and traditional healers,[16,19,21,22] indicating that traditional healers appear to be willing to establish more collaborative working relationships with mainstream health providers.

The situation of vision care in the North-West Region of Cameroon

The North-West Region is one of Cameroon's ten regions. The impact of the social determinants of health are very

evident here.[23] For example, the national poverty headcount ratio (the percentage of the population living below the national poverty line) was estimated to be 37.5% in 2014, with higher levels in rural areas.[24] Access to water, a key issue for preventing and treating eye infections and other eye conditions, can be difficult for many residents.[25,26] Yancho reports that the municipal governments have struggled to provide basic services and that in some places 'more than 90% of the people there have no access to basic forms of sanitation'.[26]

There is little research about the roles or collaborative practices of eye care professionals in the North-West Region. We return to the five areas identified by the WHO – *structure processes*, *design a built environment*, *develop personnel policies*, *develop a delivery model* and *develop governance models* – to examine the situation in the North-West Region.[2]

Anecdotally, we are aware that collaboration between eye care professionals appears to be ineffective because many professionals do not know each other, and structures and systems are not in place to foster collaboration. There are few processes in the region that support shared decision-making. The natural and built environments present barriers: communication by phone or Internet is expensive, with poor-quality networks.[27] Travelling is difficult because of the poor roads and lack of public transportation systems. Moving from one part of a city to another or from one town or city to another is difficult and expensive, and there are very few or no consciously built organisational strategies to enhance professional collaboration. Few organisations have policies that recognise and support collaborative practice. Pay scales for health professionals are low, and there do not appear to be any remuneration models in place in the region that include interprofessional or collaborative practice as part of the pay package. As a result, opportunities and support for networking are minimal. At times, professionals meet at congresses and conferences where it is opportune to meet others, but they then return to their work situations with limited opportunities to continue the communication because of the reasons listed above, including the lack of institutional encouragement.

There is a perception that collaboration is often not supported by organisations and governments because it is not seen as a good use of funds and time. Related to the few health economic studies or innovative vision programmes in our region, little is said by leaders about professional collaboration, either for professionals of the same field or interprofessionally. When it is mentioned, collaboration appears to refer to different professionals coming together for a common goal, usually a short-term project and often as the result of external funding.

The social setting and professional practice culture also impact how collaboration is carried out in the region. For many of us, collaboration is not part of the professional culture (as we identify in more detail further). Anecdotally, we see that people generally feel the need to protect 'organisational secrets' and will want to be the sole owners or providers of a particular service, thereby regarding collaboration as betrayal of the organisational culture and going against the explicit and implicit organisational hierarchy, especially if they have not received explicit authorisation from their superiors. Many professionals will only meet with others if compelled to by government interventions, for international days of observance or for workshops in which monetary compensation is provided. And at these times, what is presented about an organisation and the reports about what was done that are given back to the organisation are generally somewhat censured. This circumspection in itself is not negative, but the quest to protect the organisation rather than to improve patient outcomes can pave the way for lack of effective collaboration on how to improve services. This kind of cautious professional culture is detrimental to quality healthcare in particular and to professional practice and growth in general as it sometimes results in duplication of services in some areas while other areas remain largely underserved. For example, this duplication occurred in the region in 2015, when a lack of professional collaboration between Presbyterian Eye Services and Baptist Eye Services resulted in duplication in eye outreach programmes in some communities, and for apparent reasons of limited resources, other communities did not have access to any eye outreach services.

Despite the obstacles, there is a growing and committed number of vision care providers across organisations making collaboration, cooperation and referrals a priority in their work. Without cooperation and collaboration, it is difficult to offer patients quality healthcare. This group has become a network founded on the belief that it is beneficial for professionals working in the same field, such as vision care, to learn together. The members of this emerging network share a determination to work 'hand in glove' to continue to make improvements; our initial successes as a collaborative network are what prompted us to write this article. We present these examples of eye care professionals to illustrate how practitioners have found ways to collaborate in a low-resource setting where professional collaboration is not well encouraged by existing systems.

Epidemiology of vision problems and diseases in the region

The population of the region is estimated to be about 1.8 million people, with approximately 2.3% to 3.0% experiencing moderate or severe bilateral visual impairment.[28,29] Blindness in Cameroon is estimated to be about 1%.[29] A survey conducted by Tambe and Hopkins in 2002 put the prevalence of blindness and low vision in Essimbi, Menchum Division of the North-West Region, to be 1.1%, placing it above the national average (Dr Tambe E 2017, personal communication, May 21). In a more recent study in Fundong, Boyo Division,

blindness was found to be 0.6% in the overall population, increasing to 2.4% in people above 50 years.[28] Common causes of visual loss across all ages were identified to be posterior segment disease vision loss (41%), untreated cataract (31%) and refractive errors (29%).[28] This study found that cataract surgical coverage (proportion of all cataract patients or eyes that have received cataract surgery) was high – '87% of people and nearly two-thirds of eyes (61%) had received surgery'[28] – and that 17% of respondents who reported needing glasses were not using them. These high numbers may in part be because of the locations selected and recruitment process for the study, and they might not be similar for other parts of the region. Other causes of visual impairment in the country include onchocerciasis, glaucoma, albinism, diabetes, leprosy, HIV and blinding trachoma.[30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,59,61]

Vision care and services in the North-West Region

Having looked at the situation related to visual impairments and blindness, we now provide more information specifically about vision care in the North-West Region. We are aware of several eye care services in the region but not of any recent research specifically focused on studying these services. Services are provided by government and non-governmental organisations. There are seven divisions in the region with four ophthalmologists. At the time of writing, there are two ophthalmologists in Kumbo, Bui Division, and two at Mbingo Baptist Hospital, Boyo Division. The remaining five divisions had no ophthalmologists. Bamenda (in Mezam), the capital of the region, with close to half a million people, does not have an ophthalmologist.

In terms of non-governmental organisations, there are both faith-based and private organisations. It is difficult to know how many organisations carry out such activities because of the lack of a central listing. The faith-based institutions (Baptist, Presbyterian, and Catholic health organisations) provide inpatient and outpatient care and community outreach programmes. A number of other non-governmental organisations such as SOHDECAM (Solidarity Health and Development Effort Cameroon, http://www.sohdecameye.org/) and ABII Specialists Medical Foundation provide support and services for persons with visual impairments. The Center for the Prevention of Avoidable Blindness in Belo provides financial support to patients with cataracts who need surgery. Other non-governmental organisations include social as well as vision support to citizens with visual impairments, such as the Hope Social Union for the Visually Impaired.

In the region, there is no school for eye health professionals, and there is no formal training programme for ophthalmic nurses. Therefore, getting ophthalmic professionals has been a challenge. Ophthalmic nurses receive training outside of Cameroon, usually in Ghana, Nigeria or Tanzania, and some go to India for their training. Some organisations, such as the Presbyterian Health Services and the Cameroon Baptist Convention (CBC) Health Services, train their own staff. The Presbyterian Health Services have in-service training for ophthalmic clinical officers and make use of the countries mentioned to train their ophthalmic nurses.

The CBC Health Services trains three categories of eye staff:

- The ophthalmic medical assistant (OMA) programme is a 3-year training course. Ophthalmic medical assistants are trained to assist the ophthalmologist by doing some of the work the ophthalmic nurses do in the absence of an ophthalmic nurse, as a formal approach to task shifting. The basic requirement for training is an A-Level (Advanced Level) certificate.
- The assistant ophthalmic medical assistant (AOMA) programme is a 2-year training programme, with the minimum requirement for entry being an O-Level (Ordinary Level) certificate. The AOMAs are trained to do some of the things that the OMAs do and usually work under the OMAs.
- Ophthalmic auxiliaries are trained locally at the CBC Hospital at Mbingo.

Goals, obstacles and solutions for collaborative, interprofessional vision services

As we examined our collaborative practices and aspirations across these different professional groups, we identified several challenges and obstacles, which we summarise in Table 1 and describe in more detail hereafter. For each of the obstacles, we explain how it affects practice and patient care.

The absence of a coordinated regional eye care programme

As described, in the absence of a coordinated or national eye care programme in the North-West Region, eye care is provided by a range of organisations and traditional practitioners, including some 'quacks'. No regional eye care plan exists, and each organisation works independently of other care providers. The vision services are not regulated, and each of these providers has their own interests and approach to eye care delivery and referral protocol.

This lack of coordination and referral system hampers collaboration. With no referral system, patients suffer the costs of going out of the region, whereas a specialist may be available in another organisation in the region. For example, a general practitioner or a chief of centre in one town might refer patients to the regional hospital and not to a service that is closer and more convenient to the patient because of the wish to support the public system rather than a private provider. Likewise, nurses in a faith-based health centre might refer a patient out of the region to support their own organisation.

TABLE 1: Obstacles to collaboration.

Obstacle to collaboration	Effects on practice
Obstacles evident in the region, between organisations	
Lack of a coordinated regional eye care programme.	Makes it difficult to harness efforts towards similar goals. Professionals fail to provide services (where others in different countries have succeeded) instead of moving ahead. Professional discouragement. There is no defined expectation for the different categories of eye staff. Some do not know when, where or how to refer patients to others.
Lack of knowledge about how to collaborate across organisations.	Information is not shared; professionals do not learn about new techniques and programmes.
Lack of knowledge and infrastructure to make referrals.	Patients are not referred when they should be. Eye care providers do not know other eye care institutions or the services they render, and they do not know how to make a referral.
Fear Fear and competition among professionals for patients.	Referrals that should be made are not made. Patients may not be informed of a better or more specialised service.
Fear of losing patients to other institutions. Fear of losing one's job especially when working in a private institution if patients are referred to other institutions.	Extra time and expense for patients as they cannot bring results from one centre to another, for example, when a patient is referred to another institution for a particular lab test or eye test there can be duplication of costs such as visual field test or fluorescein angiography. Patient is required to pay a consultation fee and go through the whole process a second time.
Obstacles within organisations	
Lack of institutional infrastructure and hospital policies that do not give room for collaboration.	A service will not accept results from other providers. Organisations do not provide time or resources for collaborative projects that might improve services and knowledge.
Lack of collaboration with other doctors. Superiority complex of general practitioner physicians.	Mutual sharing of information about how to improve patient outcomes does not happen.
Generational conflicts: Some senior colleagues are not willing to pass knowledge onto their junior ones. Younger ones have learnt more modern techniques than those who graduated long ago. Conflicts occur where there is lack of understanding that learning is a curve and ongoing.	Beginners do not get the necessary input to let them develop professionally. The number of years in practice does not necessarily lead to better practices and professional experience, as it is supposed to, because older practitioners do not learn from younger ones as they assume they know better and are more experienced. This attitude is detrimental to quality healthcare. Some professionals prefer to get by with what they know, even if they have difficulty, rather than consult a colleague. The culture of collaboration is often not part of training.
Trained cataract surgeons are not allowed by some ophthalmologists to perform cataract surgeries, despite the backlog, for unknown reasons.	Lack of support for trained professionals increases the backlog because there is no task shifting where it is supposed to be applied. Others will not want to go for training when they have the opportunity because they are afraid they will not be granted the permission to practise when they return.
Obstacles at provider level	
Low pay and lack of commitment to professionalism.	Practitioners spend time on other activities rather than doing the job they are supposed to be doing. Some engage in private practice and take patients for surgery in other institutions where they can make more money.
Pride and fear of being seen as not knowledgeable; unwillingness by some less experienced to learn new skills from the more experienced because they are too proud to accept learning.	Poor quality of eye care services, poor surgical outcome and patients lose confidence in eye doctors. May scare patients away from health institutions and some refuse surgery when proposed because of experience from previous eye surgery or stories from other patients.
Lack of opportunity to develop professional skills.	Eye care provider starts searching for other jobs in other institutions or resigns.

Lack of knowledge about how to collaborate

Collaboration takes skills in communication, commitment to good outcomes and discussion of errors, and ability to deal with conflicts. It appears that the existing professional training centres and health professional schools do little or nothing to train students in collaboration. Once in practice, there are few professional development opportunities for healthcare professionals to learn about how to work in teams and how to develop skills in collaboration.

Lack of institutional infrastructure

Collaboration takes good communication – meetings, phones, emails and the use of other technologies. Often our institutions do not provide good phone lines, Internet connections or computers. Communication, especially across organisations, becomes very difficult. In addition, when there is a shortage of specialised equipment, collaboration has the potential to improve the situation because a specialised machine, for example, can be more fully used. However, when professionals are not working together, equipment might not be obtained or could be underutilised. Patients who could benefit do not receive the services they deserve. If eye care specialists within the region worked more collaboratively to obtain equipment, the current situation of having no or limited equipment to offer some specific care to eye patients could be improved.

Lack of communication creates situations where medical errors can occur. These errors have the potential to cause severe injury or unexpected patient death. Medical errors, especially those caused by a failure to communicate, are a pervasive problem in today's healthcare organisations. According to the American Joint Commission (formerly the Joint Commission on Accreditation of Healthcare Organizations), if medical errors appeared on the National Center for Health Statistics' list of the top ten causes of death in the United States (US), they would rank number 5 – ahead of accidents, diabetes and Alzheimer's disease, as well as AIDS, breast cancer and gunshot wounds.[5] While there is little published literature about medical errors in Cameroon, we can assume that they are being made, that the situation is not better than in the US, and that the situation could improve with better collaboration and joint learning.

Competition

Competition between eye care providers hampers collaboration when practitioners do not want to refer a patient to another facility. Anecdotal reports are that some providers believe that referrals will reduce the income of their home institution. Even though they are aware that other professionals have specific skills and areas of practice, such as occuloplasty, vitro retinal services, paediatric ophthalmology, squint surgery, low vision services and community identification of vision problems, they will not want to refer to these specialised services, thinking that they will lose out on financial gain or because they are too proud to inform a patient that services would be provided better by someone else. Sometimes the programme administrators, who are non-medical staff, question referrals because they know that the service fees will go to the second organisation and that a referral may give the

impression to patients that the staff at the referring organisation are incompetent. Therefore, the patient may end up being poorly managed.

Some church leaders caution their congregations not to patronise the services of other faith-based organisations. An example of how this has been a problem in the region is that outreach teams may come to a community for identification and assessment and then refer patients to their main hospital out of the region, rather than provide information about more local options where available services are located. Patients may not realise that there is an appropriate service provider nearby that they can access which would provide similar services at much less cost to them. Other conflicts and competition between professionals become evident when, for example, training is not respected or one person believes that another is not competent to do a task, even though there is evidence that he or she can and has been hired to do so. The patients end up suffering because even simple cases, like conjunctivitis that could be handled by the junior staff, are left for an ophthalmologist to see and the patients end up staying for long periods of time before being attended to.

Findings: Useful strategies to foster collaboration

The strategies we have used to enhance collaboration can be grouped into two main categories: (1) positive attitudes and innovations and (2) fostering personal relationships. We see positive attitudes as a primary way to highlight what we are aiming to achieve. These attitudes include being committed to collaboration, being patient- or client-focused, valuing interprofessional education, and being open to new technologies and ways of communication. Fostering a variety of personal relationships is a crucial strategy in our environment, where social networks are so important. Stronger personal relationships can nurture innovative strategies with colleagues, engage new energy and maintain momentum when obstacles seem overwhelming.

Being committed to finding ways to collaborate

Maintaining a positive attitude is foundational to collaboration, and we have looked for ways to maintain our commitment to overcoming the barriers listed above. For example, we take time to recognise the impacts of hierarchy within our organisations and try to work with those who are ‘higher’ and ‘lower’ than we are to establish more equal relationships. We have used our personal money and time to meet; while this strategy is not sustainable over the long term it can be very effective in the short term. We have suggested colleagues for projects and opportunities have come up to work together. The new GRID Network is one example of a professional development opportunity and community of practice that we suggested others could join, although only a small number of practitioners can join due to the structural limitations of the project.[1]

Being client-focused

We have found that maintaining the attitude of being client-focused and aiming for the best possible client outcomes supports collaboration. Hence, if we look into the plight of the patient and focus on their outcomes, rather than making our financial profit the primary goal, we can work together in better ways. We strive to keep the patients’ welfare close to our hearts and we cooperate more for the clients’ interests, not our own.

Interprofessional and continuing education

The third attitude we are fostering is appreciation for early career and lifelong learning. In our educational systems the promotion of interprofessional education[58] in teams and schools is not common but is very gradually emerging as a key strategy to foster collaboration. Working together to influence the education of general practitioners (medical doctors) and nurses while they are in school, so they understand that mid-level ophthalmic personnel can provide excellent eye care, aims to achieve better collaboration after graduation. We are developing curricular resources for the universities in the region to emphasise the importance of teamwork in eye care.

Continuous professional education seminars for practitioners can be of great help in upgrading the knowledge of eye care personnel in the region. When a programme is being offered in one organisation, it can be opened up to other organisations. When one person takes a course, we look for ways to share the knowledge with other eye care practitioners in the region. We are beginning to work together to develop consensus statements about eye care, to train ourselves on how to use best practice guidelines, and to develop certification exams to keep up to date with international standards.

Embracing new technologies

We value the attitude that as professionals we need to embrace and optimise technologies. New and older technologies are essential and unavoidable to a health system, as well as for professional collaboration. Over the past decade, phones and computers have become more affordable and available in our region. Telecommunication and information technologies have the potential to lead to telemedicine, which requires collaborative practice and can improve clinical health outcomes.[46] From a diffusion of innovation perspective, we strive to be early adopters,[47] and we use social media platforms such as Facebook and WhatsApp to create communication channels. Over the past year, WhatsApp has been quite helpful as a way of sharing short pieces of information. These media enhance collaboration by allowing both professional and personal connections to be made, reducing or eliminating the barriers resulting from physical distance between healthcare professionals, allowing the sharing of information and facilitating the discussion of patient issues as if practitioners were together in the same place.[48]

Focusing on building relationships between ophthalmologists and other clinical staff

Within organisations, we use a number of strategies to build and strengthen relationships among staff members. These include the following:

- *Regular team meetings*: Some organisations have Monday morning briefings with all staff, including nurses, on how the clinic should run, indicating who will be available and what roles each person will play.
- *Quarterly departmental meetings*: To discuss issues concerning quality patient care and problems faced in department with possible solutions from all participants.
- *Shared responsibility*: Actively involving the ophthalmic nurses and OMAs in patient care, allowing them to do workup of patients and discussing the management with them.
- *Communication*: For example, communicating as a team about when staff will not be available so that the gap can be filled by others. Communicating with colleagues in different organisations about training opportunities or referral systems.
- *Task shifting*: Task shifting is becoming more common in Cameroon and refers to the process of delegating some tasks from more specialised to less specialised health workers.[49,50,51] In our situation, task shifting refers to training OMAs to do some of the tasks that the ophthalmic nurses and refractionists have done in the past.

Focusing on building relationships between ophthalmologists in the healthcare system

Good relationships between healthcare providers are a necessity for quality healthcare services in the North-West Region. It is important for all stakeholders to know and communicate with each other so that they can know who is best in certain areas and to share ideas and learn from each other. Some of the strategies used to build institutional relationships include the following:

- *Developing referral systems*: The referral of cases that cannot be managed in an institution (because of lack of equipment or lack of expertise) to the right institution rather than keeping and mismanaging the patient. Referring challenging cases to the most experienced ophthalmologist where applicable.
- *Collegial discussion about challenging cases*: Discussions with other colleagues to offer the best treatment to the patient. This can be done through personal conversations, phone calls, social media and chat groups.
- *Continuing professional education*: Teaching and discussing cases with less experienced ophthalmologists to help them grow in their careers and to help experienced ophthalmologists have the opportunity to learn new techniques and update their knowledge with new skills and knowledge.

Focusing on building relationships between eye departments and hospital administration

We recognise the importance of building relationships with administration. We build relationships in this domain by giving regular updates of successes and problems faced in our departments and by inviting administrators to our quarterly departmental meetings. In many institutions, the organisational administrators are not health or vision personnel and are continually learning about the context of healthcare. The eye care team may not be part of the management committee, are not invited to attend their meetings, and often have little or no opportunity for input. Meanwhile the administrators may not know what is needed to run the eye departments. At the end of the day, some important drugs, equipment and instruments may not be bought because the administrators did not see them as important. When there is a good relationship between the ophthalmologist and administration, the right things will be supplied at the right time and this will offer the desired quality care eye services.

Strategies we aspire to use

Despite our progress, we know that there are more strategies that we would like to put in place but have not yet been able to implement. In this section we identify three: the development of a collaborative regional eye care programme (including a referral system) (see, for example, ideas for integration of eye care into primary care systems), with a strong continuing professional education programme, and more informative patient screening and education resources.[52,53,54,55,56]

Working together to establish a regional eye care programme

The development of a regional eye care programme is a goal that repeatedly comes up in our discussions. While there is a national strategic plan for eye health,[18] the control of eye diseases is neither organised nor coordinated.

A regional eye care programme could promote effective referrals and facilitate professional education, include various stakeholders and their locations and competences, provide mechanisms to liaise with the traditional practitioners while weeding out the quacks and develop opportunities for a stronger research programme about our practices. A regional programme could reinforce that better care is about timely intervention and could offer primary eye care to patients who are very far from the main specialist hospitals. A regional programme would provide a fertile setting for professional development opportunities for training and career development of medical doctors, nurses and others in various government and non-governmental facilities. This programme could include a coordinator or coordination team for the region who would make supportive and supervisory visits. It could provide information, assistance and support to professional providers, particularly when challenging situations are encountered. Developing a good referral system and protocol whereby feedback could be

shared after referring patients could be an effective innovation for quality improvement. This feedback loop would include sharing the contacts of colleagues working in other hospitals so that applicable calls concerning patient management could be made directly to appropriate services.

Continuing professional education

We aspire to have more and better continuing education opportunities for eye care providers in the North-West Region. For example, a meeting or forum could be held at least once a year to discuss and share experiences and best practices. Finding ways to mentor and support the more experienced senior eye care providers to assist the junior ones whenever need arises, even if they do not work in the same institution, is also important. For example, if a junior ophthalmologist intends to come and observe how a particular procedure is done, he or she should be welcomed, and the senior ophthalmologist should receive some recognition for mentoring or providing professional development services.

Developing patient education and public education

The development of patient education materials is an area ripe for more collaboration in our region as there is very little currently available. For example, there could be more public health resources such as a common summary on eye health shared to patients visiting the various eye departments.[55] This common information would educate them on eye health and provide information about where they could obtain different kinds of eye care services. This information could also be on a website or application for mobile devices.

Discussion

In order to succeed in the prevention of blindness and in providing excellent eye care services in our region, we have learnt that we need to work together as a large team, even if we are located in different organisations. We follow the theme for World Sight Day 2016: 'We are stronger together'.[3] We need to put our differences aside and work for the interest of the people we are called to serve by offering them quality healthcare. Eye care in this region is in our hands and we cannot afford to fail, so collaboration is a must.

There is clearly a need for more research to understand the benefits and, when appropriate, the drawbacks of collaboration in settings such as ours. We support the recommendations of others that health research could include an explicit focus on collaboration, including on ways to assess and measure it.[57] We encourage researchers who are doing health research to consider collaborative practices as a key component of health services. Research could build a stronger body of evidence of the impact of collaboration in low-income settings on professional practice and on healthcare outcomes such as retention of staff, vision loss, and morbidity and mortality. Both quantitative and qualitative studies are needed to show how specific interventions affect collaboration and practice, as well as how a range of desired outcomes can be improved by better collaboration.

Concluding comments

We have described what collaboration is in healthcare and how it benefits patients, professionals and health systems. Barriers and strategies for their amelioration have been identified. Without collaboration and cooperation, clients and patients are not offered quality healthcare and services; with collaboration we will have better vision care, avoid errors and ensure patients' safety. Collaboration benefits healthcare providers by improving on knowledge and skills and therefore building up careers. Systems also benefit, through better outcomes and reductions in waste. For the North-West Region, we encourage all eye care practitioners to work together and become familiar with all of the services available, and all professionals working in health, social services and development to actively work towards improved collaboration. Our people deserve no less.

Acknowledgements

The authors thank Mr Jacques Chirac Awa for ongoing supervision of the GRID Network and for proofreading this article. The authors are thankful for the financial support from the Cameroon Baptist Convention Health Board and financial support for the GRID Network from CBM Australia and Australian Aid. They also thank Tamsyn Riddle for assistance in manuscript preparation.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

Each of the authors made a significant contribution to the article. Much of the specific content was provided by M.O., J.S. and S.M.M., with additional contributions by L.M. and L.C. The article was developed by the first three authors, M.O., J.S. and S.M.M., based on their professional experiences as they found ways to improve collaboration among eye care professionals in the North-West Region of Cameroon. Writing support came from L.M. and L.C., who both have extensive experience in the North-West Region. The article was written using an iterative process that involved all authors. L.C. did most of the editing and formatting for submission for publication.

Funding information

The authors thank the African Vision and Research Institute for financial assistance with the article page fees.

References

1. Kenchi J, Cockburn L, Mbibeh L, et al. The GRID network: A CBR community of practice. 2nd CBR world congress – Empowering and enabling community actions towards human rights and sustainable development through CBR [document on the Internet]. 2016 Sep 28; Kuala Lumpur, Malaysia [cited 2017 Aug 27]. Available from: https://nwrcommunityofpractice.files.wordpress.com/2016/12/kenchi-et-al-2016-the-grid-network-and-cbr-final.pdf
2. World Health Organization (WHO). Framework for action on interprofessional education & collaborative practice (WHO/HRH/HPN/10.3) [document on the Internet]. 2010 [cited 2016 Jul 8]. Available from: http://apps.who.int/iris/bitstream/10665/70185/1/WHO_HRH_HPN_10.3_eng.pdf?ua=1
3. IAPB. The International Agency for the Prevention of Blindness (IAPB) and World Sight Day [homepage on the Internet]. 2016. Available from: https://www.iapb.org/advocacy/world-sight-day/world-sight-day-2016/
4. Interprofessional Education Collaborative (IPEC) Expert Panel. Core competencies for interprofessional collaborative practice: Report of an expert panel [document on the Internet]. Washington, DC: Interprofessional Education Collaborative; 2011 [cited 2017 Nov 26]. Available from https://www.aacom.org/docs/default-source/insideome/ccrpt05-10-11.pdf?sfvrsn=77937f97_2
5. O'Daniel M, Rosenstein AH, Chapter 33: Professional communication and team collaboration. In: Hughes RG, editor. Patient safety and quality: An evidence-based handbook for nurses [homepage on the Internet]. Rockville, MD: Agency for Healthcare Research and Quality US; 2008 [cited August 27, 2017]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK2637/
6. Zwarenstein M, Goldman J, Reeves S. Interprofessional collaboration: Effects of practice-based interventions on professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2009;(3):CD000072. https://doi.org/10.1002/14651858.CD000072.pub2
7. Nentwich MM, Schaller UC, Klauss V. Reasons reported by African ophthalmologists for staying in Africa and for considering migrating. Int J Ophthalmol. 2014;34(4):887–892. https://doi.org/10.1007/s10792-014-9896-x
8. Bhargava A, Docquier F. HIV pandemic, medical brain drain, and economic development in sub-Saharan Africa. WBER. 2008;22(2):345–366. https://doi.org/10.2307/40282277
9. Courtright P, Mathenge W, Kello AB, Cook C, Kalua K, Lewallen S. Setting targets for human resources for eye health in sub-Saharan Africa: What evidence should be used?. Hum Resour Health. 2016;14(1):11. https://doi.org/10.1186/s12960-016-0107-x
10. Ashcraft S, Bordelon C, Fells S, George V, Thombley K, Shirey MR. Interprofessional clinical rounding: Effects on processes and outcomes of care. J Healthc Qual. 2017;39(2):85–94. PubMed PMID: 2731029. https://doi.org/10.1097/JHQ.0000000000000039
11. Bunkenborg G, Samuelson K, Poulsen I, Ladelund S, Åkeson J. Lower incidence of unexpected in-hospital death after interprofessional implementation of a bedside track-and-trigger system. Resuscitation. 2014;85(3):424–430. PubMed PMID: 24321322. https://doi.org/1016/j.resuscitation.2013.11.023
12. Lillie EM, Holmes CJ, O'Donohoe EA, et al. Avoidable perioperative mortality at the University teaching hospital, Lusaka, Zambia: A retrospective cohort study. Can J Anaesth. 2015;62(12):1259–1267. PubMed PMID: 26419248. https://doi.org/10.1007/s12630-015-0483-z
13. Institute of Medicine. Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington, DC: The National Academies Press; 2015.
14. Van Osch M, Scarborough K, Crowe S, Wolff AC, Reimer-Kirkham S. Understanding the factors which promote registered nurses' intent to stay in emergency and critical care areas. J Clin Nurs. 2018;27:1209–1215. https://doi.org/10.1111/jocn.14167
15. Sitas N, Reyers B, Cundill G, Prozesky HE, Nel JL, Esler KJ. Fostering collaboration for knowledge and action in disaster management in South Africa. Curr Opin Env Sust. 2016;19:94–102. https://doi.org/10.1016/j.cosust.2015.12.007
16. Fokunang CN, Ndikum V, Tabi OY, et al. Traditional medicine: Past, present and future research and development prospects and integration in the national health system of Cameroon. Afr J Tradit Complement Altern Med. 2011;8:284–295. https://doi.org/10.4314/ajtcam.v8i3.65276
17. Meredith SE, Cross C, Amazigo UV. Empowering communities in combating river blindness and the role of NGOs: Case studies from Cameroon, Mali, Nigeria, and Uganda. Health Res Policy Syst [serial online]. 2012 [cited 2018 Oct 18];10:16. Available from: https://health-policy-systems.biomedcentral.com/articles/10.1186/1478-4505-10-16
18. Ministry of Public Health. Health sector strategy 2016–2027 [homepage on the Internet]. 2016[cited]. Available from: http://www.afro.who.int/sites/default/files/2017-07/Health_Profile_Cameroon_2016_ENG.pdf
19. Njozing BN, Edin KE, San SM, Hurtig AK. Voices from the frontline: Counsellors' perspectives on TB/HIV collaborative activities in the Northwest Region, Cameroon. BMC Health Serv. Res.2011;11:328. https://doi.org/10.1186/1472-6963-11-328
20. Nkumbe H. Situation analysis of human resources for eye care in the North West Province of Cameroon. Community Eye Health. 2007;20(61):13.
21. Heinzerling LM. Attitudes of traditional healers towards Western medicine in rural Cameroon. Trop Doct. 2005;35:161–164. https://doi.org/10.1258/0049475054620653
22. Hillenbrand E. Improving traditional -conventional medicine collaboration: Perspectives from Cameroonian traditional practitioners. NJAS. 2006;15(1):1–15.
23. Wilkinson RG, Marmot MG. Social determinants of health: The solid facts. Copenhagen: World Health Organization; 2003. WHO Regional Office for Europe.
24. World Bank. Cameroon [homepage on the Internet]. 2016 [cited August 27, 2017]. Available from: http://data.worldbank.org/country/cameroon
25. Tata IM. Bamenda: Potable water scarcity. CRTV News [serial online]. 2015 [cited February 12, 2017] Jan 05. Available from: http://crtv.cm/fr/latest-news/societe-10/bamenda-potable-water-scarcity--13754.htm
26. Yancho AK. Cameroon: Bamenda city grapples with poor sanitation [homepage on the Internet]. October 26, 2014 [cited February 12, 2017]. Available from: http://waterjournalistsafrica.com/cameroon-bamenda-city-grapples-with-poor-sanitation/
27. Bediang G, Stoll B, Geissbuhler A, et al. 2013. Computer literacy and E-learning perception in Cameroon: The case of Yaounde Faculty of Medicine and Biomedical Sciences. BMC Med Educ. 2013;13:57. https://doi.org/10.1186/1472-6920-13-57
28. International Centre for Evidence in Disability (ICED). The north west Cameroon disability study country report [homepage on the Internet]. London School of Hygiene and Tropical Medicine (LSHTM), 2014 [cited Feb 12, 2017]. Available from: http//disabilitycentre.lshtm.ac.uk
29. Ministère de la Santé Publique, Cameroun. Stratégie Sectorielle de Santé, 2001 – 2015. 2009 [cited October 31, 2018]. Available from http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/cameroon/sss_officiel_2001-2015.pdf
30. Kamga HLF, Shey DN, Assob JCN, Njunda AL, Nde Fon P, Njem PK. Prevalence of onchocerciasis in the Fundong Health District, Cameroon after 6 years of continuous community-directed treatment with ivermectin. Pan Afr Med J. 2011;10:34.
31. Wanji S, Tendongfor N, Nji T, et al. Community-directed delivery of doxycycline for the treatment of onchocerciasis in areas of co-endemicity with loiasis in Cameroon. Parasit Vectors. 2009;2:39. https://doi.org/10.1186/1756-3305-2-39
32. Ellong A, Mvogo CE, Bella-Hiag AL, Mouney EN, Ngosso A, Litumbe CN. Prevalence of glaucomas in a Black Cameroonian population. Sante. 2006;16:83–88.
33. Oye JE, Kuper H. Prevalence and causes of blindness and visual impairment in Limbe urban area, South West Province, Cameroon. Br J Ophthalmol. 2007;91(11):1435–1439. https://doi.org/10.1136/bjo.2007.115840
34. Preussner PR, Grossmann A, Ngounou F, Kouogan G, Tamon J. Glaucoma screening in Western Cameroon. Graefes Arch Clin Exp Ophthalmol. 2009;247(12):1671–1675. https://doi.org/10.1007/s00417-009-1166-7
35. Werschnik C, Schaferhoff C, Wilhelm FW, Wermund TK. The problem of glaucoma in Africa--progress report from Cameroon. Klin Monbl Augenheilkd. 2005;222(10):832–834. https://doi.org/10.1055/s-2005-858462
36. Eballe AO, Mvogo CE, Noche C, Zoua MEA, Dohvoma AV. Refractive errors in Cameroonians diagnosed with complete oculocutaneous albinism. Clin Ophthalmol. 2013;7:1491–1495. https://doi.org/10.2147/OPTH.S38194
37. Jivraj I, Ng M, Rudnisky CJ, et al. Prevalence and severity of diabetic retinopathy in Northwest Cameroon as identified by teleophthalmology. Telemed J E Health. 2011;17(4):294–298. https://doi.org/10.1089/tmj.2010.0155
38. Koki G, Bella AL, Omgbwa EA, et al. Diabetic retinopathy in black Africans: An angiographic study. Sante. 2010;20:127–132.
39. Nanfack C, Koki G, Mbuagbaw L, Bella AL. Diabetic retinopathy at the Yaounde central hospital in Cameroon: Epidemiology and angiographic findings. Pan Afr Med J. 2012;13(54). https://doi.org/10.11604/pamj.2012.13.54.2163
40. Oye JE, Kuper H, Dineen B, Befidi-Mengue R, Foster A. Prevalence and causes of blindness and visual impairment in Muyuka: A rural health district in South West Province, Cameroon. Br J Ophthalmol. 2006;90(5):538–542. https://doi.org/10.1136/bjo.2005.082271
41. Eballe AO, Owono D, Book AU, Bella AL, Mvogo CE, Mba N. Prevalence and etiologies of visual handicaps in leprosy patients in the south of Cameroon. Clin Ophthalmol. 2009;3:195–198. https://doi.org/10.2147/OPTH.S4495
42. Hogeweg M, Keunen JEE. Prevention of blindness in leprosy and the role of the vision 2020 programme. Eye. 2005;19(10):1099–1105. https://doi.org/10.1038/sj.eye.6701984
43. Mvogo CE. Ocular complications of leprosy in Cameroon. Acta Ophthalmol Scand. 2001;79:31–33. https://doi.org/10.1034/j.1600-0420.2001.079001031.x
44. Ebana Mvogo C, Ellong A, Bella AL, Luma H, Achu Joko H. Ocular complications of HIV/AIDS in Cameroon: Is there is any correlation with the level of CD4 lymphocytes count?. Bull Soc Belge Ophtalmol. 2007;305:7–12.
45. Amza A, Goldschmidt P, Einterz E, et al. Elimination of active trachoma after two topical mass treatments with azithromycin 1.5% eye drops. PLoS Negl Trop Dis. 2010;4(11):e895. https://doi.org/10.1371/journal.pntd.0000895
46. Kingue S, Rosskam E, Bela AC, Adjidja A, Codjia L. Strengthening human resources for health through multisectoral approaches and leadership: The case of Cameroon. Bull World Health Organ. 2013;91(11):864–867. https://doi.org/10.2471/BLT.13.127829
47. Rogers Everett M, Diffusion of innovations. New York: Free Press of Glencoe; 1962. OCLC 254636.
48. Reisner K, Bolima N, Fonteh F, et al. Bobbi be best: The development and evaluation of an audio program to promote exclusive breastfeeding in Central Africa. J Nutr Educ Behav. 2013;45(4):S38. https://doi.org/10.1016/j.jneb.2013.04.101
49. Dawad S, Jobson G. Community-based rehabilitation programme as a model for task-shifting. Disabil Rehabil. 2011;33:1997–2005. https://doi.org/10.3109/09638288.2011.553710
50. Kengne AP, Fezeu L, Awah PK, Sobngwi E, Mbanya JC. Task shifting in the management of epilepsy in resource-poor settings. Epilepsia. 2010;51:931–932. https://doi.org/10.1111/j.1528-1167.2009.02414.x

51. Labhardt ND, Balo JR, Ndam M, Grimm JJ, Manga E. Task shifting to non-physician clinicians for integrated management of hypertension and diabetes in rural Cameroon: A programme assessment at two years. BMC Health Serv Res. 2010;10:339. https://doi.org/10.1186/1472-6963-10-339
52. Dutoit R, Cook C, Minnies D, Brian G. Developing a competency-based curriculum for eye care managers in sub-Saharan Africa. Rural remote health [serial online]. 2010 [cited];10:1278. Available: www.rrh.org.au/journal/article/1278
53. Guigui S, Lifshitz T, Levy J. Diabetic retinopathy in Africa: Advantages of screening. Postgrad Med. 2015;123(4):119–125. https://doi.org/10.3810/pgm.2011.07.2311
54. Lawrenson JG, Graham-Rowe E, Lorencatto F, et al. Interventions to increase attendance for diabetic retinopathy screening. Cochrane Database Syst Rev. 2018;1:CD012054. https://doi.org/10.1002/14651858.CD012054.pub2
55. Okwen M. Working with the community in Cameroon. Community Eye Health J [serial online]. 2014 [cited 2015 Apr 01];27(88):63. Available from: https://www.cehjournal.org/wp-content/uploads/Working-with-the-community-in-Cameroon.pdf
56. Rhodes LA, Huisingh CE, McGwin Jr G, et al. Eye Care Quality and Accessibility Improvement in the Community (EQUALITY): Impact of an eye health education program on patient knowledge about glaucoma and attitudes about eye care. Patient Relat Outcome Meas. 2016;7:37–48. https://doi.org/10.2147/PROM.S98686
57. Reeves S, Goldman J, Gilbert J, et al. A scoping review to improve conceptual clarity of interprofessional interventions. J Interprof Care. 2011;25(3):167–174. https://doi.org/10.3109/13561820.2010.529960
58. Committee on Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes, Board on Global Health. Institute of Medicine. Measuring the impact of interprofessional education on collaborative practice and patient outcomes [homepage on the Internet]. Washington, DC: National Academies Press; 2015 [cited Dec 15]. PubMed PMID: 26803876 Available from: https://www.nap.edu/catalog/21726/measuring-the-impact-of-interprofessional-education-on-collaborative-practice-and-patient-outcomes
59. Koki G, Omgbwa Eballe A, Epee E, et al. Tropical endemic limboconjunctivitis (vernal conjunctivitis) in northern Cameroon. J Fr Ophtalmol. 2011;34(2):113–117. https://doi.org/10.1016/j.jfo.2010.09.021
60. MPH Ministry of Public Health République du Cameroun. Stategie Sectorielle de Sante, 2001–2015 [homepage on the Internet]; 2009 [cited]. Available from: http://www.cm-minsante-drh.com/site/index.php/en/home-4/category/7-strategie-sectorielle-de-la-sante
61. Oye J. South west province eye care programme, Cameroon. Community Eye Health J. 2005;18(54):92–93.