WHO/IAPB MEETING ON CATARACT SURGERY OUTCOME MONITORING SYSTEMS

19–20 September 2018
Kuala Lumpur, Malaysia
WHO/IAPB Meeting on Cataract Surgery Outcomes Monitoring Systems
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Kuala Lumpur, Malaysia
WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC

MEETING REPORT

WHO/IAPB MEETING ON CATARACT SURGERY OUTCOMES MONITORING SYSTEMS

Convened by:

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC

AND THE INTERNATIONAL AGENCY
FOR THE PREVENTION OF BLINDNESS

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NOTE

The views expressed in this report are those of the participants of the WHO/IAPB Meeting on Cataract Surgery Outcomes Monitoring Systems and do not necessarily reflect the policies of the conveners.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for Member States in the Region and for those who participated in the WHO/IAPB Meeting on Cataract Surgery Outcomes Monitoring Systems in Kuala Lumpur, Malaysia, from 19 to 20 September 2018.
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Keywords

Cataract extraction – standards / Cataract – rehabilitation / Eye diseases – surgery / Vision disorders / Regional health planning
Although cataract surgeries are commonly performed in public and private health systems, surgical outcomes are not commonly monitored centrally. Based on population-based evidence, outcomes of cataract surgery in low- and middle-income countries, including countries in the WHO Western Pacific Region, are below WHO-recommended standards.

Towards Universal Eye Health: A Regional Action Plan for the Western Pacific (2014–2019) recommends that Member States assess and monitor the quality of cataract surgical services. It further requests WHO to provide training on tools for cataract surgery outcomes monitoring.

In Malaysia, a systematic cataract surgery outcomes monitoring system has been in place in the public sector for over 10 years. The Malaysian example is a valuable showcase for country participants.

The WHO/IAPB Meeting on Cataract Surgery Outcomes Monitoring Systems was held in Kuala Lumpur, Malaysia, on 19–20 September 2018. This was a joint meeting, with all costs covered by the International Agency for the Prevention of Blindness (IAPB), an umbrella organization of nongovernmental organizations and professional associations in official relations with WHO, Dr Andreas Mueller, WHO consultant, provided technical support, particularly on existing tools for cataract surgery outcomes monitoring. Mr Sean Selby, of the University of Auckland, and Dr Noela Prasad, of the International Society for Quality in Healthcare (ISQUA), developed background papers.

Participants came from eight countries in the Western Pacific Region with high-volume cataract surgical programmes: Cambodia, China, Lao People’s Democratic Republic, Malaysia, Mongolia, Papua New Guinea, Philippines and Viet Nam.

The objectives of the meeting were: (1) to share successes and barriers for improving cataract surgery outcomes monitoring programmes; (2) to provide information on existing tools and strategies to monitor cataract surgery outcomes; and (3) to develop country-specific action points to strengthen quality assurance for cataract surgical services.

Conclusions

The meeting successfully conveyed the importance of quality in cataract surgery outcomes. Monitoring is particularly crucial in ensuring quality eye care.

Country participants brought up three main areas that require WHO/IAPB support:

1. Technical support. Member States need technical support in developing or modifying existing monitoring software and guidelines as well as software installation and training. A follow-up workshop on outcomes monitoring progress would be discussed further with IAPB and partners, along with the need for a long-term regional course.

2. Changes in human resources in eye care. The meeting successfully communicated the important message of changing behaviour and highlighting the value of quality that we have to offer. Discussions also covered the roles of optometrists and refractionists, and the link between volume and quality. Working effectively in a team, optometrists can have a large impact on national programmes. There is also a need for biometry training and essential biometry equipment in ensuring better quality.
3. **Changes in policy.** WHO/IAPB would have a role in advocating at a higher level to
governments, but requests for support should be initiated at the health ministry level and
brought to the attention of the respective WHO country office. Support from WHO/IAPB
will be targeted as each country has different challenges and boundaries.

**Recommendations for Member States**

Member States are encouraged to consider the following:

**Cambodia**

(1) Develop and establish a standard cataract surgery outcome monitoring tool, followed by a
pilot study to identify the barriers and challenges in its implementation, and find solutions
to overcome it. System to be integrated into the health information system of the Ministry
of Health and to include feedback to all eye units.

**China**

(1) Develop a committee to advocate the importance of cataract surgery quality control,
and develop parameters in evaluating cataract surgery quality.

(2) Consider quality training for cataract surgeons.

**Lao People’s Democratic Republic**

(1) Improve the quality of the existing basic tool for cataract surgery outcomes monitoring
as well as its implementation throughout the country.

(2) Improve teamwork with ophthalmic nurses/refractionists to improve cataract surgery
outcomes.

**Malaysia**

(1) Increase efficiency of ophthalmologists in the country by ensuring they have a sufficient
number of surgeries without compromising quality.

(2) Strengthen the existing eye care services pathway by bringing in universities and the
private sector to work together with the public services in ensuring quality cataract
surgery outcomes.

**Mongolia**

(1) Convey the message learnt from this meeting to the Ministry of Health.

(2) Arrange a meeting with information technology and quality assurance departments.

(3) Further support consideration of implementing or adopting a specific surgery
outcomes monitoring tool and discuss its implementation.

**Papua New Guinea**

(1) Strengthen usage of existing Cataract Surgical Outcomes Monitoring (CSOM).

(2) Present the plan to the Ministry of Health to set up a technical working group
to co-facilitate cataract surgery outcomes monitoring.
Philippines

(1) Work together with the national health insurance system in implementing a cataract surgery outcomes monitoring system, to be implemented by the first quarter of 2019.

(2) Advocate the integration of the role of optometrists into the health system through seminars and conferences.

(3) Involve optometrists in six-week post-operative reviews and to be part of the service providers for cataract surgery outcomes monitoring.

(4) Conduct a training session for biometry and keratometry. Participants would like to learn from Malaysia on this aspect.

Viet Nam

(1) Finalize and submit national cataract surgical guidelines to the Ministry of Health.

Recommendations for WHO and partners

WHO/IAPB is requested to consider the following:

Cambodia

(1) Provide technical support, especially with regard to the programme software, and training on using the software.

(2) Support the dissemination of the software to relevant organizations and eye units, and also in monitoring and evaluating the outcome.

China

(1) Support the introduction of simple measures in cataract surgery outcome monitoring, such as BOOST.

(2) Advocate with the ministry of health, together with support from the ophthalmological society.

Lao People’s Democratic Republic

(1) Provide technical support in software installation, software training, as well as supervision and monitoring.

(2) Conduct an in-country follow-up workshop.

Malaysia

(1) Provide technical support to develop the country as a training hub for public health ophthalmology for the WHO Western Pacific Region.
Mongolia

(1) Provide technical support to bring a technical consultant to the country for software implementation. Ideally, the software consultant should attend the upcoming meeting of the ophthalmological society to advocate the importance of software implementation.

(2) Provide support to develop guidelines and protocol for quality eye care.

Papua New Guinea

(1) Provide support to form a technical working group together with the Ministry of Health.

(2) Provide technical support to develop guidelines and protocols.

Philippines

(1) Provide support to integrate eye care into the public health system.

Viet Nam

(1) Support interaction with the Ministry of Health, particularly in writing an official letter to stress the importance of cataract surgery outcomes monitoring and quality eye care nationwide, recognizing that Viet Nam is still lagging in terms of monitoring as compared to other countries in the WHO Western Pacific Region.
1. INTRODUCTION

1.1 Meeting organization

Although cataract surgeries are commonly performed in public and private health systems, surgical outcomes are not commonly monitored centrally. Based on population-based evidence, outcomes of cataract surgery in low- and middle-income countries, including countries in the WHO Western Pacific Region, are below WHO-recommended standards.

Cataract surgical outcomes are the end result of any cataract surgery performed. Several established outcome measures are used worldwide, a common one being visual acuity. However, the outcome can also be measured by evaluating the biometric results or patient-reported outcome, the use of which is an increasing trend in recent years.

Determinants of the outcome are factors along the cataract care pathway. These range from patient recruitment, selection and counselling to occurrence of intra- and post-operative complications. Therefore, evaluation of the outcome should be conducted at every point in the cataract care process. The evaluation findings can then be used to rectify problems along the pathway, thereby improving service delivery to the patients at large.


In Malaysia, a systematic cataract surgery outcomes monitoring system has been in place in the public sector for over 10 years. The Malaysian example is a valuable showcase for country participants.

The WHO/IAPB Meeting on Cataract Surgery Outcomes Monitoring Systems was co-organized by the International Agency for the Prevention of Blindness (IAPB) and the World Health Organization (WHO) Regional Office for the Western Pacific. It was hosted by Malaysia and was held on 19–20 September 2018 at Shah Alam Hospital, Kuala Lumpur, Malaysia. IAPB is an umbrella organization of nongovernmental organizations and professional associations in official relations with WHO; WHO developed a background paper for the meeting (Annex 1).

1.2 Meeting objectives

The objectives of the meeting were:

1) to share successes and barriers for improving cataract surgery outcomes monitoring programmes;

2) to provide information on existing tools and strategies to monitor cataract surgery outcomes; and

3) to develop country-specific action points to strengthen quality assurance for cataract surgical services.
2. PROCEEDINGS

The meeting comprised three plenary sessions, a panel discussion and a workshop in addition to opening and feedback sessions.

During the opening session, Malaysia shared their experience and evolution in cataract surgical performance monitoring for the past 10 years. Dr Nathan Congdon introduced a self-monitoring tool (BOOST) in assessing cataract surgical outcomes in areas of limited resources. Representatives presented the current situation of cataract surgical outcome monitoring in their respective countries. The barriers and challenges in monitoring cataract surgical outcome were discussed during the group work and plenary sessions.

The panel discussion covered gender equity and cataract services utilization issues, mainly in the Malaysia context. During the second plenary, three main approaches in ensuring high-quality cataract outcome were presented. Strategies and tools for outcome monitoring were addressed during the third plenary session. A full outline of the programme is provided in Annex 2.

2.1 Opening session

Opening remarks were delivered by Dr Ying-Ru Jacqueline Lo, WHO Representative to Malaysia, Brunei Darussalam and Singapore, Professor Serge Resnikoff from the International Council of Ophthalmology, and Mr Drew Keys from IAPB. The meeting was officiated by Malaysia’s Director General of Health, Datuk Dr Noor Hisham bin Abdullah. Dr Nor Fariza Ngah, National Head of Ophthalmology Services, Malaysia, was elected as Chairperson for the meeting, while Dr Nor Anita Che Omar and Dr Azlina Mokhtar were elected as the Rapporteurs. A list of participants is available in Annex 3.

2.2 Plenary sessions

2.2.1 Plenary session 1 – State of play

(1) Evolution of cataract surgery performance monitoring in the Ministry of Health, Malaysia – Dato’ Dr Goh Pik Pin, Director, Clinical Research Centre, Ministry of Health Malaysia

Performance indicator monitoring at the Ministry of Health Malaysia was initiated in 1998 by Tan Sri Dato’ Dr Abu Bakar Suleiman, who was the Director General of Health during that time. Key performance indicators (KPIs) were introduced in 2006 as part of a government transformation programme to measure the structure, process and outcome of medical services.

Cataract surgery is the main area for performance monitoring in ophthalmology services. It is the main eye care service and serves an essential part in training as it involves the whole ophthalmic team (nurse, medical assistant and optometrist). The outcomes of cataract surgery were monitored under the Cataract Surgery Registry within the National Eye Database (NED) system.

NED, as part of performance indicator monitoring, was started in 2002 by manual charting and progressed to a real-time online database from 2007 onwards. It expanded its ability to monitor intraoperative complications such as posterior capsule rupture (PCR) and post-operative endophthalmitis from all 36 eye departments in the Ministry of Health. The monitoring includes aspects such as quality (visual acuity outcome at 12 weeks post-cataract operation), safety (PCR, post-operative endophthalmitis and rate of unplanned return to operating room and workload (waiting time for cataract surgery of more than 6 months). Other performance indicators include new referral for diabetic retinopathy, port-related break during vitrectomy, buttonhole of conjunctiva in trabeculectomy, muscle slip for strabismus surgery and wound breakdown after elective oculoplastic surgery.
Besides visual acuity outcome monitoring, patient-reported outcomes such as the CATQUEST questionnaire for use in cataract surgery care also would be conducted as a global standard set of outcome measurement.

(2) Sharing Malaysia’s experience in cataract surgical outcome measurement – Dr Mohamad Aziz Salowi, Public Health Ophthalmologist, Ministry of Health Malaysia

Conceptual monitoring of the cataract care pathway in Malaysia begins with patient recruitment, followed by pre-, intra- and post-operative assessment until the end of the process, which is the final visual acuity outcome after cataract surgery.

This cataract services monitoring involves different levels, from individual surgeon to department and also the country/state. At national-level monitoring, NED would be able to show and compare the total number of cataract surgeries in the Ministry of Health system, the presenting age group, systemic comorbidity, and the presenting visual acuity for cataract surgery for every year. It also helps to monitor the quality of cataract services by observing the rate of post-operative endophthalmitis and the visual acuity outcome after cataract surgery at the country level.

At institution/department-level monitoring, heads of respective departments would receive reports on cases with complications and poor visual acuity outcome in real time using NED. This would help to improve the visual acuity outcome in every eye department.

At individual-level monitoring, the e-CUSUM chart, dynamic tool for monitoring competency in cataract surgery developed in Malaysia, is able to monitor surgical complications such as PCR rate and the need of intervention at a certain level. Surgeons also would be able to produce their logbooks by downloading the data from NED, which would be generated in Excel format.

Malaysia’s mission is to involve the private sector and universities as well as to collaborate with international agencies for cataract monitoring services and patient-reported outcome data.

(3) Assessing cataract surgical outcomes in areas of limited resources – Professor Nathan Congdon, Queen’s University Belfast

Professor Nathan Congdon began his talk by addressing the importance of providing good-quality and sustainable cataract services. Some available systems to record cataract outcomes offer very powerful functionality but may be challenging for new users.

Issues in monitoring include a complicated system to use and poor follow-up post-operatively. Therefore, the PRECOG project was launched to assess cataract outcomes with the aim to determine early vision assessment (day 1) that will predict late results (follow-up at six weeks). This study demonstrated that visual acuity results immediately after surgery are highly predictive of final vision.

PRECOG provides a potential tool, known as BOOST, for assessing outcomes with a better operative outcomes software tool, which has simple default settings and is user-friendly. It is a freely downloadable application to help users through the process of collecting data on cataract outcomes. It is also a cloud-based database, which can compare results anonymously, locally, regionally and globally. It could also determine the most common causes for poor outcomes in different areas and suggest specific corrective measures. It benefits users, administrators and researchers as it is based on a stable platform for long-term use and could provide comprehensive reports comparing multiple users.

BOOST V2.0 was launched at the World Ophthalmology Congress in June 2018 in Anhui. V1.0 was field-tested in more than 100 hospitals and showed strong demand and support from the users. At the end of his talk, Professor Congdon encouraged the audience to download and try BOOST as well as join the BOOST Research Study to determine whether use of BOOST improves outcomes.
Proactive action needs to be taken to improve eye health outcomes for women globally. WHO proposed an action agenda to improve health equity outcomes while balancing gender equality and women empowerment. The approach to tackle the gender gap in the uptake of eye care services has been among the key agenda items undertaken by the prevention of blindness committee/public health ophthalmologists in Malaysia.

The Malaysian National Eye Survey II (2014) estimated that cataract blind persons (corrected vision lower than 3/60 in the better eye) were predominantly women in the eastern part of the country and Sarawak. The contributing factor to the large gender gaps in accessing eye care in those stated regions were social, cultural and geographical barriers. However, there were no differences of cataract surgery numbers and outcomes between genders; hence, an indicator of eye health gender equality.

Women often accept vision loss as a natural consequence of ageing, a perceived concept similar to presbyopia in older people as well as fear of surgery itself. The geographical remoteness and actual distance and physical access to facilities that offer eye health services involve long journeys, thus leading to high transportation costs. Lack of autonomy and support from family members were some factors for these women seeking traditional alternative treatment. Women who bear the greater burden of blindness are mostly unaware of their right to sight, as well as constrained by traditional and religious beliefs to access alternative remedies for cataract. Therefore, increased awareness among women would lead to more equitable access to better health outcomes, reveal their fullest potential and consequently increase their contribution to their communities – economically, socially and culturally – leading to greater gender equality. Addressing the gender gap in treatment of avoidable blindness specifically also brings economic benefits.

In Malaysia, optometry services are integrated within the health system at the primary, secondary and tertiary levels. These services have contributed much to the prevention of blindness programmes, especially with primary eye care provider bridging the gap to provide accessible eye care for marginalized or minority ethnic groups.

To tackle this issue, the action plan includes a proposal for collaboration between the Ministry of Health and the Ministry of Women, Family and Community Development to empower women seeking eye health services. The community groups can reach out to women, as well as create and increase awareness of cataract as a preventable condition in the older illiterate population, children and among the primary eye care personnel in the rural areas. Engaging community leaders and nongovernmental organizations in cataract find-and-outreach programmes in remote areas could help bridge the gender gap. Gender-mainstreamed and -targeted projects could be implemented to achieve gender equity in eye health care.

Technology could play a major role in improving gender equity. The central database should be aggregated by gender to increase information on gender-related service gaps and be beneficial for outreach teams to increase efficiency and efficacy of the screening programmes to benefit women.

2.2.2 Plenary session 2 – Sector approaches

In ensuring high quality outcome of cataract surgeries, three main approaches have been highlighted during the meeting.
(1) Developing a monitoring system - Dr R.D. Ravindran, Aravind Eye System

The Aravind Eye System approach to monitoring was developed with the purpose to: improve cataract surgeries, minimize complications, track the outcome of cataract surgeries, and also benchmark outcomes between individual surgeons and between hospitals.

One of the greatest challenges in monitoring is ensuring complete documentation in medical records. A good system should be able to document all the pre-operative records, intraoperative details including the complications, post-surgical complications and re-surgery. Follow-up visits are mandatory with documentation on post-operative visual acuity, refractive outcome and complication.

The Aravind Eye System software has helped standardize work processes across the organization. It ensures data entry is done for all cases. The software also enables the authority to develop strategies to reduce complications and monitor surgeons’ competencies. It also allows benchmarking among hospitals. Audit and research can also be done using the monitoring system, hence improving the cataract services provided.

(2) Importance of infection control in cataract surgeries – Professor Fu Qiang, China National Institute of Hospital Administration

Blindness treatment may turn into blinding activity if infection in eye hospitals occurs. Environment, equipment and behaviour are three main risk factors and aspects for control strategies. Eliminating vision loss in infection control within eye hospitals should focus not only on improving visual acuity but should also on managing the risk factors.

Cataract surgeries are minimally invasive but delicate. The surgeries are fast with high case turnover. This commonly leads to inadequate disinfection and sterilization of instruments, especially when there is a limited number of instruments and equipment particularly in low-resource settings. Neglecting risk factors of infection in patients, lack of infection monitoring and follow-ups, and sharing of medications can all lead to an increased risk of infection.

Infection control should be included in the work process of patient management – from pre-, intra- and post-operative aspects. In addition, infection control should also include the operative personnel, disinfection and sterilization of instruments and equipment, and the hygienic status of the operating environment.

Prevention of eye infection can be achieved by improving system management, which includes:

1. developing national strategies and standard measures on infection control;
2. incorporating infection control into the learning syllabus in medical universities;
3. continuous data monitoring and feedback at the national level;
4. awareness-raising campaigns on hospital infection control to medical personnel at all levels; and
5. implementation of continuous assessment and surveillance of infection control measures in hospitals.

Strategies in eliminating “vision loss” in ophthalmic infection control can be achieved by promoting the establishment of an integrated management pathway (IMP), which includes:
1. developing professional technical standards and regulations based on accurate concepts of infection control;

2. developing clinical protocol in managing infection control for specific diseases;

3. multidisciplinary participation in hospital infection control management;

4. developing a mechanism for data monitoring and quality control based on risk management; and

5. encouraging an infection control culture within the hospital institution.

(3) Hospital accreditation and patient safety – Dr Noela Prasad, ISQUA

Hospital accreditation is a voluntary programme in which trained external peer reviewers evaluate a health-care organization’s compliance and compare it with pre-established performance standards. It is part of an effort to assess and improve health care.

Accreditation has a set of minimum standards that focused almost entirely on care within the hospital. The first five minimum standards include:

- organizing hospital medical staffs;
- limiting staff membership to well educated, competent and licensed physicians and surgeons;
- framing rules and regulations to ensure regular staff meetings and clinical review;
- keeping medical records that include the history, physical examination and laboratory results; and
- establishing supervised diagnostic and treatment facilities such as clinical laboratories and radiological departments.

WHO published a global review on quality and accreditation in health-care services that looked into three aspects of standards:

1. **Structure standards** look at the system’s inputs, such as human resources, the design of a building, the availability of personal protective equipment for health workers, such as soap, gloves, and masks, and the availability of equipment and supplies, such as microscopes and laboratory reagents.

2. **Process standards** address the activities or interventions carried out within the organization in the care of patients or in the management of the organization or its staff. Process standards for a hospital or health centre might address areas such as patient assessment, patient education, medication administration, equipment maintenance or staff supervision. Recently, professional bodies have developed explicit process standards called clinical guidelines. Such guidelines are based on scientific medical evidence (evidence-based medicine). Government agencies, insurers and professional bodies are promoting their use in the management of common or high-risk clinical conditions.

3. **Outcome standards** look at the effect of the interventions used on a specific health problem and whether the expected purpose of the activity was achieved.
Examples of outcomes, both positive and negative, are patient mortality, wound healing without complications (e.g. infection), delivery of a healthy infant without complications, and a resolution of an infection through the appropriate use of antibiotic therapy.

The purpose of accreditation encompasses the following:

- Improve the quality of health care by establishing optimal achievement goals in meeting standards for health-care organizations.
- Stimulate and improve the integration and management of health services.
- Establish a comparative database of health-care organizations able to meet selected structure, process, and outcome standards or criteria.
- Reduce health-care costs by focusing on increased efficiency and effectiveness of services.
- Provide education and consultation to health-care organizations, managers and health professionals on quality improvement strategies and “best practices” in health care.
- Strengthen public confidence in the quality of health care.
- Reduce risks associated with injury and infections for patients and staff.

Accreditation has led to the development of the National Quality Policy and Strategic Plan, which looks into eight elements:

1. defining and aligning with national health goals and priorities
2. developing a local definition of quality
3. stakeholder mapping and engagement
4. situational analysis to determine the state of quality and guide the policy
5. selection of improvement methods and interventions
6. development and clarification of governance and organizational structures for quality
7. development of health management information and data systems
8. selection of quality indicators and core measures.

2.2.3 Plenary session 3 – Strategies and tools for outcome monitoring

(1) Ophthalmologist and optometrist: sharing the burden of cataract blindness – Dr Elias Hussein, Ophthalmologist, Ministry of Health Malaysia

Dr Elias highlighted the increasing demand for cataract surgeries in Malaysia, estimated to reach 100 000 cases by 2020. The main challenge is the access to human resources to deliver cataract services, as other types of practitioners such as primary care doctors, family health physicians, assistant medical nurses and primary care nurses have high turnover and require immersive training in eye care. He mentioned a proposal to enhance and develop optometrists’ role as primary eye care providers, on the basis that optometrists are legislated and have specific training during their bachelor’s degree with a focus on ophthalmology services.
Other important points were discussed:

- The different roles of optometrists at primary, secondary and tertiary care levels.
- Malaysian optometrists are also conducting outreach activities.
- Legislation has to enable and empower optometrists to act as health-care professionals.
- Ophthalmologists need to work towards optimizing optometrists’ role for eye care delivery and sharing the burden of cataract blindness.
- Combination of optometrists and ophthalmologists warrants efficient, comprehensible, accessible and equitable eye care in Malaysia.

(2) **Role of optometrists in the local action plan to eliminate avoidable blindness – Dr Duratul Ain Hussin, Optometrist (Public Health), Ministry of Health Malaysia**

Dr Duratul opened her presentation by asking all delegates if they knew who an optometrist was. She later presented results of her study on the low awareness of the optometrist profession. She related the importance of having a correct definition with the expectation that care service can be offered to the public. Approximately 90% of optometry posts are occupied, with the majority working at hospitals with ophthalmologists.

Dr Duratul presented the roles of Malaysian optometrists in the prevention of blindness through vision screening activities; cataract, diabetic retinopathy and school screening. Her talk then focused on the cataract care pathway, and how Malaysian optometrists have contributed to the service:

- Cataract care is divided into hospital based and outreach.
- The job scope at hospitals includes refraction (pre- and post-operative), A-scan and keratometry.
- Types of outreach are grouped into mobile cataract clinics and cataract finders.
- For mobile cataract clinics, optometrists’ tasks are for before, during and after trips. These are inclusive of administrative, clinical and quality assurance.
- For cataract finders, the approach is to create a network with health-care practitioners, increase awareness and improve access for referral to cataract surgery. Optometrists act as trainers with ophthalmologists.
- The number of procedures conducted by optometrists is collected in an orderly manner, which is useful for expanding the profession in Malaysia.

(3) **Importance of Nurses in Ensuring Positive Cataract Outcomes – Mr Toksin Toki @ Tokisan, Ministry of Health Malaysia**

Mr Toksin presented the roles of nurses as health educators, organizers, facilitators, doctors’ assistants and documenters. Roles are divided into primary, secondary and tertiary care levels:

- At the primary care level, nurses participate actively in the prevention of blindness activities through cataract finders, mobile cataract clinics and cataract carnivals.
At the secondary and tertiary care levels, their main roles are in preoperative activities (performing electrocardiograms or ECG, blood pressure and counselling), intraoperative (scrub and sterilization of surgery instruments) and post-operative care (pain score, eye hygiene/care advice, medication advice and giving follow-up appointments). These are imperative in ensuring no complications develop post-operatively.

Summary from the Ministry of Health Malaysia

All ophthalmologists, optometrists and nurses in Malaysia have successfully demonstrated strong teamwork in cataract care detection and surgery care. Integration of these three types of practitioners is very well coordinated in hospital-based and outreach activities, supported by solid and comprehensive data collection for cataract care in the country.

(4) Human-centred design: improving the quality of care from patients’ point of view – Ms Mardi Mapa-Suplido, Philippines National Committee for Sight Preservation

How can we help our partners increase quality of care with outcomes defined by what matters most to patients? Can a human-centred design (HCD) process help to improve eye health equity and outcomes?

Human-centred design (HCD) approach

By using the HCD approach, quality of care is achieved through interactions between patients and health-care providers. They look at quality of care from different perspectives. The HCD process enables these to be merged to get at solutions in meeting the needs of both groups, hence achieving quality of care.

This HCD process to increase quality of care helps to improve eye health equity and outcomes by identifying solutions that matter most to patients. Engaged patients will lead to better post-surgery actions and outcomes, and engaged health providers may help structure innovative solutions. HCD also identifies low-cost but high-impact improvement strategies for greater efficiency, patient satisfaction and continuous quality improvement.

(5) Maintaining quality whilst on outreach – Dr John Szetu, Pacific Eye Institute

Eye care in the Pacific has different challenges as the countries are made up of small islands in a vast ocean. Transportation is not easy, as the main mode of transportation is by boat. There are also aviation issues with runways, making it very costly to transport equipment, medication and the eye care team. Countries are also exposed to natural disasters such as tropical cyclones and earthquakes, as well as disease outbreaks.
Nevertheless, Dr Szetu and his team have managed to maintain a quality cataract outreach service. The team ensures that portable surgical equipment is transported by air and by boat, with a full medical supply team and human resources. Surgeries are done using full infection control techniques.

Monitoring of cataract surgery outcome was previously done manually on paper, but has since switched to the CSOM (Cataract Surgical Outcomes Monitoring) software. Manual recordings are also done using Excel spreadsheets. The outcome of the last three years shows that the team has been able to maintain good quality. The average best-corrected visual acuity outcome for outreach services was 77%, comparable to 82% for hospital-based services. The PCR rate has also been kept below 5% for the past three years.

The key learning points are:

- monitoring improves quality;
- monitoring is useful for planning; and
- monitoring is essential for policy-making.

(6) Novel technology for self-testing of visual acuity – Dr Andreas Mueller, Centre for Eye Research Australia

Visual acuity testing is a very important aspect in eye examination, particularly in documenting the pre- and postoperative visual acuity. However, visual acuity testing is time-consuming, requires training and may lead to congestion in the eye clinic. Dr Mueller shared the technology developed on self-testing of visual acuity by a company collaborating with the Centre for Eye Research Australia.

The technology allows self-testing of visual acuity by a patient. The patient sits or stands in front of a monitor, holding a board covering one eye at a time, holding a remote control in the hand, which allows the patient to press a button in response to a tumbling E shown on the screen. The prototype uses LED technology that can detect distance and automatically adjust the size of the tumbling E accordingly. The system is fully automated, and the result is automatically uploaded and documented onto the system. The use of this prototype saves time and human resources.

Discussions:

- It would be of benefit to explore technology that allows visual acuity testing at home using a web-based system connected to the hospital system. This would save a lot of time.
- Promising technological advances have been made, with many ways of visual acuity testing using tablets and mobile phones. However, sometimes technology does not take into consideration certain aspects of head positioning, timing and contrast sensitivity, causing issues with reliability of the test. The right balance is needed between technology and making sure that information is not lost.
- Technology is good but can be costly – and may not be accessible to the community.
- Technology might be easy to use by younger age groups and educated people, but might not be user-friendly for older people who might have poor coordination and are not familiar with gadgets.
<table>
<thead>
<tr>
<th>Country</th>
<th>Which tool is most appropriate for central outcomes monitoring in your country?</th>
<th>Where would you use the tool?</th>
<th>Who would be responsible for overseeing data collection and translation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>A simplified version of the CSOM tool</td>
<td>All eye units throughout the country</td>
<td>Logbook to collect data. A subcommittee will assimilate the data. The data would be used for planning intervention and quality control.</td>
</tr>
<tr>
<td>China</td>
<td>Cataract surgical form. BOOST.</td>
<td>All eye hospitals. Department of health – should receive a monthly summary outcome.</td>
<td>Ministry of health to monitor the outcome for quality control.</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>Cataract surgical record form. Consider using BOOST in the future.</td>
<td>Will start using BOOST in the central area and then expand nationwide.</td>
<td>Ophthalmic nurse would capture the date and fill in the forms. Feedback mechanism to the province.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>National Eye Database – Cataract Surgery Registry. Would also try out BOOST with some modification.</td>
<td>All eye centres under the Ministry of Health and outreach programmes. BOOST would be used in Federal Territories Islamic Religious Council (MAIWP) Cataract Surgery Satellite Centre.</td>
<td>Monitoring using web-based National Eye Database. BOOST also can be monitored online. Data would be used for quality outcome monitoring and future interventions.</td>
</tr>
<tr>
<td>Mongolia</td>
<td>BOOST – at hospital and individual level. Simplified version of Malaysian National Eye Database or Aravind, at national level.</td>
<td>To be used by all hospitals. Data collected by department of ophthalmology and department of health insurance. Data would be used for research.</td>
<td>Advocate to the Ministry of Health so that all hospitals should report to national centre for health development and monitored by the Ministry. The feedback would be used as quality indicators and for resource allocation. Would also link to health insurance system for funding.</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>BOOST – for individual trainees and doctors. Reinforce the use of monitoring cataract surgical outcome tool.</td>
<td>To be used by all hospitals.</td>
<td>Report to the Ministry of Health and chief ophthalmologist.</td>
</tr>
</tbody>
</table>
### Philippines

| Simplified CSOM tool, and incorporated in Eye Disease Registry (web-based system). | To be used in all Ministry of Health hospitals and community eye health programmes. Mandatory by department of health, to produce report to get funding from the national health insurance system. | Monitoring by Department of Health. Fact sheets would be produced quarterly. Results would be used for programme planning. |

### Viet Nam

| Web-based tool QCCI, which is an adaptation of the CSOM tool. | To be used throughout the country. Data to be collected by each hospital and reported to the Ministry of Health. | Ministry of Health would monitor and use the data for quality control and intervention. |

### 3. CONCLUSIONS AND RECOMMENDATIONS

#### 3.1 Conclusions

The meeting successfully conveyed the importance of quality in cataract surgery outcomes. Monitoring is particularly crucial in ensuring quality eye care.

Country participants brought up three main areas that require WHO/IAPB support:

1. **Technical support.** Member States need technical support in developing or modifying existing monitoring software and guidelines as well as software installation and training. A follow-up workshop on outcomes monitoring progress would be discussed further with IAPB and partners, along with the need for a long-term regional course.

2. **Changes in human resources in eye care.** The meeting successfully communicated the important message of changing behaviour and highlighting the value of quality that we have to offer. Discussions also covered the roles of optometrists and refractionists, and the link between volume and quality. Working effectively in a team, optometrists can have a large impact on national programmes. There is also a need for biometry training and essential biometry equipment in ensuring better quality.

3. **Changes in policy.** WHO/IAPB would have a role in advocating at a higher level to governments, but requests for support should be initiated at the health ministry level and brought to the attention of the respective WHO country office. Support from WHO/IAPB will be targeted as each country has different challenges and boundaries.

#### 3.2 Recommendations

**3.2.1 Recommendations for Member States**

Member States are encouraged to consider the following:

**Cambodia**

- Develop and establish a standard cataract surgery outcome monitoring tool, followed by a pilot study to identify the barriers and challenges in its implementation, and find solutions to overcome it. System to be integrated into the health information system of the Ministry of Health and to include feedback to all eye units.
China

- Develop a committee to advocate the importance of cataract surgery quality control, and develop parameters in evaluating cataract surgery quality.
- Consider quality training for cataract surgeons.

Lao People’s Democratic Republic

- Improve the quality of the existing basic tool for cataract surgery outcomes monitoring as well as its implementation throughout the country.
- Improve teamwork with ophthalmic nurses/refractionists to improve cataract surgery outcomes.

Malaysia

- Increase efficiency of ophthalmologists in the country by ensuring they have a sufficient number of surgeries without compromising quality.
- Strengthen the existing eye care services pathway by bringing in universities and the private sector to work together with the public services in ensuring quality cataract surgery outcomes.

Mongolia

- Arrange a meeting with information technology and quality assurance departments.
- Further support consideration of implementing or adopting a specific surgery outcomes monitoring tool and discuss its implementation.

Papua New Guinea

- Strengthen usage of existing Cataract Surgical Outcomes Monitoring (CSOM).
- Present the plan to the Ministry of Health to set up a technical working group to co-facilitate cataract surgery outcomes monitoring.

Philippines

- Work together with the national health insurance system in implementing a cataract surgery outcomes monitoring system, to be implemented by the first quarter of 2019.
- Advocate the integration of the role of optometrists into the health system through seminars and conferences.
- Involve optometrists in six-week post-operative reviews and to be part of the service providers for cataract surgery outcomes monitoring.
- Conduct a training session for biometry and keratometry. Participants would like to learn from Malaysia on this aspect.

Viet Nam

- Finalize and submit national cataract surgical guidelines to the Ministry of Health.
- Introduce BOOST in the annual eye conference, which would be a good platform for advocating surgical outcome monitoring to ophthalmologists.

3.2.2 Recommendations for WHO and partners

WHO/IAPB is requested to consider the following:
Cambodia

- Provide technical support, especially with regard to the programme software, and training on using the software.
- Support the dissemination of the software to relevant organizations and eye units, and also in monitoring and evaluating the outcome.

China

- Support to introduce simple measures in cataract surgery outcome monitoring, such as BOOST.
- Advocate with the ministry of health, together with the support from the ophthalmological society.

Lao People’s Democratic Republic

- Provide technical support in software installation, software training, as well as supervision and monitoring.
- Conduct an in-country follow-up workshop.

Malaysia

- Provide technical support to develop the country as a training hub for public health ophthalmology for the WHO Western Pacific Region and as an example of integrated ophthalmology and optometry processes.

Mongolia

- Provide technical support to bring a technical consultant to the country for software implementation. Ideally, the software consultant should attend the upcoming meeting of the ophthalmological society to advocate the importance of software implementation.
- Provide support to develop guidelines and protocol for quality eye care.

Papua New Guinea

- Provide support to form a technical working group together with the Ministry of Health.
- Provide technical support to develop guidelines and protocols and monitoring systems.
- Provide technical support to conduct a surgical workshop for surgeons within the next two years.

Philippines

- Provide support to integrate eye care into the public health system.

Viet Nam

- Support interaction with the Ministry of Health, particularly in writing an official letter to stress the importance of cataract surgery outcomes monitoring and quality eye care nationwide.
- Support setting up of monitoring tools at provincial and national levels.
CATARACT OUTCOMES MEETING BACKGROUND PAPER

Problem statement

Worldwide in 2015, nearly 65 million people were visually impaired due to cataract, which contributed to 65.20% of all visual impairment. In the Western Pacific Region (WPR), there is an estimated 11 million DALYs lost due to cataract. Cataract surgeries are among the most commonly performed surgical procedures globally. In the WPR, the cataract surgical rate (CSR) ranged between 8000 and 442 in 2015, when roughly 1.7 million cataract surgeries performed that year. Globally, but particularly in low-resource settings such as many countries of the WPR, visual acuity is the only Cataract Surgical Outcome (CSO) that is reported, and these are suboptimal relative to World Health Organization (WHO) guidelines.

“The visual acuity must be measured in each eye of all patients undergoing cataract surgery for age-related cataract, preoperatively and any time between discharge and 12 weeks post-operatively, using available correction and best correction (or pinhole correction). The following levels of visual outcome should be aimed for:”

Table 1. Guidelines on outcome of cataract surgery

<table>
<thead>
<tr>
<th>Post-operative Visual Acuity</th>
<th>WITH AVAILABLE CORRECTION</th>
<th>WITH BEST CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOOD 6/6 – 6/18</td>
<td>&gt;80%</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>BORDERLINE 6/18 – 6/50</td>
<td>&lt;15%</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>POOR &lt;6/60</td>
<td>&lt;5%</td>
<td>&lt;5%</td>
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</tbody>
</table>

Monitoring of CSOs has been recommended by many international bodies and is thought of as a key step to improving the quality of eye care services. Of the roughly 1.7 million cataract surgeries performed in the WPR in 2015, Rapid Assessment of Avoidable Blindness (RAAB) data suggests only 48% of cataract surgeries result in good outcomes.

Stakeholder viewpoints

Current stakeholder viewpoints, due to the scope of the WPF, are mixed across governments and service providers. National ophthalmic bodies and the WHO both support and recommend quality improvement of cataract surgical services and eye-health more broadly, to enable better outcomes for people with preventable and treatable vision loss. Other issues that may arise that are risks to patients and the health system, such as the formation of a punitive system and potential adverse case selection (denying access to care for ‘complicated or difficult’ cases), which would create inequitable access and potentially suboptimal impact on avoidable blindness.

Ophthalmologists have a positive view of CSO monitoring, they understand and acknowledge the benefits of monitoring. Providers that receive funding support from NGOs already monitor and report, among other data, visual acuity after cataract surgery to the NGOs. Training at the Pacific Eye Institute in Fiji incorporates monitoring of vision after surgery, and consequently many ophthalmologists across the Pacific hold positive views of CSO monitoring.

Mistrust of monitoring bodies is a widely reported concern. Depending on the objectives of the monitoring policy and specific relations with managing bodies, a belief is sometimes held that under-performing surgeons will face punitive action if CSO data were to be monitored and linked with their performance or targets are not met.

This paper was prepared by Dr. Neela M Prasad. The policy options proposed are extracted from A Case for Policy Change Getting cataract surgical outcomes monitored in the Western Pacific Region, by SELBY – Courtesy Dr Andress Muller (WHO/WPRO).
Generally, governments across the WPR have minimal interest in systematic monitoring of CSOs either for reporting or the wider evaluation of cataract services. Of five Member States surveyed, one government has a form of monitoring of CSOs, and one has attempted to implement a monitoring system in the past.

The WHO provides technical guidelines and leadership for monitoring, and view monitoring of CSOs as further actions towards the elimination of preventable blindness. Similarly, the IAPB and the International Council of Ophthalmologists (ICO) provide support through research and tools for monitoring, as well as provide advocacy for adoption of conducive policy and regulations.

Variation: inter- and intra-nationally

There are large inequalities for CSO between and within WPR nations. A recent study of national CSR and its relationship with national GDP showed a positive correlation between the two. Higher income nations have higher CSRs and have higher rates of good CSOs. Within countries, a 2017 study showed Vietnamese and Cambodian women are worse off than men when examining CSOs. This is further compounded by women’s lower access to cataract services. Additionally, inequalities in CSOs are seen between socio-economic levels within countries.

From the across the world, since the early 1990s, we have evidence that:

- Monitoring of visual acuity is a driver of change and helps improve the quality of cataract surgery.
- There is wide variation in visual outcomes after cataract surgery across nations where comparisons have been made.
- Key determinants of visual outcomes after cataract surgery are age, comorbidity, cataract symptoms, visual function, and whether the first, the second, or both affected eyes are operated.
- Visual acuity though commonly reported, is not the only outcome that matters to patients – quality of life and improvement in productivity are also key outcomes.
- Delaying surgery, due to long waiting times or limited access to care has a negative effect on potential outcomes.
- Validated tools to measure patient-reported outcome measures (PROMs), but not patient reported expectation/experience measures (PREMs) are available but relatively unutilised.
- A set of outcomes and validated tools by which they can be measured has been recommended.

WHO Recommendations

Member States of the WPR endorsed ‘Towards Universal Eye Health: A Regional Action Plan for the Western Pacific Region 2014-2019’. The regional action plan outlines a number of recommendations and targets that Member States are encouraged to fulfi. The most relevant of these obligations are: Action 30 “Assess and monitor cataract surgical services and refractive services, including their availability, accessibility and quality.”

This action recommends monitoring of eye-care services. Most Member States within the WPR already monitor and assess availability and accessibility through the proxy measures of CSC and CSR, but few monitor the quality of cataract surgical or other eye-care services.

The proposed policy and alternatives – Comparisons

Three possible actions that can be taken by Member States are considered, one being the presented proposal of policy change while the other two being the best alternatives of the status quo and implementing a cataract surgery registry. These options have been informed from the experience of Malaysia’s implementation of a
policy and experience that having a voluntary policy of monitoring (national health information system and Cataract Registry) and gaining the support of ophthalmologists are key to successful policy implementation. Other options of monitoring considered are the status quo i.e., using data from cross-sectional studies and the implementation of a national registry for cataract services.

1. Policy

Strengths of the proposed policy are its acceptability, simplicity and low costs. A key point of the policy is its voluntary nature, and it is this aspect that increases its acceptability among service providers. Simplicity of the proposal, compared to the alternatives, is a strength of the policy. The simplicity stems from the limited scope, that only a soft policy is adopted without the requirements of government directed monitoring and analysis from a national registry. The policy focuses on the already made tools and infrastructure, so the costs of implementation are expected to be low, and negligible on the side of the government aside from evaluation.

Weaknesses of the proposal include its limited reach and its dependence on participation. Its voluntary nature, where surgeons may not opt-into the monitoring process, can lead to an insufficient number of providers collecting data on CSOs. Even if a significant proportion of service providers from the NGO-supported or private sector opt-in, variation may result in insufficient data to allow for national or regional improvement programs.

2. National Registry system

National registry system is the second alternative, and assumes nations adopt a national registry system like those in the European Union, U.S.A, and Malaysia. 27, 28, 29, 30 Strengths of the registry include the breadth and standardisation of data collection and its data analysis. The large amount of data on CSOs can be analysed and used for evaluation of national systems. Key weaknesses of the alternative of a national registry include its dependence on specialised infrastructure and costs. Resources for maintaining the Registry, analysing and using the collected data are high, and not all Member States may have the means to implement such a registry.

3. Status Quo

The third alternative is to continue using current systems to monitor CSO. These include cross sectional studies on eye health, and collect data on eye health and preventable blindness from random samples of participants — e.g. RAAB. A key strength is robustness of data, and for nationally representative samples, the generalisability. Many RAABs being performed across the world, allows for comparisons of performance, and data pooling. As the participants may have experienced cataract surgery in question many years prior, service providers feel unconnected to this data, and it does not reflect and individual outcomes or quality of cataract surgery and cannot attempt to make quality improvement efforts from this data alone. 31 Costs associated with performing National RAAB can be quite high and can range upwards of $70,000 USD, so they are seldom performed.

Costs for policy implementation would essentially consist of the costs for resources involved with policy creation, and costs associated with monitoring of CSO, which in turn is dependent on the tools used. Those nations that have extensive information system infrastructure and processes for recording and sharing of data will have an advantage in implementing the policy and have shortened timescales. The type of monitoring tool used is also relevant - a less complicated tool, one that already has data analysis and connectivity features, and one available on already existing infrastructure will be easier to implement.

Continuous quality improvement – what and how?

The low-hanging fruit are to address the most common causes of poor outcomes from cataract surgical services in particular, because these quality improvement interventions are likely to have health system-wide impact. Causes of poor visual outcome are often classified in four main groups — these are the WHAT:

This paper was prepared by Dr. Noela M Prasad. The policy options proposed are extracted from A Case for Policy Change Getting cataract surgical outcomes monitored in the Western Pacific Region, by SEAB SELBY – Courtesy Dr Andreas Muller (WHO/WPRO).
1. Selection: due to pre-existing concurrent eye disease. Corrective action include improving pre-operative examination to assess other causes of vision loss that might impact vision outcomes after cataract surgery, inform patients and counsel for adjusting their expectations as relevant.

2. Surgery: due to surgery or immediate pre-or post-operative complications. Corrective action include improving the surgical technique by upskilling, or mentoring for skill transfer, ensuring that all surgical teams are adequately trained in IOL surgery and have the necessary infrastructure and equipment, and by ensuring that individuals and teams have the necessary skills and competencies to benchmark against standards and manage complications.

3. Spectacles: due to inadequate optical correction. Corrective action includes accurate calculation of power of IOL appropriate to visual needs, and providing best correction through spectacles at an affordable price.

4. Sequelae: due to post-operative complications. Corrective action for early complications include counselling about what medicines must be used and how to instil eye drops post-op, as well as ensuring carers are available and aware of precautions to avoid injury, infection or inflammation. Late complications such as posterior capsule opacification, retinal detachment, etc. can be managed to improve outcomes by explaining the likelihood and symptoms of them occurring, and follow-up care to provide timely and relevant LASER or surgical treatment.

The Model for Improvement is a useful framework to guide quality improvement work, showing HOW quality might be improved. It involves improvement and testing changes on a small scale using Plan-Do-Study-Act (PDSA) cycles. 32,33

**LEARNING FROM MALAYSIA**

Malaysia launched its National Cataract Surgery Registry (NCSR) in 2002. The NCSR is a voluntary service supported by the Malaysian Ministry of Health (MoH) that collects data on the profile of cataract surgeries and their outcomes. In 2007, this registry was merged with other eye disease registries into the National Eye Database (NED).

The NCSR initially existed as a paper-based system that collected extensive data on cataract surgery performed by ophthalmologists. Initially, this consisted of a range of in-depth pre-operative, peri-operative and post-operative data, most importantly: pre-operative VA, 12-week follow-up VA, and intra-operative complications. This collection has expanded with a wider set of data collected through a web-based platform. The policy consisted of the MoH creation of the NCSR service through one of its national institutes of health (Clinical Research Centre), its continued sponsorship in the form of funding and other resources, and oversight of registry operations. Furthermore, the policy involves partnership of the departments of ophthalmology for all MoH hospitals. The overarching policy set out by the CRC is one of voluntary contribution of cataract surgery data, and all MoH hospitals’ ophthalmology departments initially participated in the collection of data. In 2015, this grew to 68 participants (42 hospitals and 24 clinics).

The creation of the policy was initiated by heads of ophthalmology within the MoH. Objectives of the policy are to:

- Determine the frequency and distribution of cataract surgery in Malaysia
- Determine the outcomes and factors influencing outcomes of cataract surgery
- Evaluate cataract surgery services
- Stimulate and facilitate research on cataract and its management

The policy has been able to achieve these objectives and those set out by the WHO in the blindness action plan. Since its inception, 261,000 surgeries have had CSO data collected, 13 reports were written, and extensive research and evaluation has been performed in the cataract field in Malaysia. Beyond its objectives, the policy may have facilitated quality improvement, with the most recent report showing the rate of good CSOs increased since the policy implementation, with post-phacoemulsification and ECCE refracted visual outcomes above 6/12 going from 87.0% to 95.1% and from 78.0% to 86.2% between 2002 and 2015 respectively.

This paper was prepared by Dr Noela M Prasad. The policy options proposed are extracted from *A Case for Policy Change Getting cataract surgical outcomes monitored in the Western Pacific Region*, by SEAN SELBY – Courtesy Dr Andreas Muller (WHO/WPRO).
References


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## PROGRAMME

### Day 1: Wednesday – 19 September 2018 (Venue: Shah Alam Hospital)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0730H-0830H</td>
<td>Registration</td>
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<tr>
<td>0900H-0930H</td>
<td>Arrival of VIP guests and photo session</td>
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<tr>
<td>0930H-1015H</td>
<td><strong>Launching Event</strong></td>
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<tr>
<td></td>
<td>Master of Ceremonies – Dr Noor Farizah Ngah</td>
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<tr>
<td></td>
<td>Welcome speech and Official Opening by the Director General, Ministry of Health Malaysia (15min)</td>
<td>Dr Andreas Mueller</td>
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<tr>
<td></td>
<td>Welcome by CEO Shah Alam Hospital (5min)</td>
<td>Ms Amanda Davis</td>
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<td></td>
<td>Speech by WHO Expert Consultant (5min)</td>
<td>Professor Serge Resnikoff</td>
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<td>Speech by IAPB Regional Chair (5min)</td>
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<td>Speech by ICO representative (5min)</td>
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<tr>
<td>1015H-1045H</td>
<td><strong>Morning Tea</strong></td>
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<td>Press Conference for VIP; tea for all</td>
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<tr>
<td>1045H-1145H</td>
<td><strong>Plenary Session:</strong></td>
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<td></td>
<td>State of Play</td>
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<td></td>
<td><em>Snapshot:</em> Evolution of Cataract Surgical Performance Monitoring in Malaysia (15min)</td>
<td>Dr Goh Pik Pin</td>
</tr>
<tr>
<td></td>
<td><em>Snapshot:</em> Sharing Malaysia’s Experience in Cataract Surgical Outcome Measurement (15min)</td>
<td>Dr Mohamad Aziz Salowi</td>
</tr>
<tr>
<td></td>
<td><em>Snapshot:</em> A self-monitoring tool: BOOST – introductory video and presentation (15min)</td>
<td>Dr Nathan Congdon</td>
</tr>
<tr>
<td>1145H-1245H</td>
<td><strong>Panel Session:</strong></td>
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<td></td>
<td>Gender and Cataract Services Utilization</td>
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<td></td>
<td><em>Case Study:</em> Initiative to address Gender Gaps in the uptake of Eye Care Services in Malaysia –</td>
<td>Ms Jennifer Gersbeck</td>
</tr>
<tr>
<td></td>
<td><em>Panellists:</em> Farizah, Amanda, Manfred</td>
<td>Dr Nor Fariza Ngah</td>
</tr>
<tr>
<td>1245H-1400H</td>
<td>Lunch and Prayer</td>
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</tbody>
</table>

**LAUNCHING EVENT ends – WHO/IAPB/MOH workshop starts at 1400H**
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Speaker/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1400H-1410H</td>
<td>Election of Officer Bearers (Chair and Rapporteurs)</td>
<td>Ms Amanda Davis</td>
</tr>
<tr>
<td>1410H-1420H</td>
<td>Expectation and Outcomes</td>
<td>Professor Serge Resnikoff</td>
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<tr>
<td></td>
<td><em>What is required to advance better quality outcomes?</em></td>
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<td></td>
<td><em>What is and isn’t working?</em></td>
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<td></td>
<td><em>Where are the gaps?</em></td>
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<tr>
<td>1420H-1430H</td>
<td>Statistics on what cause poor outcomes – what is the distribution?</td>
<td>Dr Andreas Mueller</td>
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<tr>
<td>1430H-1530H</td>
<td>Plenary Session: State of Play</td>
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<tr>
<td></td>
<td>Fast Five Country Introduction</td>
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<tr>
<td></td>
<td>1. Who am I?</td>
<td></td>
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<td></td>
<td>2. What Cataract Surgery Monitoring is undertaken in my country?</td>
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<td></td>
<td>3. What are the Barriers &amp; Challenges?</td>
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<td>4. What do I hope to achieve from the workshop?</td>
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<td></td>
<td>Cambodia, China, Lao People’s Democratic Republic, Mongolia, Papua New Guinea, Philippines, Viet Nam</td>
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<td></td>
<td>Moderator: Dr Nor Fariza Ngah</td>
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<tr>
<td>1530H-1600H</td>
<td>Afternoon Tea</td>
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<tr>
<td>1600H-1700H</td>
<td>Workshop Session: Quality vs Quantity</td>
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<td></td>
<td>How do we reduce Backlog and Maintain Quality?</td>
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<td></td>
<td>Group work (20min)</td>
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<td>Group report back (20min)</td>
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<td></td>
<td>Moderators: Dr Andreas Mueller &amp; Dr Manfred Moerchen</td>
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<td>Facilitator: Datuk Dr Raja Norliza Raja Omar</td>
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<tr>
<td></td>
<td>Outcome: <em>An understanding of the link between quality and quantity?</em></td>
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<tr>
<td>1900H-2100H</td>
<td>Welcome Reception</td>
<td>Holiday Inn Glenmarie</td>
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<tr>
<td>Time</td>
<td>Items</td>
<td>Remarks</td>
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<tr>
<td><strong>0900H-1030H</strong></td>
<td><strong>Workshop Session:</strong> Cross-Cadre Cooperation</td>
<td>Professor Fu Qiang, National Institute of Hospital</td>
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<tr>
<td></td>
<td>Highlighting Importance of Government Sector – <em>Hospital Infection and Ophthalmology Department</em> (20mins)</td>
<td>Dr Elias Hussein</td>
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<tr>
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<td>Ophthalmologist and Optometrist – sharing the burden of cataract blindness (10min)</td>
<td>Mdm Noor Zahirah Husain</td>
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<td>Role of Optometrists in the Local Action Plan to Eliminate Avoidable Blindness (10min)</td>
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<td>Importance of Nurses in ensuring positive cataract outcomes (10min)</td>
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<td>Group discussion (20min)</td>
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<td>Feedback (20min)</td>
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<td><strong>Facilitator:</strong> Dr Zaharidah Abd Kadir</td>
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<td><strong>Outcome:</strong> Identification of cadre-gaps by country?</td>
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<td></td>
<td>What are the barriers?</td>
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<tr>
<td><strong>1100H-1130H</strong></td>
<td><strong>Tea Break</strong></td>
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<tr>
<td><strong>1130H-1245H</strong></td>
<td><strong>Workshop Session:</strong> Monitoring Quality</td>
<td>Discussion:</td>
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<td></td>
<td>Introduction:</td>
<td>How can BOOST technology be best utilized.</td>
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<td></td>
<td><em>What is Quality? How important in your country? What is being done?</em></td>
<td>Engagement and research?</td>
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<td></td>
<td>BOOST Presentation (Nathan Congdon) (20mins)</td>
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<td></td>
<td>Group work (30min)</td>
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<td></td>
<td>Group report back (20min)</td>
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<td></td>
<td><strong>Facilitator:</strong> Dr Mohamad Aziz Salowi</td>
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<td></td>
<td><strong>Outcome:</strong> identification of equipment and technology gaps by country</td>
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<tr>
<td><strong>1245H-1400H</strong></td>
<td><strong>Lunch and Prayer</strong></td>
<td></td>
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<tr>
<td><strong>1400H-1420H</strong></td>
<td><strong>Plenary Session:</strong> Education</td>
<td>Professor Serge Resnikoff</td>
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<td></td>
<td>What is best practice and what does ICO have to offer?</td>
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<tr>
<td><strong>1420H-1445H</strong></td>
<td><strong>Wrap Session – chaired by Serge Resnikof</strong></td>
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<td>Rapid Fire feedback</td>
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<td></td>
<td>Post submissions</td>
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<tr>
<td><strong>1445H-1700H</strong></td>
<td><strong>Managing Outcomes in Practice</strong></td>
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<td></td>
<td>From Shah Alam Hospital Cataract Centre, Federal Territories</td>
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<td></td>
<td>Islamic Religious Council (MAIWP)/ Hospital Selayang (40km)</td>
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<td></td>
<td><strong>Managing Outcomes in Practice</strong></td>
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<td></td>
<td>Briefing on KK1M Concept as strategy to overcome Cataract Blindness</td>
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<td>Care Pathway discussion</td>
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<td>Live Surgery</td>
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<tr>
<td><strong>1700H</strong></td>
<td><strong>Close</strong></td>
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**Lunch & Learn – 20 minutes Rapid Fire discussion**

Day 1: OUTREACH – Equipment, Technology, Monitoring and Evaluation. Dr John Szetu
Day 2: EDUCATION – Cambodia Example / ISQUA. Dr Noela Prasad
### ANNEX 3

**LIST OF PARTICIPANTS**

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>REPRESENTATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>Dr Sok Kheng, Dr Khou Iengou</td>
</tr>
<tr>
<td>China</td>
<td>Professor Zhao Jialang, Professor Fu Qiang</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>Dr Khampoua, Dr Bouakhanh Phakhouthong</td>
</tr>
<tr>
<td>Mongolia</td>
<td>Dr Chimgee Chuluunkhhu, Dr Oyunchimeg Maamkhuu</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>Dr Robert Ko, Mr Wilhem Paik</td>
</tr>
<tr>
<td>Philippines</td>
<td>Dr Noel Chua, Dr Rosario Uy</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Dr Tran Minh Dat, Dr Tran Huy Hoang</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Dr Haizul Ikhw Murat, En Ku Hazemi Ku Ismail, Dr Noor Raihan Khamal, Dr Naning Sachima</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>STAKEHOLDERS</th>
<th>REPRESENTATIVES</th>
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</thead>
<tbody>
<tr>
<td>World Health Organization (WHO)</td>
<td>Dr Andreas Mueller</td>
</tr>
<tr>
<td>International Agency for the Prevention of Blindness (IAPB)</td>
<td>Mr Drew Keys</td>
</tr>
<tr>
<td>International Agency for the Prevention of Blindness (IAPB) / The Fred Hollows Foundation</td>
<td>Ms Jennifer Gersbeck</td>
</tr>
<tr>
<td>International Council of Ophthalmology (ICO)</td>
<td>Professor Serge Resnikoff</td>
</tr>
<tr>
<td>Queen’s University Belfast - BOOST Project</td>
<td>Professor Nathan Congdon</td>
</tr>
<tr>
<td>The Fred Hollows Foundation - BOOST Project</td>
<td>Ms Sarity Dodson</td>
</tr>
<tr>
<td>The Fred Hollows Foundation, Cambodias</td>
<td>Mr Paul Humphrey</td>
</tr>
<tr>
<td>BEQUAC Project</td>
<td>Mr Nguyen Tien Long</td>
</tr>
<tr>
<td>Eye Care Working Group, Viet Nam / The Fred Hollows Foundation, Viet Nam</td>
<td>Dr Pham Quoc Anh</td>
</tr>
<tr>
<td>Eye Care Working Group Viet Nam / Eye Care Foundation, Viet Nam</td>
<td>Ms Luong Thi Quynh Lan</td>
</tr>
<tr>
<td>Eye Care Foundation, Viet Nam</td>
<td>Dr Luong Huu Thien</td>
</tr>
<tr>
<td>Eye Care Foundation, Cambodia</td>
<td>Mr Sambath Pol</td>
</tr>
<tr>
<td>CBM</td>
<td>Dr Manfred Moerchen</td>
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<tr>
<td>Brien Holden Vision Institute</td>
<td>Dr May Ho</td>
</tr>
<tr>
<td>Pacific Eye Institute</td>
<td>Dr John Szetu</td>
</tr>
<tr>
<td>The Royal Australian and New Zealand College of Ophthalmologists (RANZCO)</td>
<td>Mr Gerhard Schlenther</td>
</tr>
<tr>
<td>International Society for Quality in Healthcare (ISQUA)</td>
<td>Dr Noela Prasad</td>
</tr>
<tr>
<td>National Committee for Sight Preservation, Philippines / The Fred Hollows Foundation, Philippines</td>
<td>Ms Mardi Mapa-Suplido</td>
</tr>
</tbody>
</table>
Opening ceremony officiated by Dato’ Dr Norhisham, Director General, Ministry of Health Malaysia – group photo
Speeches by Dr Jacqueline Ro (WHO Representative), Mr Drew Keys (IAPB Regional Manager), Professor Serge Resnikoff (Chairman, ICO) and Dato’ Dr Norhisham, Director General, Ministry of Health Malaysia

Dr Andreas Mueller (WHO/CERA), Dr Nathan Congdon (Global Eye Health/Orbis), Dato’ Dr Goh Pik Pin (National CRC) and Dr Nor Fariza Ngah (National Head of Ophthalmology Services)