

## Optometry in Nepal: historical perspectives

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Abstract:	<p>Optometry education in Nepal began in 1998 in collaboration with the University of Auckland, New Zealand, with the primary objective of addressing the unmet needs of eye health and vision care. Over the last two decades, the development of Optometry education has seen significant progress, including a shift from a three-year to a four-year curriculum, an increase in the uptake of students, and recent launches of two additional Bachelor's degree and a Master's degree programs. Complementary to the educational progress, several professional advances have occurred in the intervening years. These include the formation of the Nepalese Association of Optometrists that oversees the professional development and oversee the rights, welfare, security, and protection of Optometrists, memberships into the World Council of Optometry and the Asia Pacific Council of Optometry, integration of the profession into the governmental regulatory body Nepal Health Professional Council, and formulation of the code of ethics and minimum requirements for a Bachelor's level University degree program in Optometry. This article briefly presents the historical events leading to the establishment of Optometry in Nepal and the evolution of the program in the intervening years.</p>

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Optometry education in Nepal began in 1998 in collaboration with the University of Auckland, New Zealand, with the primary objective of addressing the unmet needs of eye health and vision care. Over the last two decades, the development of Optometry education has seen significant progress, including a shift from a three-year to a four-year curriculum, an increase in the uptake of students, and recent launches of two additional bachelor's degree and a master's degree programs. Complementary to the educational progress, several professional advances have occurred in the intervening years. These include the formation of the Nepalese Association of Optometrists that oversees the professional development and oversee the rights, welfare, security, and protection of Optometrists, memberships into the World Council of Optometry and the Asia Pacific Council of Optometry, integration of the profession into the governmental regulatory body Nepal Health Professional Council, and formulation of the code of ethics and minimum requirements for a Bachelor's level University degree program in Optometry. This article briefly presents the historical events leading to the establishment of Optometry in Nepal and the evolution of the program in the intervening years.

Optometry education in Nepal has a relatively short history. The first Optometry course was established in collaboration with the University of Auckland as a bachelor's level University degree at BP Koirala Lions Centre for Ophthalmic Studies (BPKLCOS, a tertiary eye care centre), Tribhuvan University, Kathmandu. Professor Leon Garner, the then Head of Department of Optometry and Vision Science at the University of Auckland, and Mr Robert F. Kinnear, former clinical supervisor at the same department, founded the course in 1998, one year prior to the launch of the World Health Organization Vision 2020 global initiative.<sup>1</sup>

### ***Establishment of a University course in Optometry***

The establishment of the program involved several years of continued efforts by Prof Garner and Mr Kinnear. In 1981, Mr Kinnear envisioned the launch of an Optometry program during his short-term volunteer study of Nepal eye care with Dr Ram P. Pokhrel, an ophthalmologist at Nepal Eye Hospital. Early correspondence took place the same year between Dr John McKinnon (a New Zealand ophthalmologist), Dr Pokhrel and Mr Kinnear. All felt the need to train some Nepalese ophthalmic assistants to a higher standard in an Optometry school. Mr Kinnear also met Prof Madan P. Upadhyay, the then Dean of the Institute of Medicine at Tribhuvan University, and discussed the need for an Optometry course to improve eye care in Nepal.

In November 1981, Mr Kinnear approached the New Zealand Ministry of Foreign Affairs and Trade for financial support that would enable Nepalese students to train in New Zealand. Despite a positive response, the offer of assistance was not taken up due to low English language proficiency and educational standards of the trainees. On another visit to Nepal in 1984, Mr Kinnear met with Prof Upadhyay who expressed an interest in formalising the teaching of refraction techniques under Tribhuvan University, but identified several areas of concern including finance, human resources, and clinical accommodation. After returning to New Zealand, Mr Kinnear shared his interest in setting up an Optometry course in Kathmandu with Prof Garner. In 1990, Prof Garner corresponded with Prof Upadhyay to gauge interest in a group of final-year Optometry students from Auckland visiting the Tribhuvan University Teaching Hospital to work under supervision for about 3-4 weeks every year. At that time, Prof Garner was involved in a myopia research project involving Sherpa/Tibetan children,<sup>2</sup> so an Auckland research team visited Nepal regularly. During these visits, the matter of the Optometry course was discussed several times but without any real progress.

On another visit to Nepal in March 1997, Mr Kinnear and Prof Garner discussed the establishment of a University Optometry course with Dr Shashank Koirala, the then executive director of BPKLCOS. These discussions led to the formation of a steering committee including Mr Kinnear and Prof Garner from New Zealand, and Dr Koirala, Prof Mohan Joshi, Prof Madan Upadhyay, and Dr Suraj Shakya from Nepal. Dr Shakya was appointed as the course coordinator. A month later, a Memorandum of Understanding was signed by the Vice-Chancellors of the University of Auckland and Tribhuvan University. In May 1997, the New Zealand Ministry of Foreign Affairs and Trade considered the proposal by Mr Kinnear and provided a two-year grant of NZ\$39,375 (through the NZAID's ASIA2000 program) to support the establishment of an Optometry course and reciprocal student/staff exchanges between the schools in Kathmandu and Auckland. Mr Kinnear and Prof Garner then visited Kathmandu to draft a curriculum for the proposed course, discuss possible visits by the University of Auckland students, and explore New Zealand Official Development Assistance scholarships for Nepalese students to undertake the Optometry course in Auckland.

In November 1997, Mr Kinnear and Prof Garner met with the Dean of the Institute of Medicine, Prof Purna C. Karmacharya, and prepared a draft proposal for a Bachelor of Optometry course at Tribhuvan University. This document was a cooperative venture between the two universities and included a review of vision care needs in Nepal, a workforce analysis, an academic programme, administrative structure, budget, Optometry clinic funding proposal, and staffing requirements from 1998-2008. The proposal was to establish an Optometry course at bachelor's level, with the number of graduates increasing from 10 in 2003 to 20 by 2010. The proposed academic program was a four-year course, but on advice that a four-year proposal would be unlikely to proceed, an initial three-year program was designed.

On 6 November 1997, the Steering Committee, including Prof Karmacharya, Prof Upadhyay, Dr Koirala, Prof Garner, the Institute of Medicine Assistant Dean (Education), Tribhuvan University Teaching Hospital Director, and Maharajgunj Medical Campus Chief discussed the draft proposal and possibilities of student exchanges, teaching staff, and scholarships. Subsequently, the proposal was submitted to the Subject Committee, the Faculty of Medicine, the Academic Council and the Senate in December. Further progress was achieved under the auspices of the Memorandum of Understanding, signed by the respective Vice-Chancellors of

the two universities. A two-day Optometry curriculum workshop chaired by Dr Jayawikramrajah (World Health Organisation medical educationist) was held in September 1998. After its completion, the Bachelor of Optometry course was established, and the first batch of six students registered in November 1998. At that time, Nepal, with a population of around 20 million, had around 80 ophthalmologists and no optometrists.

### ***Professional and educational advancements in the intervening years***

Initially, the University of Auckland provided support on education materials and lectures. Overseas Optometrists, including Dr Douglas Horner from Indiana University (USA) and Dr Krishna Kumar Yadav from Vanaras University (India), contributed to the delivery of the program. However, the collaboration between Optometry schools in Kathmandu and Auckland ended in 2001 when the first batch of students graduated. This major setback limited progress in several aspects, including faculty development, laboratory establishment, and educational exchange programs.

Since the beginning days, the program received substantial support in the form of instructors and teaching materials from the World Council of Optometry (WCO). In 2000, Prof Anthony Cullen (a WCO representative) and Dr Ranjoo Prasad visited Nepal to foster Optometry education and deliver lectures. After a formal need-assessment by WCO, Dr Sandra Wang and Dr Lori Lukey joined the institute as WCO Fellows in 2002 and contributed to the program, developing and organizing courses, and improving the quality of optometric clinical procedures. Dr Sara Harter, a Peace Corp. volunteer, further strengthened the program, delivering lectures and organizing courses. Since then, graduates of the program have played key roles in sustaining and strengthening Optometry education.

A major curriculum review in 2002 resulted in a redesigned 4-year curriculum at par with Optometry programs at international universities (Figure 2). In 2003, the Nepalese Association of Optometrists (NAO) was formed with objectives of professional development and protection of the welfare, rights, and security of Nepalese Optometrists. The same year, Optometry was registered with the Nepal Health Professionals Council, an autonomous governmental legal body of health professionals (except medicine and nursing). In 2004, the inaugural issue of “The Sight”, a scientific publication by the Nepalese Optometry Students’ Society and NAO, was launched. Later that year, NAO became a member of the World Council of Optometry, and in 2007, a member of Asia Pacific Council of Optometry. In

2014, NHPC published a comprehensive code of ethics that outlined the scope of practice of Optometrists. Two years later, the uptake of Optometry students was increased from six to ten. In 2018, NAO organized the inaugural All Nepal Optometry Conference in Kathmandu to celebrate the completion of two decades of Optometry education. Over 500 national and international delegates participated in this meeting where Mr Kinnear received felicitation and an award from Hon. Upendra Yadav, the then Minister of Health and Population, in recognition of his outstanding contribution to Nepalese Optometry. Mr Kinnear continues to financially support NAO; his generosity has helped establish travel grants to support the participation of students and faculties at various conferences and seminars. Mr Kinnear also continues to donate Optometry-related books and journals to the BPKLCOS library.

In 2018, two additional 4-year Optometry courses were established, one at the National Academy of Medical Sciences and the other in Pokhara University. A two-year postgraduate (Master of Optometry) course was also established jointly at Tilganga Eye Institute and Himalayan Eye Institute, Pokhara University. In 2019, Nepal health Professional Council published minimum requirements for a Bachelor of Optometry course to standardize courses across the universities. Starting 2020, Optometry has been included among courses that require candidates to pass the Medical Education Commission of the Government of Nepal entrance examination before admission into postgraduate education at national and international Universities.

Today, the Bachelor of Optometry program at BPKLCOS is recognised for its academic and clinical standards. To date, three Nepalese optometrists (including authors NP and SK) have earned their PhDs from the University of Auckland School of Optometry/Department of Ophthalmology, six from Optometry schools in Australia, three from the United Kingdom, and five from the United States. Several alumni of the BPKLCOS Optometry program now hold lectureship and postdoctoral or doctoral research positions in leading Optometry institutions around the world.

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For Review

**FIGURE CAPTIONS**

**Figure 1. A) Professor Leon Garner (middle) meeting with Dr Shashank Koirala (left) and Prof Purna C Karmacharya (right) B) Hon. Minister of Health and Population of Nepal Upendra Yadav felicitating and presenting an outstanding service award to Bob Kinnear at the inaugural Optometry conference in Kathmandu in 2018. From left to right: Mr Robert F. Kinnear, Mr Sanjeeb Mishra, Mr Tirtha Prasad Mishra, Dr Ram Prasad Pokharel, Hon. Minister Upendra Yadav. C) Mr Robert F. Kinnear and Prof Leon Garner with the BP Koirala Lions Centre for Ophthalmic Studies team.**

**Photographs courtesy Mr Robert F. Kinnear.**

**Figure 2. A historical timeline of Optometry education in Nepal. NAO: Nepalese Association of Optometrists; NHPC: Nepal Health Professional Council, BPKLCOS: BP Koirala Lions Centre for Ophthalmic Studies, PM: Prime Minister; TU: Tribhuvan University**



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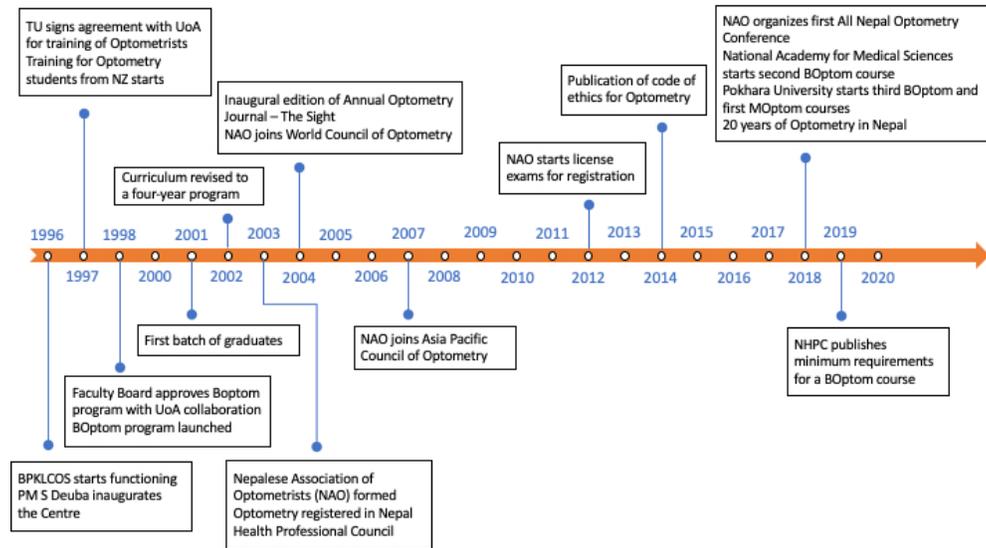


Figure 2. A historical timeline of Optometry education in Nepal. NAO: Nepalese Association of Optometrists; NHPC: Nepal Health Professional Council, BPKLCOS: BP Koirala Lions Centre for Ophthalmic Studies, PM: Prime Minister; TU: Tribhuvan University

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