A REPORT ON THE MOORFIELDS EYE HOSPITAL (VOLUNTEERS) COLLABORATION VISIT TO THE DEPARTMENT OF OPHTHALMOLOGY, MAKERERE UNIVERSITY AND MULAGO NATIONAL REFERRAL HOSPITAL

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BACKGROUND

Moorfield's Eye Hospital, UK

Moorfield's Eye Hospital is a specialist National Health Service (NHS) eye hospital in the London Borough of Islington in London, England run by Moorfield's Eye Hospital NHS Foundation Trust. Moorfield's Eye Hospital was founded at Charterhouse Square in 1805 as the London Dispensary for curing diseases of the Eye and Ear, by John Cunningham Saunders, assisted by John Richard Farre (Snyder, 1976). Moorfield's Eye Hospital is a major center for postgraduate training of ophthalmologists, orthoptists, optometrists, and nurses. It has also played a pivotal role in ophthalmic research (Rones, 1974).

Mulago National Referral Hospital, Uganda

Mulago National Referral Hospital (MNRH) was founded in 1913 by Albert Ruskin Cook and later in 1962 the hospital was further extended with the construction of Lower Mulago commonly known as new Mulago, which houses the department of Ophthalmology on level 5 block G. MNRH is one

of the two national referral hospitals under the Ministry of Health (MOH) in the entire country and serves as teaching hospital for the Makerere College of Health Sciences, one of the nine colleges under Makerere University. Mulago hospital operates a bed capacity of 1,790. From the 1960s, Mulago Hospital has been a center of excellence for patient care, training doctors and research.

Makerere University

Makerere University, Kampala is Uganda's largest and oldest institution of higher learning, first established as a technical school in 1922. It became an independent national university in 1970. Today, Makerere University is composed of nine colleges and one school offering programs for about 36,000 undergraduates and 4,000 postgraduates.

MulagoNational ReferralHospital(MNRH)

The institution is Uganda's primary tertiary and teaching hospital, and Makerere University College of Health Sciences (MakCHS) have a close collaborative relationship. MakCHS students complete clinical rotations at MNRH, and MakCHS faculty partner with Mulago staff in clinical care and research (Kizza et al., 2011).

Uganda-UK Health Alliance

The Uganda-UK Health Alliance (UUKHA) is a collaboration between Ministry Of Health, Uganda and NHS Health Education England which serves as an umbrella Organization for UK institutions and organizations undertaking healthcare capacity building activity in Uganda. On 14th February this year, under the Uganda UK health alliance, a specialist team from Moorfield's eye hospital, on a **voluntary** basis, visited the department of Ophthalmology, Makerere University and Mulago NRH for tertiary skills training in Eye care. The training under the UUKHA umbrella (Eye Health Consortium) brought together specialists from the Moorfield's eye hospital, specialists from MNRH, Makerere University and residents from both Makerere University and Mbarara University of Science and Technology (MUST). The visiting international experts included a volunteering team from Brazil engaged via Moorfields team. The training lasted one week (14th February-21st February 2023) and was aimed at equipping staff and trainees with skills in Cornea Transplant, Oculoplastic Surgery, Medical and Vitreo retina. The shared learning activities included Uveitis, tropical/infectious eye diseases, ocular pharmacology and optical coherence tomography (OCT). This report will highlight the activities undertaken during the training and offer insights into areas where further collaborative research is needed.

Theme, Goal and Objectives of the Camp

Themes

· The theme of the camp was supplemented by a slogan – *"Come start a new life by regaining your sight"*.

· On the UK side the theme was, "*Diaspora contribution to Health care*".

The Goal

· The main goal of the camp was to make our contribution to a reduction of blindness and use the opportunity to share learning, exchange knowledge and skills with support from international health professionals/volunteers.

Objectives

· To screen and treat members of the community for common eye conditions. ·

To sensitize the public on preventable eye conditions.

· To offer skills and knowledge transfer concerning different eye conditions and their optimum management

Camp Preparation

Planning

The steering committee consisted of representatives from UUKHA, OSU, Lubaga, Mulago hospital and volunteers from Moorefield's Eye hospital and also Brazil. The preparations began in December 2022 and a WhatsApp platform was created to ease communication amongst various stakeholders.

Fundraising

Requests for financial support were made to various donors for the camp. We were able to get support from some of the donors that we reached out to as mentioned in the finance report.

Publicity

· Camp publicity was done through posters. Radio and T.V announcements were not used due to limited resources.

· Posters were produced in Luganda and English that indicated the information, they were shared through social media and pinned in strategic places around Mulago.

Finance and Logistics management

The camp was financed by Mulago Hospital, Indian Association, Light for the World, with support from IMET 2000, Health Education England- Global Engagement, Eye Health Africa Partners and Supporters, Moorfield's Eye Hospital supporters, and Uganda-UK Diaspora Health community.

Camp Human Resource

The Human Resource for the camp contained a variety of cadres from different sections. There was visiting experts from Moorefield's Eye Hospital, UK, Brazil and teams from Mulago, Lubaga and Mbarara hospitals, medical students from Makerere University, plus Diaspora and in country Allied Health Volunteers.

The table below gives the distribution of the different cadres who did a tremendous job for

the success of the camp.

CADRE	NUMBER
Ophthalmologists	7
Optometrists	3
Ophthalmic Nurses	8
Ophthalmic Clinical Officers	3
Ophthalmology S.H.Os	18
Administrative staff with Data manager inclusive	17
Nursing Student Volunteers	6
Diaspora and in-country Community Volunteers	12
Total	74

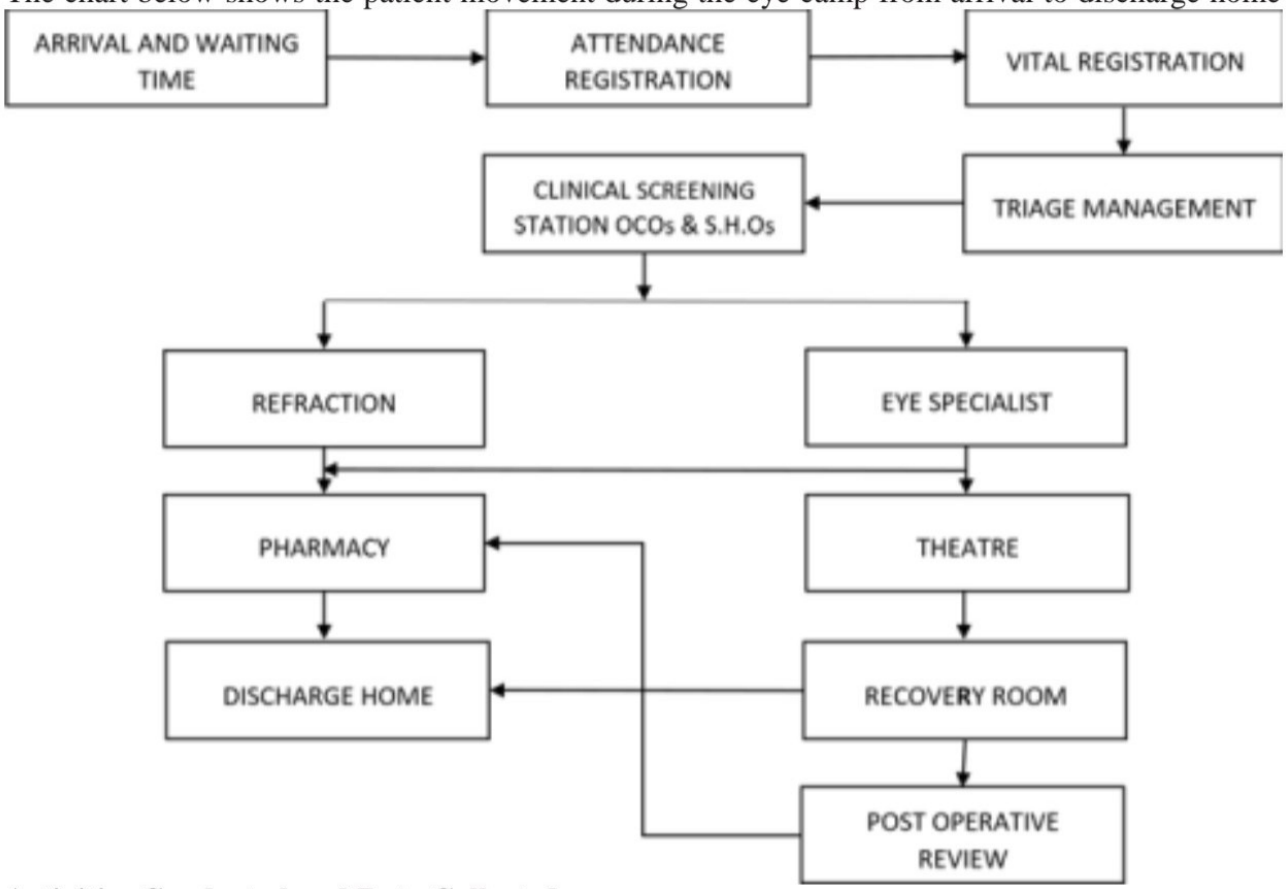
Patient Socio-demographic Characteristics

SEX	**AGE RANGING BETWEEN 0-12**	**AGE RANGING FROM 13 AND ABOVE**
MALE	78	350
FEMALE	65	520

TOTAL	**143**	**870**

Camp Flow Chart

The chart below shows the patient movement during the eye camp from arrival to discharge home



Activities Conducted and Data Collected

Oculoplastic surgery

Several surgeries were carried out in the training and these were spearheaded by Dr Ampaire Anne, an oculoplastic, oncology and orbital surgeon under Makerere University, Dr Ntende Jacob, an orbital surgeon attached to MNRH and Dr Kaveh Vahdani, an Adnexal Consultant Surgeon in Moorfield's Eye Hospital. A total of 19 surgeries were done on three separate theatre days and these are outlined in the table below;

DATE	SURGERIES	INDICATIONS
15/03/2023	Lid reconstruction surgeries (3)	Congenital right upper eyelid coloboma (2) Cicatricial ectropion left eye (1)
	Excision biopsy (2)	Congenital conjunctiva melanosis (1) Intraconal orbital mass (1)
	Blephaloplasty (1)	Blepharochalasis both eyes (1)
	Debulking (1)	Neurofibromatosis(1)
	Tube extubation (1)	Post DCR (1)
	Intralesional triamcinolone (1)	Cicatricial ptosis (1)
17/2/2023	Debulking (1)	Retrobulbar mass (1)
	Lid reconstruction +evisceration +orbital implant (1)	Left upper eyelid coloboma and badly ruptured globe
	Lid reconstruction (1)	Post-traumatic ptosis Left eye (1)
	Incision biopsy (1)	Granulomatosis (1)
20/2/2023	Orbital implant (1)	Anophthalmic left eye post enucleation
	Exenteration (1)	Orbital tumor left eye (1)

	Incision biopsy (1)	Sino-nasal tumor with orbital extension (1)
	Intralesional triamcinolone (1)	Recurrent orbital inflammation (1)

	Evisceration + orbital implant (1)	Buphthalmos with anterior staphyloma right eye (1)
	Lid reconstruction (1)	Bilateral partial ankyloblepharon

Table 1: surgeries conducted during the collaboration training

A comparative analysis of the Surgeries Done with the previous camp

SURGERY	**2019**	**Percentage 2019**	**2023**	**Percentage 2023**
Cataract	30	71.43	49	58.33
Excision	7	16.67	19	22.62
Squint Correction	3	7.14	7	8.33
Vertical Washout	0	0.00	2	2.38
Incision and Drainage	2	4.76	7	8.33
TOTAL	**42**	**100.00**	**84**	**100**

According to the table above, out of the total 84 surgeries done 58.33% were cataracts, 22.62% were excisions and 8.33% were squint corrections.



Figure 1: Dr Ampaire, Dr Kaveh and Dr Sadia during one of the surgeries

Diagnostic Occurrence with a comparative analysis

DIAGNOSIS	**2019**	**Percentage 2019**	**2023**	**Percentage 2023**

Presbyopia	163	58.63	206	30.98
Allergic conjunctivitis	32	11.51	150	22.56
Cataract	19	6.83	73	10.98
Pterygium	8	2.88	49	7.37
Dry Eye Syndrome	2	0.72	30	4.51
Conjunctivitis	7	2.52	31	4.67

Blurred vision	3	1.08	16	2.41
Itching eyes	9	3.24	22	3.31
Vernal conjunctivitis	1	0.36	10	1.50
Photophobia	5	1.79	13	1.95
Pseudophakia	8	2.88	17	2.56
Glaucoma	3	1.08	10	1.50
Refractive Error other than presbyopia	3	1.08	11	1.65
Squint	2	0.72	7	1.05
Exotropia	1	0.36	8	1.20
Anterior segment hemorrhages	1	0.36	5	0.75
Chalazion	3	1.08	6	0.90

Corneal scarring	1	0.36	2	0.30
Bacterial conjunctivitis	3	1.08	2	0.30
Hyperopia	1	0.36	1	0.15
Pinguecula	1	0.36	1	0.15
Difficult in reading	0	0.00	0	0
Inflammation	1	0.36	0	0
Neonatal ophthalmia	1	0.36	0	0
Post-Operative Complications that were managed instantly	0	0.00	2	0.30
Total Diagnosed	**278**	100.00	**665**	**100**

Presbyopia had the highest occurrence rate 30.98% out of 665 followed by Allergic conjunctivitis, Cataract, Pterygium and Dry Eye Syndrome.

Guest lectures

Information sharing through lectures offered by the various specialists in the visiting team was of significance during the recently concluded training. Ophthalmologists and residents were able to attend in person and online as well via a university zoom link. Below is an outline of the various topics covered in these sessions;

DATE	**GUEST LECTURER/SPECIALIST**	**TOPIC COVERED**

14/2/2023	Dr João Alfredo Dietrich	Cornea graft harvesting, preparation, storage and transplantation
16/2/2023	Dr Majid Fotuhi (Uveitis and ocular pharmacology)	Medical management of uveitis Ocular pharmacology
	Dr Ian Yeung (Uveitis and Medical retina)	Principles of lasers Everything you wanted to know about immunosuppression but afraid to ask Interesting OCT things
18/2/2023	Prof. Lyndon Da Cruz (retinal surgeon)	Diabetic retinopathy Age related macular degeneration Fundus photo discussion of various cases
	Dr. Kaveh Vahdani (adnexal consultant surgeon)	Necrotizing fasciitis Rhino-orbital mucormycosis

	Dr Gerry Claire (ophthalmic surgeon)	Inflammatory eye diseases

Table 2: List of guest lectures offered during the Moorfield's eye hospital visit

The Moorfield's eye hospital volunteering team, led by Primrose Magala, a nurse practitioner and founder of Eye Health Africa also handed over a set of ophthalmology textbooks

donated by adnexal consultant surgeon, Prof. Geoffrey Rose, to the department

of ophthalmology, Makerere University, which will be used by postgraduate students and ophthalmologists in the department.



Figure 2: Receiving of books from the Moorfields eye hospital team. Inset is the visiting team from Moorfields, postgraduate residents from MUK and MUST

Corneal graft harvesting and transplant (A wet lab simulation)

Over the last century, corneal transplantation has evolved into an array of techniques focused on the selective replacement of diseased layers of the cornea, tailored specifically to the underlying pathologic condition causing the corneal dysfunction. Major advances have been made in corneal procurement, preparation and processing, greatly increasing the number and quality of suitable corneas available for transplant. Ophthalmologists and residents were privileged to participate in a wet lab simulation of cornea graft harvest and transplant using a goat's eye performed by a leading cornea specialist from Brazil, Dr Jao who made up part of the visiting team

along with his wife Ms. Nancy, a nurse practitioner. This wet lab session was preceded by an extensive lecture on corneal graft harvesting, preparation, storage and transplantation.



Figure 3; Dr Jao performing an enucleation on a goat's eye in preparation to harvest the cornea

Clinical work/activities

Case selection, discussion and management was undertaken throughout the training at the eye clinic in New Mulago, level 5 block G. Residents with the help of Ophthalmologists in the department were able to book cases for comprehensive evaluation, discussion and management together with specialists in the different fields of Ophthalmology from Moorfields eye hospital, UK.



Figure 4: Slit lamp examination of a patient in one of the consultation rooms at the eye clinic.

Inset is Dr Joa, Dr Ian, residents of MUK and MUST.



Figure 5: From left to right, Dr Majid Fotuhi, Dr Ssali Grace, Dr Ian Yeung Figure 6: Group photo with visiting team from Moorfields eye hospital



Uganda-UK shared learning collaborations







Uganda-UK shared learning collaborations

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iii. Uganda UK Health Alliance team

iv. Ophthalmology Society Uganda

v. Board of Governors Mulago Hospital

vi. Mulago Hospital Management and staff and the Dean of Makerere University and Dean of Mulago Medical School

vii. Moorfield's Eye Hospital volunteers and supporters

viii. Lubaga Hospital, Dr Denis and team

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xii. Diaspora and in-country volunteers; Allan, Sarah, and entire team.

xiii. The residents from Mbarara University who attended the Mulago Hospital eye camp 2023.

xiv. The clinical head and assistant clinical head department of ophthalmology Dr.Kasadhakawo and Dr.Ntende

xv. Dr.Elicana Nduhuura and Dr Innocent Ayesiga on Behalf of Mentor Point Africa (MPA)

Way forward and recommendation

· Targeted educational camps to support capacity development

· Equipment

· Staff

· Specialized training.

References

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