BACKGROUND
In 2010, Dr. Bhim Rai traveled from Bhutan to the John A. Moran Eye Center (JMEC) to complete a subspecialty training in retinal surgery with Dr. Paul Bernstein and the retina team through Moran’s International Observer Program. After completing his training, he returned to Bhutan to become his country’s first and only retinal specialist. Dr. Rai is also one of only seven ophthalmologists in Bhutan, a country with a population of approximately 700,000.

Since 2010, Dr. Bernstein has continued to work with Dr. Rai, traveling to Bhutan at least once a year to work with him and help sharpen his skill set. This relationship is just one of many between Moran physicians and International Observer alumni, exemplifying the sustainability of Moran’s international education initiatives.

From November 16 through 28, 2014, Dr. Bernstein’s retina fellow, Dr. Nikhil Batra, traveled to Bhutan to work with Dr. Rai at the Jigme Dorji Wangchuck (JDW) National Referral Hospital in Thimphu. Together, the two physicians performed multiple retinal surgeries and complex retinal procedures. Dr. Batra also delivered donations from the JMEC’s Outreach Division, including various vitreoretinal-related consumable and reusable items.

DAY BY DAY
NOVEMBER 16-28, 2014
Dr. Batra spent seven days working alongside Dr. Rai in his clinic. Throughout these seven days, the two were able to treat over 180 patients and to evaluate an array of retinal conditions, including retinal detachments, diabetic retinopathy, retinal vein occlusions, central serious retinopathy, Eale’s disease, exudative macular degeneration, ocular trauma, acute retinal necrosis, and more. Each case was discussed in detail, and an appropriate treatment plan was formulated for each patient.

On November 19, 21, and 26, Drs. Batra and Rai performed seven vitreoretinal surgeries using the inline operating microscope image inverter, laser filter, and wide-angle viewing system that Moran’s Dr. Bernstein installed during his last visit to Bhutan in April 2014. Dr. Rai served as the lead surgeon with Dr. Batra assisting and advising.

Dr. Batra then trained Dr. Rai and his operating room support staff to use indocyanine green (ICG) and the macular contact lens viewing system for macular hole surgery. After the training, Dr. Batra performed the first ever ICG-assisted macular hole surgery in Bhutan. After watching Dr. Batra’s case, Dr. Rai performed his first two ICG cases with Dr. Batra by his side.

Finally, Dr. Batra installed updates on the Constellation Vitrectomy system and taught Dr. Rai and his staff how to properly use the machine. These updates allow surgeons more control of the various machine settings.

OBSERVATIONS FROM THE FIELD
POSITIVE IMPACT
Since 2010, when his retinal training with Dr. Bernstein began, Dr. Rai has been able to provide excellent vitreoretinal care to the Bhutanese population. Even with limited resources and lack of a large medical support staff, he has been able to provide high-volume quality care over...
the past four years. Outside referrals for vitreoretinal care to India and Thailand have decreased dramatically since Dr. Rai began his practice in Thimpu. As a result, the Bhutanese people now have access to timely and ongoing ophthalmic care and undoubtedly reduced health care costs since they no longer have to travel out of country for retinal consults.

**NEED FOR EQUIPMENT**

The JDW National Referral Hospital has a difficult time procuring the equipment and supplies necessary to continue treating its current volume of vitreoretinal patients. Since many of the surgical supplies needed for retinal surgery are very expensive, Dr. Rai and his hospital rely heavily on donations through their country’s Ministry of Health and outside nonprofit organizations, but requests submitted to the Ministry of Health are often denied, and they can’t always rely on nonprofits to deliver surgical supplies. At the moment, the hospital is in critical need of the following supplies: surgical consumables, a fluorescein angiography machine, an operating room table (that can be adjusted to the surgeon), and a power cable for a surgical microscope camera.

**RESIDENCY PROGRAM**

Since Dr. Rai is currently one of only seven ophthalmologists in his country, he has recently started an ophthalmology residency program to train additional eye surgeons. Dr. Batra was able to meet and work with Dr. Rai’s first two residents, **who will become the first Bhutanese ophthalmologists trained in their own country.** Dr. Batra noted that the program offers a rigorous academic training that includes regularly scheduled grand rounds, case presentations, journal clubs, and conference.

**FUTURE PLANS**

Dr. Bernstein will continue to follow up with Dr. Rai in his home country of Bhutan. During each visit, JMEC physicians will bring donated ophthalmic supplies and continue to teach the most up-to-date techniques in retinal surgery to Dr. Rai and his team. The ultimate goal of this ongoing relationship is to create a large team of well-trained ophthalmologists in Bhutan and to eliminate the need for the country's citizens to travel outside of the country to receive eye care. The ripple effect of Dr. Rai’s Observership at the Moran Eye Center in 2010 is immense. As a result of his ongoing relationship with Dr. Bernstein and the retinal team, he has developed the skills to become a competent retinal surgeon who is able to treat thousands of Bhutanese people, to start his own residency program, and to train the future leaders of ophthalmology in Bhutan.