The 9th Report of the National Eye Database 2015

Included reports on

Cataract Surgery Registry 2002, 2003, 2004, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015

Klinik Katarak 1Malaysia and PUSAT PEMBEDAHAN KATARAK MAIWP - HOSPITAL SELAYANG

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Disclaimer

There is a potential that data published for previous years in current reports may differ from annual reports published earlier. This is because analysis is based on latest dataset in NED database which may have been updated by Source Data Producers.

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Thank you.

NED Steering Committee Members

November 2017

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ABOUT NATIONAL EYE DATABASE

Introduction

The National Eye Database (NED) is an eye health information system supported by MOH. It is a clinical database consisting of two active patient registries, Monthly Ophthalmology Service Census, Outreach Census and three surveillance registries (on Contact Lens Corneal Ulcer, Intraocular Lens and Endophthalmitis). The patient registries are Cataract Surgery Registry, Retinoblastoma Registry, Glaucoma Registry, Diabetic Eye Registry and Age Related Macular Degeneration Registry. In 2015, Glaucoma Registry, Diabetic Eye Registry and Age Related Macular Degeneration Registry are inactive due to planning and upgrading work. The Source Data Producers are eye care providers, mainly from the public sector. Information collected, both clinical and epidemiological, are very useful in assisting the MOH, Non-Governmental Organizations, private healthcare providers and industry in the planning, evaluation and continuous improvement of eye care services, leading to prevention and control of blindness in the nation.

Vision

Accessible eye health information.

General Objectives of the National Eye Databases

1. To establish and maintain a web based eye health information system on natural history of visual threatening eye diseases, which are of public health importance. The information is useful in the planning and evaluation of eye care service.
2. To determine the effectiveness of treatment, both clinical outcomes and cost, and to identify factors influencing outcomes. This serves the needs of outcome assessment.
3. To provide information necessary to evaluate ophthalmology services through census and key performance indicators, as well as on safety or harm of products and services used in the treatment of a disease. This contributes to continuous quality initiative.
4. To evaluate the accessibility and equity in health care provision. This information enhances accountability.
5. To provide a mean of prompt and wide dissemination of epidemiological and clinical information through web such as real time registries reports and notification of epidemic of contact lens-related corneal ulcer. This is essential for public health advocacy.
6. To stimulate and facilitate research on eye diseases.

Cataract Surgery Registry

The Cataract Surgery Registry (CSR) was initiated in 2002 and collects data pertaining to patients who have had cataract surgery. Data collected include demography, medical history, operative events, post-operative visual outcomes and probable causes for poor outcome. Since 2008, data on posterior capsular rupture, visual outcome and post-operative endophthalmitis were linked to online key performance indicator for monitoring centre performance while data on incidence of posterior capsular rupture and patients with poor visual outcome are linked to online cumulative sum (CUSUM) to monitor competency of individual surgeon. Annual reports are available at www.acrm.org.my/ned, under the section of publication.

Objectives

1. To determine the frequency, distribution and practice pattern of cataract surgery in Malaysia.
2. To determine the outcomes and factors influencing outcomes of cataract surgery.
3. To evaluate cataract surgery services based on rate of posterior capsular rupture, post-operative infection, post-operative visual outcome and induced astigmatism.
4. To stimulate and facilitate research on cataract and its management.

Retinoblastoma Registry

Retinoblastoma registry collects data on the pattern of clinical presentation, mode of treatment and outcome of patients with Retinoblastoma seen at ophthalmology clinics with paediatric ophthalmology service. The main SDP is Hospital Kuala Lumpur, Hospital Queen Elizabeth and Hospital Umum Sarawak.

Objectives

1. To determine the incidence and distribution of Retinoblastoma in different states in Malaysia.
2. To determine the ethnic-specific prevalence of Retinoblastoma in Malaysia.
3. To study characteristics of RB patients in terms of clinical presentation and stage of disease based on International Intraocular Retinoblastoma Classification.
4. To evaluate types of treatments and monitor treatment trends.
5. To evaluate treatment outcomes including complications related to treatment.

Monthly Ophthalmology Service Census

Since 2002, Ophthalmology Service of MOH has been collecting annual census from all the hospitals with ophthalmology departments. Data include essential service census and key performance indicators for ophthalmology service. There are 13 sections in the census return, namely out-patients, inpatients, major eye operations, cataract service, diabetic service, glaucoma service, and optometry service, and subspecialty services which include vitreoretinal, corneal, paediatric ophthalmology, oculoplasty, medical retinal, and a public health ophthalmology, and data on training records and prevention of blindness activities. Data are entered monthly by staff at sites via on-line data entry. Heads of ophthalmology department can view their own and other hospitals' real-time reports.

Objectives

1. To evaluate service output in all ophthalmology departments.
2. To study trends in service output and service patterns.
3. To get baseline and norm from services provided by MOH ophthalmology departments.

4. To determine norm and set standards for performance indicators for centres which differ in strength of physical and human resources.

Outreach Programme Census

Ministry of Health (MOH) is the biggest provider of ophthalmology service in the country including the outreach activities. However, data for these activities conducted by all the Ophthalmology Departments are not readily available and most are not properly documented.

Due to the increasing number of cataract surgeries performed in MOH facilities, the existence of the mobile and the satellite cataract services and the expansion in the outreach activities, these data need to be compiled and organised both at the central and departmental level. These data can be analysed and be used for the improvement of ophthalmology outreach services in the country. Data collected include details of activity, total number of individual screened by age and disease, total number of referral to ophthalmologist and optometrists, total number of cataract surgeries done and the updated number of eye trained paramedics.

Objectives

1. To compile data pertaining to outreach activities by all ophthalmology department in the country.
2. To update the number of Primary Eye Care and Ophthalmic Post Basic staff available in the country.
3. To study the patients' demography in the outreach activities
4. To study the eye disease workload in the outreach activities
5. To study the cataract surgery workload in the outreach activities

Key Performance Indicator

The Ministry of Health (MOH) launched the implementation of Key Performance Indicators (KPIs) in February 2008 with the aim to assess the overall performance of services provided by Clinical Departments in MOH. The MOH Ophthalmology Service has identified KPIs which measure clinical performance of core ophthalmology service such as out-patient service, cataract surgery and diabetic eye screening.

From 2008 to 2011, there were 7 KPIs being measured in MOH Ophthalmology Service. However, the Quality Unit of MOH revised these KPIs in January 2012 and has implemented 3 KPIs and 4 performance indicators (PIs). Rate of infectious endophthalmitis following cataract surgery and Percentage of patients with post-operative visual acuity of 6/12 or better within 3 months are both PIs and National Indicator Approach (NIA). Rate of Posterior Capsular Rupture during Cataract Surgery has been removed both from KPI and NIA lists.

MEASUREMENT			INDICATOR	STANDARD
PI 1			Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at specialist clinic	≥ 80% of the patients are seen within ninety (90) minutes
PI 2	KPI 1		Percentage of diabetic patients who were given an appointment for first consultation within 6 weeks	≥ 80% of the patients are given an appointment for First Consultation within 6 weeks
PI 3			Percentage of patients with waiting time of within 16 weeks for cataract surgery	≥ 80% of patients have appointment given for cataract surgery within 16 weeks
PI 4	KPI 2	NIA	Rate of infectious endophthalmitis following cataract surgery (2 cases per 1000 operations)	< 0.2% (2 cases per 1000 operations)
PI 5	KPI 3	NIA	Percentage of patients with post-operative visual acuity of 6/12 or better within 3 months following cataract surgery in patients without ocular co-morbidity (850 cases 1000 operations)	> 85% (900 cases per 1000 operations)
PI 6			Cancellation rate of patients listed for cataract surgery under local Anaesthesia	≤ 10% cancellation
PI 7			Number of mortality/morbidity audits/ meetings conducted in the Department (in 6 months)	At least 6 times in 6 months

Note:

PI=Performance Indicator
KPI=Key Performance Indicator
NIA=National Indicator Approach

Adverse Incidence Reporting – Intraocular Lens

Intraocular lens may have defect during the manufacturing process and during implantation into the patients' eyes. This ranges from the production of IOL, packaging, distribution, insertion to when the IOL is already implanted into the patients' eyes.

This defect may range from manufacturing defect such as no IOL in the box or fracture of haptics or optics. It may also be in the form of deposits on the IOL or opacification detected weeks to years after surgery. All these defects will contribute directly to the patients' visual outcome. Some defects may require explantation and results in distress to both the patients and the surgeons. The cost for explantation of an opacified IOL also has to be borne by the patient and eye care providers.

It is also important to identify any common defect for example fracture of haptics or optics as this will be used as feedback to the industries to improve their IOL quality or be used for platform for further training pertaining to the IOL if required. Data collected include patient's demography, action taken, outcome and details of IOL.

Objectives

1. To identify any common defect in IOL
2. To detect cases with IOL opacification
3. To study the patients' characteristics in developing IOL opacification
4. To study the patient's outcome following treatment if any

Adverse Incidence Reporting – Endophthalmitis

This is a complication which can occur following any intraocular surgery. Although uncommon, once occurred, it may lead to the loss of vision and possible loss of the eye itself. It is a devastating complication both to the patient, the care provider and the health system as the treatment is costly and the outcome after treatment can be uncertain. Therefore prevention of disease and surveillance of an outbreak is important. Data in CSR shows a decreasing percentage of endophthalmitis occurrences following cataract surgery among patients in the Ministry of Health (MOH) over the years. This is possibly due to the use of prophylactic antibiotics and the general improvement in technique and care in cataract surgery. However, it is imperative to monitor this complication closely due to the increasing number of cataract surgeries performed in MOH facilities, the existence of the mobile and the satellite cataract services and also the expansion in the outreach activities throughout the countries. Monitoring is also essential to prevent outbreak. Data collected include demography, possible risk factors, mode of treatment and the outcome following treatment.

Objectives

1. To detect outbreak and therefore exercise the necessary measure to control disease spread
2. To identify its risk factors or any common risk factors among cases
3. To study the patients' characteristics in developing post-operative infectious endophthalmitis
4. To study the patient's outcome following treatment

e-CUSUM

Cataract surgery is the most common procedure done in ophthalmology departments. The procedure is consistent and outcome is measured objectively by visual acuity. Cataract surgery outcome depends on surgeons' skill. With advancement in technology and intraocular lens implantation, good visual outcome is almost certain among patients without pre-existing ocular co-morbidity. Hence, monitoring and evaluating surgeons' competency, especially trainees' performance, are essential in ensuring standard of care.

Cumulative Sum (CUSUM) software auto-mines data on occurrence of posterior capsular rupture and patients with post-operative vision worse then 6/12 from cataract surgery registry on surgery done by individual surgeon using unique surgeon ID. From 2008, by using individual unique username and password, surgeon can access his/her own CUSUM charts via eCUSUM web page. Consultant ophthalmologists can view their own as well as their trainees' charts. By doing so, monitoring on surgeons' competency in cataract surgery is made effectively and easily.

Methods of the National Eye Database

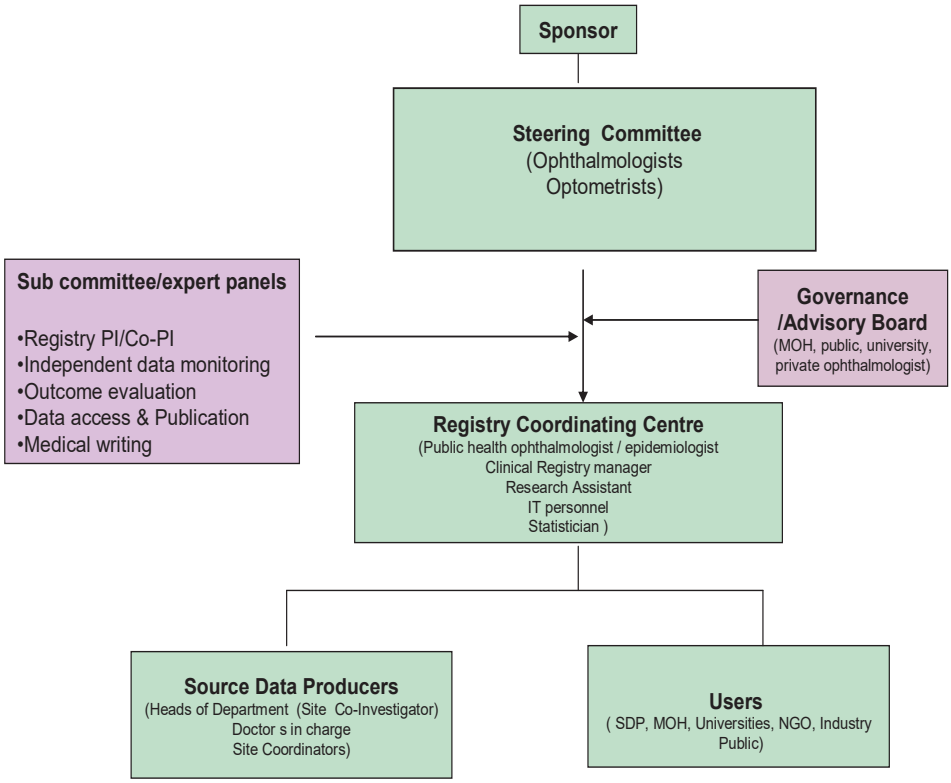
The National Eye Database is designed as a cohort study. It is an online clinical database hosted at the Association of Clinical Registry Malaysia website at www.acrm.org.my/ned. Its protocol was approved by the Medical Research Ethical Committee of MOH on 2nd September 2008 (reference number NMRR 08-552-1707) and is accessible at the NED website.

Data collection and data entry are done at SDP sites. Data are collected either using case report forms (CRF) which are later entered into the web application, or are directly entered into the web application during the course of clinical work.

Data management using data query are set in the web application to reduce inconsistency, out-of-range or missing values. Authorised staff at each SDP is given passwords to perform data entry. Individual SDP reports and aggregated reports based on cumulative data of all SDPs are available real-time at NED website. These reports are only accessible by heads of department, doctors and optometrists via authorised password. The web reports are descriptive analysis of data which have been entered. Annual statistical report will be produced based on data collected for a specific year. The statistical reports will be published yearly and distributed to users in MOH divisions and units, all the ophthalmology departments, universities, other relevant public agencies and non-governmental organisations.

The NED has high level of security for protection of its data. Data protection is ensured at all times through strict compliance with regulatory requirements such as authentications of users and web application owners, access control, encryption, audit trail, control of external communication links and access, as well as system backup and disaster recovery.

GOVERNANCE


Sponsor
Steering Committee
(Ophthalmologists
Optometrists)
Sub committee/expert panels
•Registry PI/Co-PI
•Independent data monitoring
•Outcome evaluation
•Data access & Publication
•Medical writing
Governance
/Advisory Board
(MOH, public, university,
private ophthalmologist)
Registry Coordinating Centre
(Public health ophthalmologist / epidemiologist
Clinical Registry manager
Research Assistant
IT personnel
Statistician)
Source Data Producers
(Heads of Department (Site Co-Investigator)
Doctor s in charge
Site Coordinators)
Users
(SDP, MOH, Universities, NGO, Industry
Public)

NED SOURCE DATA PRODUCERS

NORTHERN ZONE	
No.	**SDP**
1.	Hospital Kangar
2.	Hospital Alor Star
3.	Hospital Sungai Petani
4.	Hospital Kulim
5.	Hospital Pulau Pinang
6.	Hospital Bukit Mertajam
7.	Hospital Ipoh
8.	Hospital Taiping
9.	Hospital Teluk Intan
10.	Hospital Sri Manjung
11.	KK1M Kedah
12.	KK1M Pulau Pinang
EASTERN ZONE	
No.	**SDP**
13.	Hospital Kuantan
14.	Hospital Temerloh
15.	Hospital Kuala Terengganu
16.	Hospital Kemaman
17.	Hospital Kota Bharu
18.	Hospital Kuala Krai
19.	KK1M Kelantan
20.	KK1M Terengganu
21.	KK1M Pahang

CENTRAL ZONE	
No.	**SDP**
21.	Hospital Kuala Lumpur
22.	Hospital Putrajaya
23.	Hospital Selayang
24.	Hospital Klang
25.	Hospital Serdang
26.	Hospital Sungai Buloh
27.	Hospital Ampang
28.	Hospital Shah Alam
29.	Hospital Seremban
30.	Hospital Kuala Pilah
31.	Pusat Pembedahan Katarak MAWIP-Hospital Selayang
SOUTHERN ZONE	
No.	**SDP**
32.	Hospital Melaka
33.	Hospital Johor Baru
34.	Hospital Muar
35.	Hospital Batu Pahat
36.	Hospital Segamat
37.	Hospital Kluang
38.	Hospital Sultan Ismail
39.	KK1M Johor
SARAWAK	
No.	**SDP**
40.	Hospital Umum Sarawak
41.	Hospital Sibu

42.	Hospital Bintulu
43.	Hospital Miri
44.	Hospital Sarikei
45.	KK1M Sarawak
SABAH	
No.	**SDP**
46.	Hospital Queen Elizabeth
47.	Hospital Sandakan
48.	Hospital Tawau
49.	Hospital Keningau
50.	Hospital Likas
51.	KK1M Sabah

NED STATE MANAGERS

State	State Manager	Hospital
Sarawak + Sabah + Labuan	Dr Lo Tze Wen	Hospital Umum Sarawak
Sarawak	Dr Nur Reza bt Mohd Noh	Hospital Sibu
Johor	Dr RM Nachammai A/P S Ramasamy	Hospital Sultanah Aminah
Melaka	Dr Goh Ching Teak	Hospital Melaka
Perak	Dr Wong Wai Kuan	Hospital Ipoh
Penang	Dr Lee Cheng Imm	Hospital Pulau Pinang
Kedah+Perlis	Dr Annie Lee	Hospital Sultanah Bahiyah
Kelantan	Dr Mariyani bt Mad Said	Hospital Raja Perempuan Zainab II
Terengganu	Dr Dzawati Amalin bt Basemin	Hospital Sultanah Nur Zahirah
Negeri Sembilan	Dr Juliana bt Mohd Thani	Hospital Tuanku Ja'afar
Selangor	Dr Ho Siew Lee	Hospital Serdang
Pahang, Wilayah Persekutuan KL and Putrajaya	Central Manager – Dr Aziz until further notice	Hospital Selayang

State Manager for Sabah, Perlis, Pahang, Wilayah Persekutuan KL, Putrajaya and Labuan will be appointed when the MO/s is/are available and criteria are fulfilled

FOREWORD

The overall data submission for Cataract Surgery Registry (CSR) has been increasing over the years. Due to the increasing demand of outreach cataract surgery, the number of SDP in a form of Klinik Katarak 1Malaysia (KK1M) has also been increasing. This indicates the increasing awareness and enthusiasm of users in submitting data which can then be used to improve services which they are providing.

However, there is still lack of awareness regarding submission of data for Monthly Ophthalmological Census, Outreach Census and the Surveillance Databases (Adverse Incidence related to Intraocular Lens and Endophthalmitis). This is probably due the process involved in generating data is not part of the treatment workprocess (unlike CSR). But such awareness can still be instilled especially if data in all the applications in NED can be regularly presented and analysed for service usage and publication.

Data submission can also be improved by the appointment of NED State Managers. They are selected from each state throughout the country to manage data within their own state. This is an advanced initiative after NED MOship, to ensure further refinement of data entry and monitoring. The transfer of management from a Central single manager will enhance the quality of data through real time data cleaning besides ensuring ownership and better usage of the wealth of data available.

This group of State Managers are Medical Officers who have served for a long time in the Ophthalmology departments and may be as senior as some of the Specialists. They have by various individual reasons decided to remain in the department without specialisation. Hence besides being experienced they are unlikely to leave the Ministry of Health (MOH) as opposed to Specialists who are either transferable, busy or likely to resign. This important new role would be a form of acknowledgement on their contribution and loyalty to the department.

This is a significant milestone after NED MOship, the outcome of which has been encouraging. MOs have been presenting data in individual departments and we indeed can see the increasing usage of NED data for service and publication in the MOH. The appointment of a State Manager will bring this to another level.

Consultations on data management can be done locally and new ideas can develop. This will further propel NED forward as the main eye database in the country

Steering Committee Members

National Eye Database 2015/2016

ABBREVIATION

ADED	Advanced Diabetic Eye Disease	NED	National Eye Database
AMD	Age related Macular Degeneration	NPDR	Non Proliferative Diabetic Retinopathy
CAI	Carbonic Anhydrase Inhibitor	NPL	No Perception Of Light
CF	Counting Finger	OT	Operating Theatre
CLRCU	Contact Lens-Related Corneal Ulcer	PCO	Posterior Capsule Opacification
CSMO	Clinically Significant Macular Odema	PCR	Posterior Capsule Rapture
CMO	Cystoid Macular Oedema	PDR	Proliferative Diabetic Retinopathy
CSR	Cataract Surgery Registry	Phaco	Phacoemulsification
DER	Diabetic Eye Registry	PL	Perception Of Light
DM	Diabetes Mellitus	PI	Principal Investigator
DR	Diabetic Retinopathy	RB	Retinoblastoma
ECCE	Extracapsular Cataract Extraction	RCC	Registry Coordinating Centre
FU	Follow Up	SD	Standard Division
HM	Hand Movement	SDP	Source Data Producers
HPT	Hypertension	VA	Visual Acuity
ICCE	Intracapsular Cataract Extraction	VR	Vitreoretinal Surgery
IOL	Intraocular Lens	ZD	Zonular Dialysis
MOH	Ministry Of Health		

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EXECUTIVE SUMMARY

The ascertainment for the submission of both operative and outcome data increased over the years denoting an increasing representativeness of data in NED. In general, the cataract surgical output per SDP increased throughout the years with Hospital Alor Setar, Hospital Ipoh, Hospital Pulau Pinang, Hospital Melaka and Hospital Umum Sarawak leading the way by producing more than 2000 surgeries per year. Similar to past years, the issue of increasing percentages of patients with Hypertension and Diabetes Mellitus and the low percentage of patients who had second eye cataract surgery need to be acknowledged and addressed by optimising pre-operative care and increasing population awareness. The implementation of day care surgery concept also has to be strengthened as only 69.0% of surgery was done as Day Care in 2015. The percentage of surgery using Phaco technique however, was increasing (from 39.7% in 2002 to 87.9% in 2015) with a parallel increase in the use of topical anaesthesia and foldable acrylic Intraocular Lens. There was also an increasing trend in the combined usage of intracameral anaesthesia for cataract surgery. The percentage of intra-operative complications in general was in a decreasing trend with the percentage of Posterior Capsular Rupture , decreased to 2.6%. The percentage of eye with post-operative infectious endophthalmitis remained at 0.05%. The percentage of post-operative unaided visual acuity (in eyes without ocular-comorbidity) 6/12 and better was also encouraging (improved from 44.4% in 2007 to 59.9% in 2015)

REPORT SUMMARY

CATARACT SURGERY REGISTRY

1. Stock and Flow

- The number of SDP increased from 25 SDPs in 2002 to 68 SDPs in 2015 (42 hospitals and 26 KK1M).
- The total number of cataract surgery registered to CSR increased from 12798 in 2002 to 44534 in 2015.
- The CSR ascertainment slightly deceased to 96.4% from 96.7% the previous year.

2. Characteristics of Patients

- The mean age of patients at the time of cataract surgery was 65.7 in 2015. This age was younger than data published by the Swedish cataract surgery register (74 years old).
- Up to 1/5 of patients presented within the age group of 65-69 years old (21.9% in 2015).
- The proportion of patients with systemic co-morbidity increased from 56.8% in 2002 to 76.2% in 2015.
- There was an increase in the proportion of patients presented for cataract surgery who had Hypertension (from 35.4% in 2002 to 62.2% in 2015) and Diabetes Mellitus (from 28.9% in 2002 to 44.2% in 2015).
- Senile cataract was the commonest cause of primary cataract (99.0 % in 2015).
- Trauma was the commonest cause for secondary cataract (59.0% in 2015).
- The proportion of patients who returned for cataract surgery in the fellow eye remained the same from 2002 to 2014, i.e. only one third (35.2% in 2015).
- Majority of the eyes had no prior ocular surgery (96.8% in 2015).The commonest prior ocular surgery was vitreoretinal surgery (1.4% in 2015).
- One third of the eyes had ocular co-morbidity (39.3% in 2015). The commonest ocular co-morbidity was diabetic retinopathy in any forms (11.0% in 2015).
- About half of the eyes had unaided vision <3/60 (42.9% in 2015).
- Refraction was not done in more than 2/3 of the eyes (69.8% in 2015). Most of them had VA<3/60 (47.8% in 2015).
- Bimodal pattern of pre-operative vision was consistently observed over the years with one peak at the range between 6/18 to 6/36 and another peak at CF-HM.
- In term of the choice of IOL power, majority of surgeons chose target refraction as emmetropia or slightly myopic. The mean target refractive power in 2015 was -0.4D (SD 0.3)

3. Cataract Surgery Practice Patterns

- Selangor (6 main SDPs), Perak (4 main SDPS) and Sarawak (6 main SDPS), performed higher number of cataract surgeries compared to other state.
- More than 2/3 of the cataract surgery was performed by specialists (89.0% in 2015).
- The percentage of Phaco surgery done by medical officers was decreasing (3.6% in 2013 to 3.5% in 2015)
- The median duration taken to do a cataract surgery was 25 min for phaco and 50 min for ECCE in 2015.
- Though there was an increasing trend for day care surgery, from 39.3% in 2002 to 69.0% in 2015, the percentage varied among SDPs.
- Phaco was the preferred method of cataract surgery and the proportion increased from 39.7% in 2002 to 87.9% in 2015. Percentage of ECCE decreased from 54.0% in 2002 to 8.3% in 2015.
- The preferred IOL material was acrylic and foldable type.
- The percentage of phaco converted to ECCE was 1.9% in 2015. It remained the same over the years.
- Among combined surgery, VR surgery was the highest. It initially showed a decreasing trend but increased in 2015 (2.0% in 2015)
- Majority of cases were done under local anaesthesia (93.0% in 2015). The preferred type of local anesthesia was topical (68.7% in 2015).
- The use of topical anesthesia (excluding combined surgery) was 69.5% in 2015.
- The use of subtenon anesthesia (excluding combined surgery) was 22.4% in 2015
- The use of intracameral anesthesia (excluding combined surgery) was 22.0% in 2015
- Majority of the patient operated had IOL implantation (98.5% in 2015). Among these patients who had IOL, 96.6% had posterior chamber IOL.

4. Intra-operative Complications

- The percentage of intra-operative complication decreased from 5.2% in 2012 to 5.0% in 2015
- PCR decreased to 2.6% in 2015.
- Intra-op complication was seen among 53.3% of patients who had phaco converted to ECCE and 46.6% who had ICCE in 2015.
- In 2015, the percentage of intra-operative complication was higher in cataract surgeries performed by gazetting specialists (9.2%), followed by MO (8.6%) as compared to specialist (4.5%). For phaco surgeries, MO (5.5%), gazetting specialists (5.1%), and specialist (2.9%)

5. Cataract Surgery Outcome

- In average, more than 85.0% of patient registered to CSR had cataract surgery outcome data.
- The percentage of patients with post-operative endophthalmitis reduced from 0.08% in 2013 (27 patients) to 0.05% in 2015 (21 patients).
- The percentage of patients with unplanned return to OT initially showed a decreasing trend, 0.26% in 2014, but increased to 0.33% in 2015 (probably due to increasing compliance in reporting)
- There was no specific trend in the causes of unplanned return to OT.
- In eyes without ocular co-morbidity, the percentage of eyes with unaided vision of 6/12 and better appeared to be increasing (59.9% in 2015)
- Patients who had phaco had better post-op visual outcome when compared to other type of surgeries. 95.1% of phaco patients had refracted vision of 6/12 or better in 2015 as compared to ECCE (86.2%), phaco convert to ECCE (71.5%), lens aspiration (84.5%) and ICCE (65.5%).
- Post-op visual outcome improved over the years. Refracted visual outcome of 6/12 or better among phaco patient improved from 87.0% in 2002 to 95.1% in 2015 and among ECCE patients from 78.0% in 2002 to 86.2% in 2015.
- In all type of surgeries, visual outcome became less favourable when there were intra-operative complications.
- The main contributing factor for eyes with post-operative refracted VA worse than 6/12 was pre-existing ocular co-morbidity followed by high astigmatism and Cystoid Macula Edema.
- When patients with preexisting ocular co-morbidity were excluded from analysis, high astigmatism followed by preexisting ocular co-morbidity (not detected preoperatively) were the major causes of poor visual outcome.
- In 2015, with the mean target refraction (all eyes) of -0.4D, the mean actual refraction was -0.6D for phaco eyes, and -0.8D for ECCE eyes. Thus, eyes which had undergone ECCE had more myopic shift than eyes which had phaco.
- In 2015, there was disparity between the targeted and the actual refraction in phaco, 86.1% of eyes had a different in target and actual refraction of between ±1.0D.

KLINIK KATARAK 1MALAYSIA

1. Stock and Flow

- The total number of cataract surgery registered to CSR increased from 140 in 2013 to 1704 in 2015.

2. Characteristics of Patients

- The mean age of patients at the time of cataract surgery was 68.4 in 2015. This age was older than total MOH (65.7 years old).
- Up to 1/5 of patients presented within the age group of 70-74 years old (21.8% in 2015).
- In 2015, the proportion of patients with systemic co-morbidity was 65.6% (Hypertension was 57.5% and Diabetes Mellitus was29.9%)
- Senile cataract was the commonest cause of primary cataract (99.4 % in 2015).
- Trauma was the cause for secondary cataract (100% in 2015).
- The proportion of patients who returned for cataract surgery in the fellow eye was only 1/5 (23.4% in 2015) which appeared to be increasing
- Majority of the eyes had no prior ocular surgery (99.1% in 2015).
- Less than one third of the eyes had ocular co-morbidity (14.0% in 2015). The commonest ocular co-morbidity was Diabetic Retinopathy in any forms (5.9% in 2015).
- More than half of the eyes had unaided vision <3/60 (49.3)% in 2014).
- Refraction was not done in most of the eyes (82.7% in 2015). Most of them had VA<3/60 (53.3% in 2015).
- Bimodal pattern of pre-operative vision was observed over the years with one peak at the range between 6/18 to 6/36 and another peak at CF-HM.
- In term of the choice of IOL power, majority of surgeons chose target refraction as emmetropia or slightly myopic. The mean target refractive power in 2015 was -0.3D (SD 0.2)

3. Cataract Surgery Practice Patterns

- The number of cataract surgery performed by SDPs varied depending on location, period of service and availability of the bus and equipments
- The median duration taken to do a cataract surgery was 20 min for phaco and 45 min for ECCE in 2015.
- The percentage of surgeries performed under daycare setting increased from 55.5% in 2013 to 90.8% in 2015.
- Phaco was the preferred method of cataract surgery and the proportion increased from 88.5% in 2013 to 94.4% in 2015. Percentage of ECCE reduced from 8.6% in 2013 to 3.3% in 2015.

- The preferred IOL material was acrylic and non-foldable type.
- The use of topical anesthesia increased from 64.7% in 2013 to 91.7% in 2015, Subtenon reduced from 37.4% in 2013 to 8.9% in 2015 and intracameral maintained at 2.2% in 2015
- Majority of the patient operated had IOL implantation (98.5% in 2015). Among these patients who had IOL, 97.0% had posterior chamber IOL.

4. Intra-operative Complications

- The percentage of intra-operative complication decreased from 7.1% in 2013 to 4.9% in 2015
- PCR increased from 1.4% in 2014 to 2.8% in 2015.

5. Cataract Surgery Outcome

- In average, more than 80.0% of patient registered to CSR had cataract surgery outcome data (85.4% in 2015)
- The percentage of patients with post-operative endophthalmitis was 0%.
- In eyes without ocular co-morbidity, only ½ of eyes had post-op unaided visual acuity 6/12 or better (55.1% in 2015). With refraction, more than 90.0% achieved post-op vision 6/12 or better (92.0% in 2015). This observation suggested that poor post- op unaided vision was due to refractive error and patients' vision could be improved with glasses.
- Patients who had phaco had better post-op visual outcome when compared to other type of surgeries. 93.2% of phaco patients had refracted vision of 6/12 or better in 2015 as compared to ECCE (75.0%).
- The main contributing factor for eyes with post-operative refracted VA worse than 6/12 was high astigmatism followed by pre-existing ocular co-morbidity.
- When patients with preexisting ocular co-morbidity were excluded from analysis, preexisting ocular co-morbidity (not detected preoperatively) followed by high astigmatism were the major causes of poor visual outcome.
- In 2015, with the mean target refraction (all eyes) of -0.3D, the mean actual refraction was -0.6D for phaco eyes, and -1.1D for ECCE eyes. Thus, eyes which had undergone ECCE had more myopic shift than eyes which had phaco.
- In 2015, there was disparity between the targeted and the actual refraction in phaco. 83.2%of eyes had a different in target and actual refraction of between ±1.0D.

PUSAT PEMBEDAHAN KATARAK MAIWP-HOSPITAL SELAYANG

1. Stock and Flow

- The total number of cataract surgery registered to CSR decreased from 2266 in 2014 to 1824 in 2015.

2. Characteristics of Patients

- The mean age of patients at the time of cataract surgery was 65.0 in 2015. This age was younger than total MOH (65.7 years old).
- Up to 1/5 of patients presented within the age group of 65-69 years old (25.6% in 2015).
- In 2015, the proportion of patients with systemic co-morbidity was 77.7% (Hypertension was 63.4% and Diabetes Mellitus was 44.2%)
- Senile cataract was the commonest cause of primary cataract (84.5 % in 2015).
- The proportion of patients who returned for cataract surgery in the fellow eye was almost half (38.6% in 2015).
- Majority of the eyes had no prior ocular surgery (97.7% in 2015).
- Less than one third of the eyes had ocular co-morbidity (11.9% in 2014). The commonest ocular co-morbidity was Diabetic Retinopathy in any forms (4.5% in 2015) and glaucoma (1.6% in 2015)
- One third of the eyes had unaided vision <6/18 - 6/60 (33.2% in 2015).
- Refraction was not done in most of the eyes (61.5% in 2015). Most of them had VA<6/18 - 6/60 (33.4% in 2015).
- Bimodal pattern of pre-operative vision was observed over the years with one peak at the range between 6/18 to 6/36 and another peak at CF-HM.
- In term of the choice of IOL power, majority of surgeons chose target refraction as emmetropia or slightly myopic. The mean target refractive power in 2014 was -0.4D (SD 0.6)

3. Cataract Surgery Practice Patterns

- The median duration taken to do a cataract surgery was 20 min for phaco and 52.5 min for ECCE in 2015.
- Phaco was the preferred method of cataract surgery and the proportion increased from 95.1% in 2013 to 97.4% in 2015. Percentage of ECCE decreased from 2.5% in 2013 to 0.7% in 2015.
- The preferred IOL material was acrylic and non-foldable type.
- The use of topical anesthesia decreased 95.8% in 2014 to 88.1% in 2015. Intracameral anaesthesia showed an increasing trend, from 19.1% in 2013 to 47.7% in 2015. Subtenon anesthesia reduced from 11.0% in 2013 to 4.8% in 2015

- Majority of the patient operated had IOL implantation (99.8% in 2015). Among these patients who had IOL, 98.8% had posterior chamber IOL.

4. Intra-operative Complications

- The percentage of intra-operative complication increased from 2.69% in 2014 to 2.91% in 2015
- PCR increased from 1.3% in 2014 to 1.5% in 2015.

5. Cataract Surgery Outcome

- In 2015, only 82.2% cataract surgery had outcome data.
- The percentage of patients with post-operative endophthalmitis was 0%.
- In eyes without ocular co-morbidity, only ½ of eyes had post-op unaided visual acuity 6/12 or better (53.3% in 2015)
- Patients who had phaco had better post-op visual outcome when compared to other type of surgeries. 98.5% of phaco patients had refracted vision of 6/12 or better in 2015.
- The main contributing factor for eyes with post-operative refracted VA worse than 6/12 was pre-existing ocular co-morbidity followed by high astigmatism.
- When patients with preexisting ocular co-morbidity were excluded from analysis, high astigmatism followed by preexisting ocular co-morbidity were the major causes of poor visual outcome.

COMPARISON BETWEEN ALL MOH AND KK1M (2015)

		All MOH	PPKM-HS	KK1M Mobile, Transit and Carnival
Concept of Service		Includes all hospital and outreach	Outreach Low risk patients Fully day care Fully certified surgeons	Outreach Multilevel risk of patients Fully certified surgeons
Patient Profile	Age	Mean 65.7	Mean 65.0	Mean 68.4
	Main age group	65-69 (21.9%)	65-69 (25.6%)	70-74 (21.8%)
	Systemic Co-morbidity	75.2% (Hypertension 62.2%) (Diabetis Mellitus 44.2%)	77.7% (Hypertension 63.4%) (Diabetis Mellitus 44.2%)	65.6% (Hypertension 57.5%) (Diabetis Mellitus 29.9%)
	Second Eye Surgery	35.2%	38.6%	23.4%
	Ocular Co-morbidity	39.3% The commonest was diabetic retinopathy in any forms (11.0%)	11.9% The commonest was diabetic retinopathy in any forms (4.5%)	14.0% The commonest was diabetic retinopathy in any forms (5.9%)
	Presenting VA	<3/60 (42.9%)	<<6/18 - 6/60 (33.2%)<6/18 - 6/60	<3/60 (53.3%)
Surgical Practices	Day Care	69.0%	100%	90.8%
	Method of Cataract Extraction	Phaco 87.9% ECCE 8.3%	Phaco 97.4% ECCE 0.7%	Phaco 94.4% ECCE 3.3%
	Main anaesthesia	Topical (69.5%) Subtenon (22.4%) Intracameral (22.4%)	Topical (88.1%) Subtenon (4.8%) Intracameral (47.7%)	Topical (91.7%) Subtenon (8.9%) Intracameral (2.2%)
Intraoperative Complication	Overall percentage of intra-operative complication	5.2%	2.9%	4.9%
	PCR	2.6%	1.5%	2.8%
Outcome	Surgeries with outcome data	91.0%	82.2%	85.4%
	Post-operative Endophthalmitis	0.05% (21 patients).	0%	0%

		All MOH	PPKM-HS	KK1M Mobile, Transit and Carnival
	Percentage of **unaided** VA 6/12 or better in eye without ocular co-morbidity	59.0%	53.3%	55.1%
	Percentage of surgery using phaco achieving BCVA 6/12 or better in eyes without ocular co-morbidity	95.1%	98.5%	93.2%
	Percentage of eyes achieving difference of target and actual refraction within ±1.0D	86.1%	Inaccurate due to data mapping error between ECMS and NED. Problem has been identified and rectified	83.2%

Limitation: All MOH includes PPKM-HS and KK1M

CHAPTER 1

CATARACT SURGERY REGISTRY 2015

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CHAPTER 1: CATARACT SURGERY REGISTRY

1.1 Stock and Flow

1.1.1 Stock and Flow

The number of CSR source data provider (SDP) continued to increase. The number of cataract surgeries registered to CSR also increased from 18426 in 2007 to 44534 in 2015.

Table 1.1.1-1: Stock and Flow, CSR 2007-2015

Year	No of SDP		Total no of cataract surgery registered to CSR	Cataract surgery with visual outcome records	
	Hospital	KK1M (mobile, static, transit and carnival)		n	%
2007	32	0	18426	15786	85.7
2008	36	0	21496	19063	88.7
2009	36	0	24438	20590	84.3
2010	36	0	28506	24521	86.0
2011	36	0	30611	27219	88.0
2012	36	0	32473	28589	88.0
2013	40	7	37150	33063	89.0
2014	42	19	40532	36251	89.4
2015	42	26	44534	39066	87.7

Table 1.1.1-2: Ascertainment for MOH Hospitals including KK1M locations, CSR 2007-2014

Year	Total number of cataract surgery performed at MOH Hospitals (Source: MOH census returns)	Total number of cataract surgery performed at MOH hospitals and registered to CSR	Ascertainment (%)
2007	22051	18426	83.6%
2008	25393	21496	84.6%
2009	26274	24438	93.0%
2010	29873	28506	95.4%
2011	32099	30611	95.4%
2012	34363	32473	94.5%

2013	39389	37150	94.3%
2014	41927	40532	96.7%
2015	46202	44534	96.4%

Note:

1. *It is assumed that all KK1M (mobile, static and transit) census as 100%*
2. *KK1M carnival census is calculate as part of hospital census*

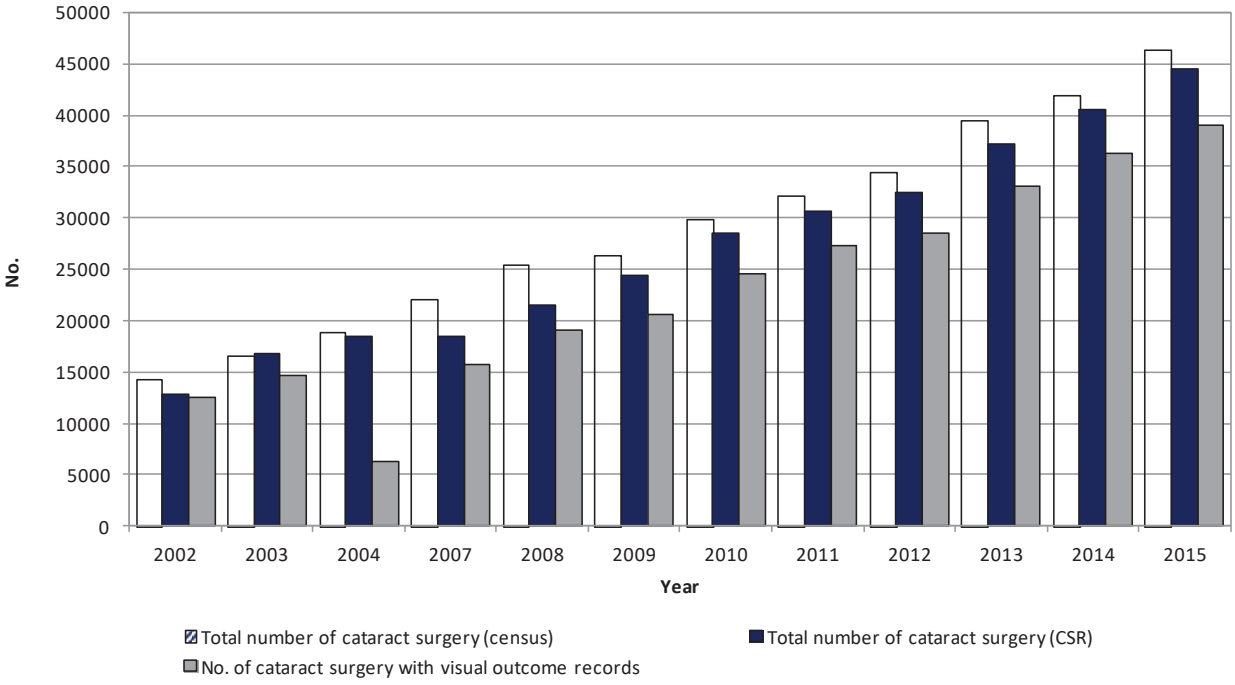


Table 1.1.1-3: Ascertainment by SDP, CSR 2015

Ascertainment									
	Total no. of cataract surgery (based on census) (a)	Total no. of cataract surgery registered to CSR (based on operative record) (b)	Total no. of outcome form submitted (c)	Total no. of outcome form with unaided vision (d)	Total no. of outcome form with refracted vision (e)	% Ascertainment for CSR (b/a*100)	% Ascertainment for Outcome form submitted (c/b*100)	% Ascertainment for Outcome with unaided vision (d/c*100)	% Ascertainment for Outcome with refracted vision (e/c*100)
All centres	**46202**	**44534**	**41408**	**39066**	**36345**	**96.4**	**93.0**	**94.3**	**87.8**
Alor Setar	2340	2336	2336	2262	1934	99.8	100.0	96.8	82.8
Ampang	880	880	880	867	706	100.0	100.0	98.5	80.2
Batu Pahat	577	561	561	482	476	97.2	100.0	85.9	84.8
Bintulu	369	350	253	241	240	94.9	72.3	95.3	94.9
Bukit Mertajam	1328	1265	1227	1090	995	95.3	97.0	88.8	81.1
Ipoh	2566	2547	2509	2451	2201	99.3	98.5	97.7	87.7
Kangar	576	576	532	530	497	100.0	92.4	99.6	93.4
Kemaman	3	3	3	3	3	100.0	100.0	100.0	100.0
Keningau	131	82	82	76	57	62.6	100.0	92.7	69.5
Klang	2091	1978	1978	1831	1688	94.6	100.0	92.6	85.3
Kota Bharu	954	921	689	675	654	96.5	74.8	98.0	94.9
Kuala Krai	580	389	303	303	255	67.1	77.9	100.0	84.2
Kuala Lumpur	1906	1609	891	867	864	84.4	55.4	97.3	97.0
Kuala Pilah	518	452	447	427	415	87.3	98.9	95.5	92.8
Kuala Terengganu	1065	987	960	934	891	92.7	97.3	97.3	92.8
Kuantan	1079	1079	707	706	694	100.0	65.5	99.9	98.2
Kulim	418	418	416	410	375	100.0	99.5	98.6	90.1
Langkawi	60	60	57	57	45	100.0	95.0	100.0	78.9
Likas	23	15	14	10	8	65.2	93.3	71.4	57.1
Melaka	2389	2389	2389	2193	2020	100.0	100.0	91.8	84.6
Miri	903	903	903	801	786	100.0	100.0	88.7	87.0
Muar	943	928	743	696	689	98.4	80.1	93.7	92.7
Pulau Pinang	2240	2240	2227	2216	2106	100.0	99.4	99.5	94.6
Putrajaya	464	463	446	436	401	99.8	96.3	97.8	89.9
Queen Elizabeth KK	1292	1133	877	810	789	87.7	77.4	92.4	90.0
Sandakan	499	499	291	271	270	100.0	58.3	93.1	92.8
Sarikei	647	647	479	477	475	100.0	74.0	99.6	99.2
Selayang	1410	1353	1353	1315	1061	96.0	100.0	97.2	78.4
Serdang	1194	982	982	958	873	82.2	100.0	97.6	88.9
Seremban	1732	1726	1529	1515	1431	99.7	88.6	99.1	93.6
Sibu	586	581	579	550	514	99.1	99.7	95.0	88.8
Sri Manjung	671	666	666	665	568	99.3	100.0	99.8	85.3
Sultan Ismail	827	827	827	774	775	100.0	100.0	93.6	93.7
Sultanah Aminah JB	1643	1643	1640	1508	1400	100.0	99.8	92.0	85.4

Sungai Buloh	792	774	774	733	703	97.7	100.0	94.7	90.8
Sungei Petani	1220	1006	1006	1005	867	82.5	100.0	99.9	86.2
Taiping	1320	1320	1320	1300	1241	100.0	100.0	98.5	94.0
Tanah Merah	9	9	2	2	2	100.0	22.2	100.0	100.0
Tawau	607	607	544	492	405	100.0	89.6	90.4	74.4
Teluk Intan	932	932	931	910	808	100.0	99.9	97.7	86.8
Temerloh	851	851	849	701	715	100.0	99.8	82.6	84.2
Sarawak	2039	2019	2019	1561	1531	99.0	100.0	77.3	75.8

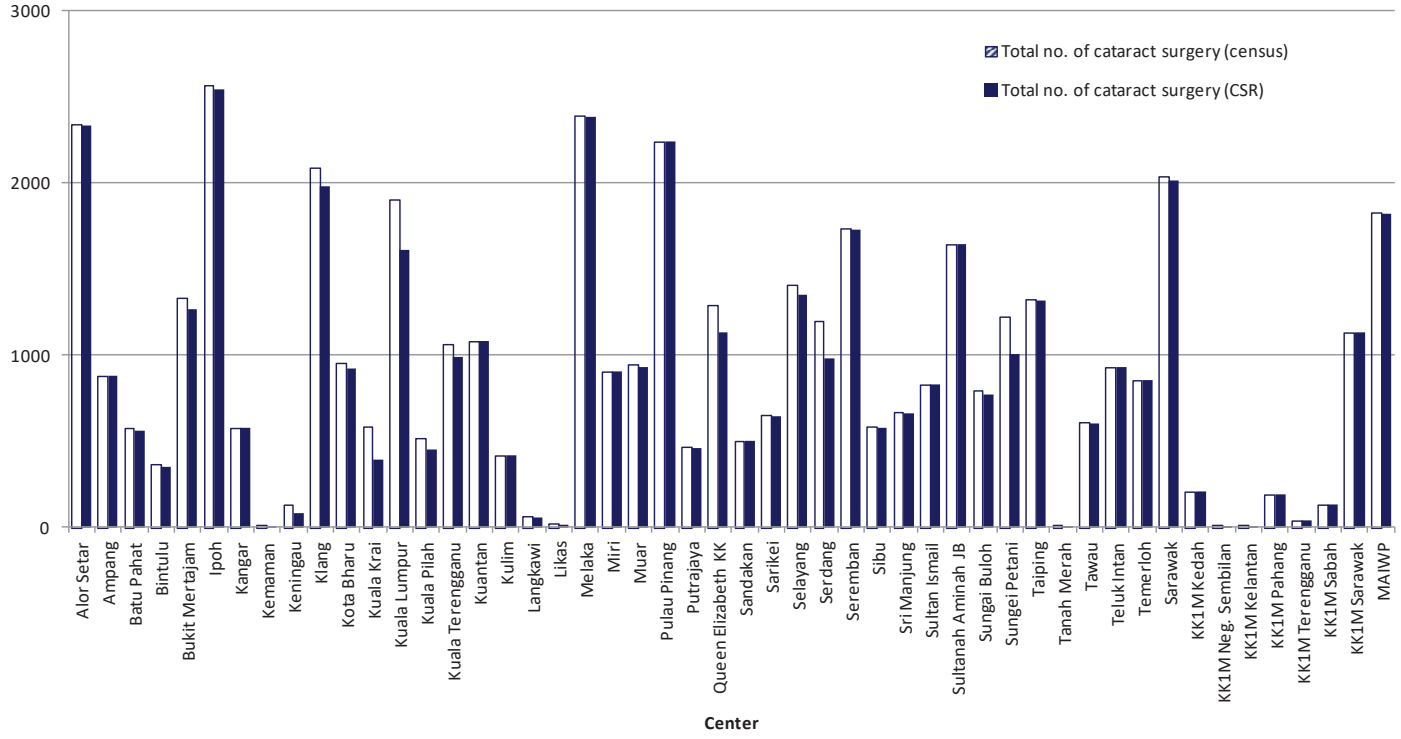


Figure 1.1.1-2: Ascertainment by SDP, CSR 2015

1.2 Characteristics of Patient

1.2.1 Demography

The mean age for patients presented for cataract surgery was 65. A larger percentage of patients presented within the age group of 65-69 years old.

Table 1.2.1-1: Age and Gender Distribution, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Total number of cataract surgery	18426		21496		24438		28506		30611		32473		37150		40532		44534	
Age																		
Mean (years)	64.3		64.6		64.7		65		65		65		65.7		65.9		65.7	
Median (years)	66		66		66		66		66		66		67		67		67	
Minimum (month)	1		1		1.2		1.8		2.6		0.8		0.8		3.3		1.7	
Maximum (years)	97		102		99		99		104		99		105		101		97	
% Distribution																		
Age group, years	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
0-4	54	0.3	49	0.2	56	0.2	60	0.2	49	0.2	64	0.2	20	0.1	25	0.1	68	0.2
5-9	54	0.3	59	0.3	66	0.3	70	0.3	74	0.2	81	0.3	41	0.1	40	0.1	70	0.2
10-14	51	0.3	42	0.2	43	0.2	47	0.2	57	0.2	61	0.2	64	0.2	49	0.1	69	0.2
15-19	49	0.3	49	0.2	52	0.2	70	0.3	72	0.2	64	0.2	82	0.2	77	0.2	62	0.1
20-24	71	0.4	84	0.4	77	0.3	73	0.3	103	0.3	75	0.2	94	0.3	86	0.2	118	0.3
25-29	77	0.4	67	0.3	104	0.4	90	0.3	90	0.3	96	0.3	113	0.3	106	0.3	127	0.3
30-34	80	0.4	100	0.5	106	0.4	137	0.5	125	0.4	146	0.5	133	0.4	128	0.3	177	0.4
35-39	180	1.0	162	0.8	180	0.7	198	0.7	224	0.7	196	0.6	219	0.6	212	0.5	280	0.6
40-44	314	1.7	377	1.8	377	1.5	457	1.6	408	1.3	474	1.5	459	1.2	469	1.2	478	1.1
45-49	727	4.0	777	3.6	881	3.6	966	3.4	984	3.2	988	3.0	1110	3.0	1035	2.6	1205	2.7
50-54	1409	7.7	1630	7.6	1816	7.4	2077	7.3	2186	7.1	2089	6.4	2220	6.0	2365	5.8	2525	5.7
55-59	2128	11.6	2540	11.8	2868	11.7	3379	11.9	3646	11.9	3758	11.6	4158	11.2	4507	11.1	4954	11.1
60-64	2895	15.7	3497	16.3	4088	16.7	4846	17.0	5341	17.5	5689	17.5	6443	17.3	7272	17.9	7914	17.8
65-69	3675	19.9	4169	19.4	4656	19.1	5069	17.8	5609	18.3	6372	19.6	7556	20.3	8563	21.1	9742	21.9
70-74	3425	18.6	4138	19.3	4878	20.0	5651	19.8	5870	19.2	6102	18.8	7045	19.0	7444	18.4	7912	17.8
75-79	2059	11.2	2456	11.4	2789	11.4	3446	12.1	3816	12.5	4135	12.7	5077	13.7	5502	13.6	5965	13.4
≥80	1128	6.1	1279	6.0	1401	5.7	1868	6.6	1957	6.4	2083	6.4	2316	6.2	2652	6.5	2868	6.4
Missing	50	0.3	21	0.1	0	0	2	0.0	0	0	0	0	0	0	0	0	0	0
Gender																		
Male	8820	47.9	10295	47.9	11829	48.4	13631	47.8	14696	48	15506	47.8	17604	47.4	19109	47.2	21486	48.3
Female	9606	52.1	11168	52	12609	51.6	14871	52.2	15915	52	16966	52.3	19546	52.6	21423	52.8	23048	51.7
Missing	0	0	33	0.2	0	0	4	0	0	0	1	0	0	0	0	0	0	0

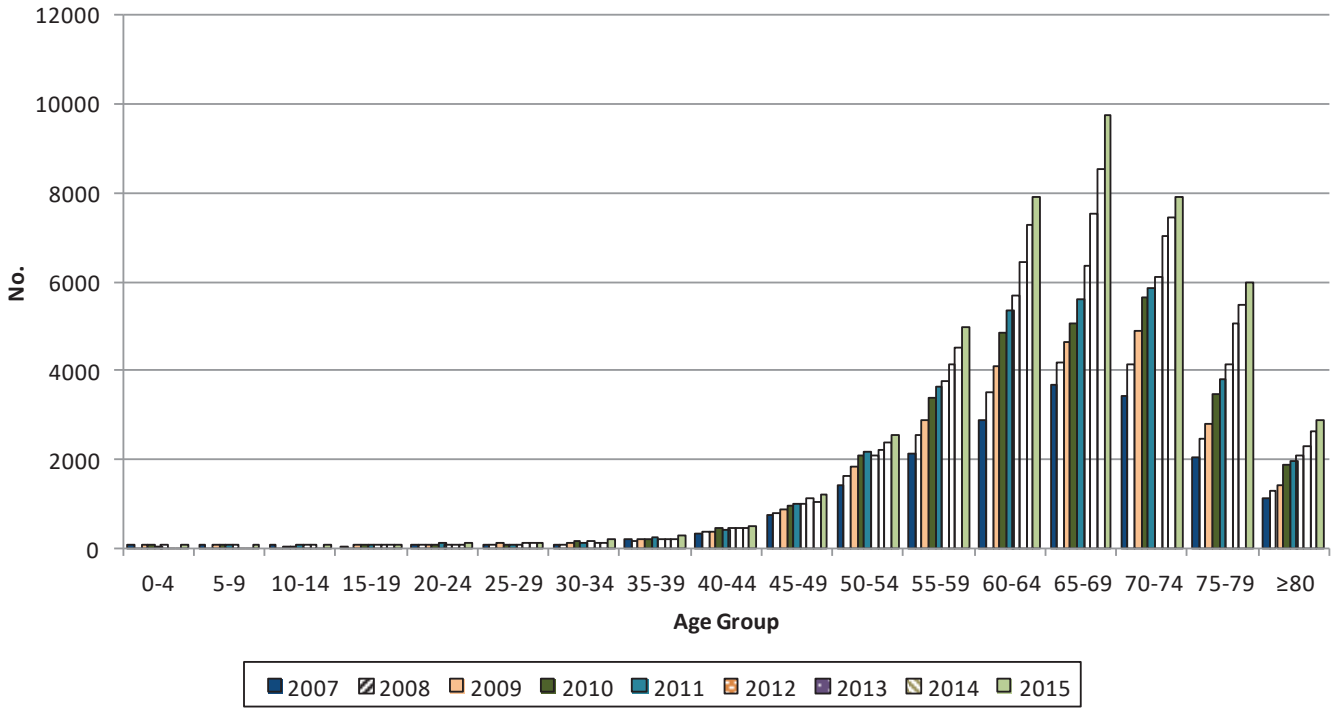


Figure 1.2.1-1: Age Distribution, CSR 2007-2015

1.2.2 Systemic Co-morbidity

The common systemic co-morbidities encountered in patients presenting for cataract surgery were hypertension, diabetes mellitus, ischemic heart disease and renal failure The overall percentage of such patients showed an increasing trend over the years. The percentages of patients with hypertension and diabetes mellitus were increasing.

Table 1.2.2-1: Distribution of Systemic Co-morbidity, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
Percentage of patients with any systemic co-morbidity	67.5		68.7		71		70.6		72		72.4		74.8		75.6		76.2	
Percentage of patients with specific systemic co-morbidity																		
	n	**%**	**n**	**%**	**n**	**%**	**N**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
1. Hypertension	8630	46.8	10932	50.9	13050	53.4	15630	54.8	17238	56.3	18655	57.5	22327	60.1	24832	61.3	27700	62.2
2. Diabetes Mellitus	6869	37.3	8188	38.1	9556	39.1	11598	40.7	12778	41.7	13635	42.0	16073	43.3	17976	44.4	19670	44.2
3. Ischaemic Heart Disease	1668	9.1	2037	9.5	2294	9.4	2441	8.6	2515	8.2	2565	7.9	3026	8.1	3283	8.1	3438	7.7
4. Renal Failure	461	2.5	624	2.9	679	2.8	804	2.8	814	2.7	822	2.53	1021	2.7	1160	2.9	1409	3.2
5. Cerebrovascular accident	0	0	29	0.1	305	1.2	302	1.1	380	1.2	352	1.08	444	1.2	571	1.4	618	1.4
6. COAD/Asthma	798	4.3	955	4.4	1039	4.3	1024	3.6	1088	3.6	1104	3.4	1340	3.6	1543	3.8	1544	3.5
7. Others	1399	7.6	1974	9.2	2460	10.1	2891	10.1	3538	11.6	3916	12.06	5766	15.5	6797	16.8	7904	17.7

Number or percentage may be more than total or 100% as patients might have more than one systemic co-morbidity

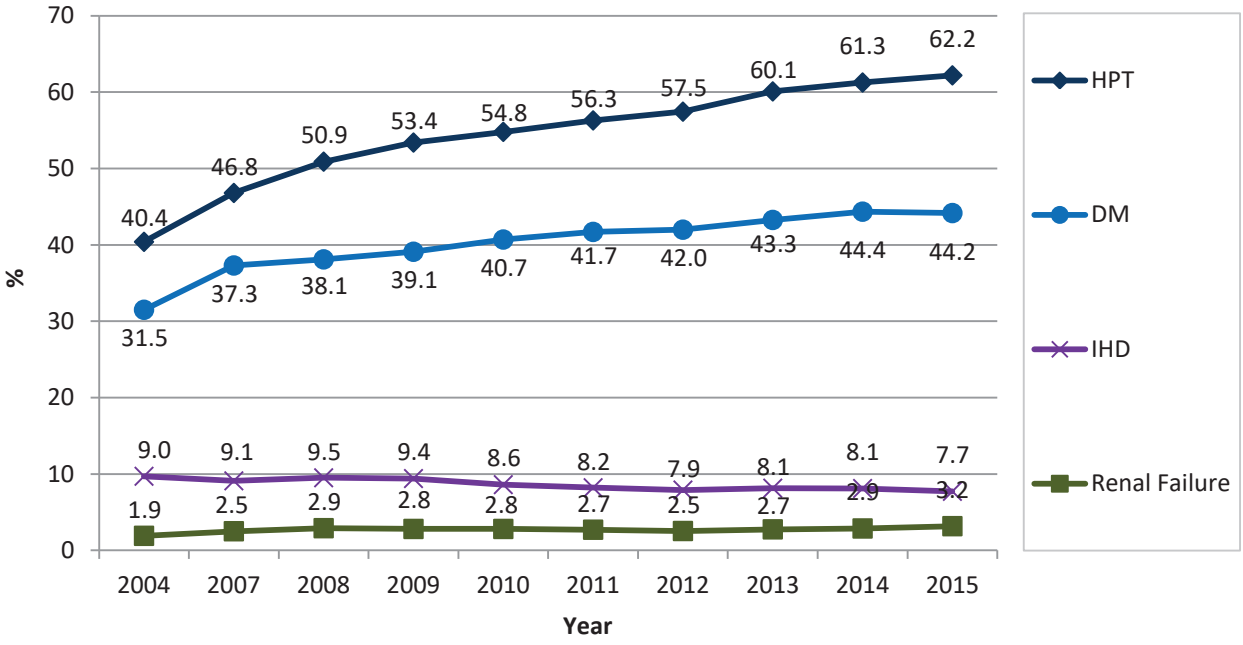


Figure 1.2.2-1: Percentage of Patients with Specific Ocular Co-morbidity, CSR 2002-2015

1.2.3 Cause of Cataract

Majority of the patients presented with primary cataract. In eyes with primary cataract, senile or age-related cataract was the commonest. In eyes with secondary cataract, trauma was the commonest. This pattern remained unchanged over the years.

Table 1.2.3-1: Causes of Cataract, CSR 2007-2015

Year	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Primary cataract	17410	94.4	20329	94.6	23117	94.6	26981	94.7	29050	94.9	30813	94.9	35116	94.5	38908	96.0	42949	96.4
Secondary cataract	557	3	530	2.5	587	2.4	660	2.3	764	2.5	608	1.9	547	1.5	568	1.4	750	1.7
Missing value	460	2.5	637	3	734	3	865	3	797	2.6	1052	3.2	1487	4.0	1056	2.6	835	1.9
Primary Cataract (N)	**17410**		**20329**		**23117**		**26981**		**29050**		**30813**		**35116**		**38168**		**42237**	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Senile/age related	17075	98.1	19995	98.4	22782	98.6	26671	98.9	28736	98.9	30299	98.3	34841	99.2	37904	99.3	41822	99.0
Congenital	129	0.7	124	0.6	124	0.5	44	0.2	34	0.1	57	0.18	11	0.0	13	0.0	55	0.1
Development	169	1	156	0.8	166	0.7	236	0.9	249	0.9	419	1.36	233	0.7	215	0.6	302	0.7
Others	37	0.2	54	0.3	45	0.2	30	0.1	31	0.1	38	0.12	31	0.1	36	0.1	58	0.1
Secondary Cataract (N)	**557**		**530**		**587**		**660**		**764**		**608**		**547**		**541**		**717**	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Trauma	355	63.7	330	62.3	330	56.2	346	52.4	383	50.1	313	51.48	322	58.9	343	63.4	423	59.0
Drug induced	55	9.9	76	14.3	79	13.5	64	9.7	60	7.9	46	7.57	48	8.8	71	13.1	96	13.4
Surgery induced	82	14.7	39	7.4	107	18.2	93	14.1	101	13.2	122	20.07	88	16.1	78	14.4	110	15.3
Others	65	11.7	85	16	71	12.1	157	23.8	220	28.8	127	20.89	89	16.3	49	9.1	88	12.3

1.2.4 First or Second Eye Surgery

Two third of patients were operated for the first time. Only one third of the patients returned for second surgery (for the fellow eye). This pattern remained unchanged since 2007. This was despite the declining percentage of eyes with intra-operative complications during surgery in the previous eye surgery (from 5.6% in 2002 to 2.5% in 2015).

The mean duration between the first and fellow eye showed an initial increasing trend, from 23.4 months in 2007 to 47.5 months in 2014, but reduced to 46.6 months in 2015.

Table 1.2.4-1: First of Second/Fellow eye Surgery, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
First eye surgery	12810	69.5	14610	68.0	16446	67.3	18919	66.4	20466	66.9	21539	66.3	23986	64.6	26080	64.3	28807	64.7
Fellow eye surgery	5559	30.2	6849	31.9	7938	32.5	9441	33.1	10088	33.0	10896	33.6	13045	35.1	14267	35.2	15665	35.2
Missing	57	0.3	37	0.2	54	0.2	146	0.5	57	0.2	38	0.1	119	0.3	185	0.5	62	0.1
Patients who had second surgery in the same year	759	4.1	1135	5.3	2702	11.1	2129	7.5	2246	7.3	2545	7.8	3214	8.7	3336	8.2	3721	8.4
Period of time between first and fellow eye surgery (months)																		
N	4860		5953		7353		9378		10009		10784		12922		14170		15562	
Mean	23.4		22		24.4		36.1		39.2		40.9		42.3		47.5		46.6	
SD	24.3		22.8		31.5		43.6		49.3		52.4		58.4		59.6		62.4	
Median	13.3		13.1		12.1		15.1		15.4		14.7		14.3		15.0		14.5	
Patients who had cataract surgery before	5559		6849		7938		9441		10088		10896		13045		14267		15665	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Eyes with intra-operative complications during surgery in the first eye	313	5.6	298	4.4	346	4.4	324	3.4	302	3.0	281	2.6	341	2.6	386	2.7	396	2.5

1.2.5 Past Ocular Surgery of the Operated Eye

Most eyes to be operated had no prior ocular surgery. The commonest past ocular surgery was vitreoretinal (VR) surgery and pterygium surgery. The percentage of eye with past history of filtering surgery and penetrating keratoplasty remained low.

Table 1.2.5-1: Past Ocular Surgery of the Operated Eye, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients	18426		21496		24438		28506		30611		32473		37150		40532		44534	
No. of eyes with past ocular surgery record (N)	17379		20674		23109		26711		28349		30687		34625		37935		42425	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Patients with no past ocular surgery	16545	95.2	20010	96.8	22387	96.9	25870	96.9	27400	96.7	29770	97.0	33721	97.4	36938	97.4	41080	96.8
Vitreoretinal surgery	261	1.4	161	0.8	267	1.2	352	1.3	325	1.1	326	1.1	350	1.0	329	0.9	581	1.4
Pterygium excision	869	0.5	140	0.7	164	0.7	212	0.8	207	0.7	208	0.7	268	0.8	386	1.0	401	0.9
Filtering surgery	1043	0.4	57	0.3	69	0.3	65	0.2	80	0.3	75	0.2	66	0.2	60	0.2	99	0.2
Penetrating keratoplasty	1738	0.1	14	0.1	18	0.1	21	0.1	11	0	11	0.0	18	0.1	8	0.0	21	0.0
Others	417	2.4	304	1.5	216	0.9	203	0.8	332	1.2	305	1.0	220	0.6	236	0.6	263	0.6

Number or percentage may be more than total or 100% as patients might have more than one past ocular surgery

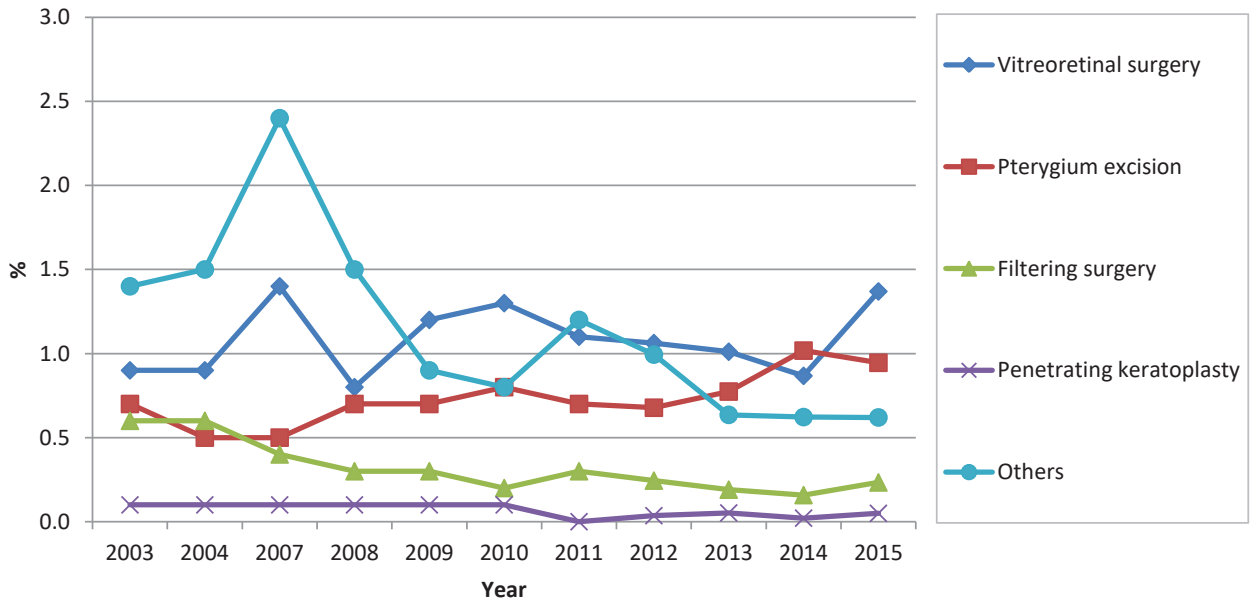


Figure 1.2.5-1: Percentage Distribution of Past Ocular Surgery of the Operated Eye, CSR 2002-2015

1.2.6 Pre-existing Ocular Co-morbidity

One third of the eyes to be operated had ocular co-morbidities. The commonest was diabetic retinopathy (DR) in any forms then followed by glaucoma. The percentage of eyes presented with lens related complications (phacolytic and phacomorphic) appeared to be decreasing.

Table 1.2.6-1: Distribution of Pre-existing Ocular Co-Morbidity, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Patients with any ocular co-morbidity	5973	32.4	7269	33.8	9442	38.6	11977	42	12756	41.7	13024	40.1	15088	40.6	16142	39.8	17521	39.3
Patients with specific ocular co-morbidity																		
Anterior segment																		
1. Glaucoma	1126	6.1	1408	6.6	1655	6.8	1799	6.3	1976	6.5	2095	6.5	2349	6.3	2385	5.9	2861	6.4
2. Pterygium involving the cornea	288	1.6	319	1.5	345	1.4	387	1.4	405	1.3	405	1.3	477	1.3	540	1.3	534	1.2
3. Pseudoexfoliation	221	1.2	253	1.2	318	1.3	289	1	312	1	365	1.1	381	1.0	445	1.1	492	1.1
4. Corneal opacity	176	1	194	0.9	231	0.9	251	0.9	299	1	311	1	338	0.9	447	1.1	460	1.0
5. Chronic uveitis	81	0.4	63	0.3	80	0.3	89	0.3	98	0.3	70	0.2	96	0.3	100	0.2	125	0.3
Len related complication																		
1. Phacomorphic	89	0.5	85	0.4	83	0.3	120	0.4	114	0.4	138	0.4	90	0.2	110	0.3	156	0.4
2. Phacolytic	44	0.2	45	0.2	47	0.2	59	0.2	69	0.2	41	0.1	56	0.2	63	0.2	88	0.2
3. Subluxated/Disclosed	101	0.5	89	0.4	83	0.3	95	0.3	119	0.4	120	0.4	112	0.3	119	0.3	154	0.3
Posterior segment																		
1. Diabetic Retinopathy: Non Proliferative	1125	6.1	1273	5.9	916	3.7	996	3.5	1783	5.8	1915	5.9	2214	6.0	2471	6.1	2603	5.8
2. Diabetic Retinopathy: Proliferative	465	2.5	614	2.9	1307	5.3	1973	6.9	1031	3.4	933	2.9	1021	2.7	1134	2.8	1338	3.0
3. Diabetic Retinopathy: CSME*	198	1.1	221	1	278	1.1	346	1.2	384	1.3	368	1.1	473	1.3	544	1.3	624	1.4
4. Diabetic Retinopathy: Vitreous haemorrhage	176	1	165	0.8	230	0.9	250	0.9	296	1	258	0.8	237	0.6	275	0.7	347	0.8
5. ARMD	231	1.3	259	1.2	387	1.6	462	1.6	494	1.6	521	1.6	609	1.6	695	1.7	875	2.0
6. Other macular disease (includes hole or scar)	118	0.6	148	0.7	188	0.8	277	1	251	0.8	308	1.0	309	0.8	375	0.9	431	1.0
7. Optic nerve disease, any type	71	0.4	69	0.3	118	0.5	149	0.5	123	0.4	182	0.6	191	0.5	206	0.5	238	0.5
8. Retinal detachment	218	1.2	204	0.9	294	1.2	308	1.1	432	1.4	341	1.1	295	0.8	270	0.7	487	1.1
9. Cannot be assessed	1357	7.4	2092	9.7	3139	12.8	4457	15.6	5053	16.5	4914	15.1	5881	15.8	6238	15.4	5960	13.4
Miscellaneous																		
1. Amblyopia	71	0.4	65	0.3	62	0.3	75	0.3	99	0.3	98	0.3	97	0.3	93	0.2	106	0.2
2. Significant previous eye trauma	41	0.2	39	0.2	39	0.2	51	0.2	45	0.2	49	0.2	48	0.1	61	0.2	84	0.2
3. Pre-existing non glaucoma field defect	4	0	2	0	6	0	3	0	4	0	6	0.0	4	0.0	8	0.0	15	0.0
4. Others	668	3.6	755	3.5	1053	4.3	1321	4.6	1505	4.9	1729	5.3	2119	5.7	2065	5.1	2444	5.5

*CSME=Clinically Significant Macular Oedema

Number or percentage may be more than total or 100% as patients might have more than one ocular co-morbidity

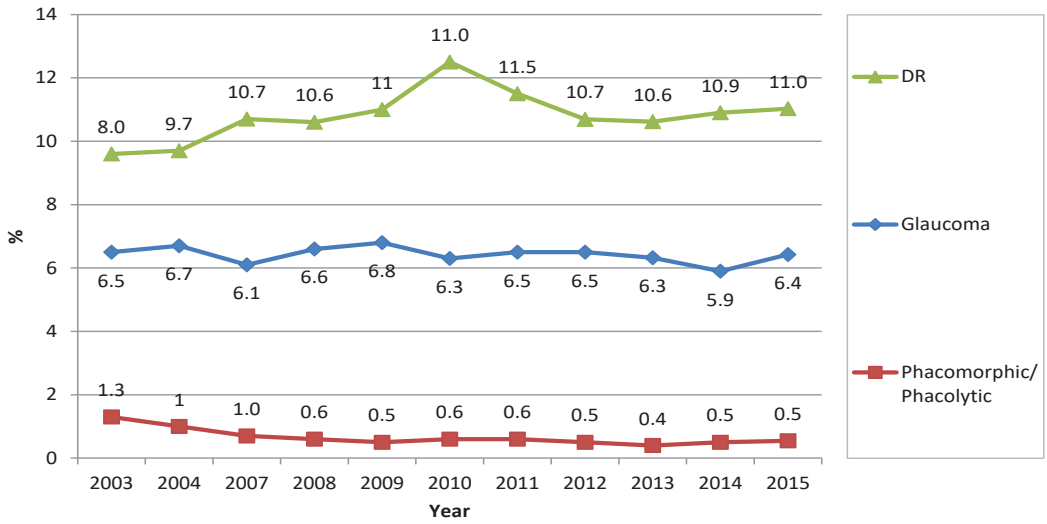


Figure 1.2.6-1: Percentage Distribution of Eyes with Diabetic Retinopathy, Glaucoma and Lens-induced Glaucoma, CSR 2002-2015

1.2.7 Pre-operative Vision

In each year, more than 70% of all patients did not have refraction pre-operatively. The proportion of presenting eyes with unaided vision in the category of <3/60 appeared to be decreasing but the percentages were still high (42.9% in 2015). The bimodal pattern of pre-operative vision remained the same over the years. The first peak was at 6/18 and the second peak was at CF/HM. There was a low proportion of patients between 5/60 to1/60.

Table 1.2.7-1: Distribution of Pre-Operative Vision, CSR 2007-2015

Year		2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)		18426		21496		24438		28506		30611		32473		37150		40532		44534	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Patients with unaided VA		18356	99.6	21212	98.7	23796	97.4	27977	98.1	30018	98.1	31833	98.0	35988	96.9	39019	96.3	43260	97.1
Patients with refracted VA		5071	27.8	5683	26.4	5150	21.1	7895	27.7	7932	25.9	7315	22.5	8418	22.7	9524	23.5	13455	30.2
Patients with no refraction		13355	72.5	15813	73.6	19288	78.9	20611	72.3	22679	74.1	25158	77.5	28732	77.3	31008	76.5	31079	69.8
6/12 and better	Unaided	602	3.3	646	3.0	788	3.3	1016	3.6	1133	3.8	1397	4.4	1865	5.2	1855	4.8	2115	4.9
	Refracted	678	13.4	935	16.5	944	18.3	1474	18.7	1712	21.6	1840	25.2	2297	27.3	2280	23.9	2966	22.0
<6/12 - 6/18	Unaided	1010	5.5	1172	5.5	1392	5.8	1750	6.3	2087	7.0	2311	7.3	2701	7.5	2958	7.6	3483	8.1
	Refracted	625	12.3	851	15.0	838	16.3	1262	16.0	1481	18.7	1503	20.5	1564	18.6	1832	19.2	2483	18.5
<6/18 - 6/60	Unaided	5638	30.7	6840	32.2	7869	33.1	9238	33.0	10255	34.2	11296	35.5	12787	35.5	14404	36.9	15805	36.5
	Refracted	1497	29.5	1800	31.7	1729	33.6	2672	33.8	2731	34.4	2531	34.6	2788	33.1	3243	34.1	4531	33.7
<6/60 - 3/60	Unaided	1086	5.9	1363	6.4	1588	6.7	2085	7.5	2227	7.4	2316	7.3	2686	7.5	2954	7.6	3285	7.6
	Refracted	253	5.0	241	4.2	229	4.4	390	4.9	324	4.1	228	3.1	361	4.3	383	4.0	630	4.7
<3/60	Unaided	9920	54.0	11180	52.7	12159	51.1	13888	49.6	14316	47.7	14513	45.6	15949	44.3	16848	43.2	18572	42.9
	Refracted	2018	39.8	1845	32.5	1410	27.4	2097	26.6	1684	21.2	1213	16.6	1408	16.7	1786	18.8	2845	21.1
Unaided VA for patient with no refraction																			
n		13355		15813		19288		20611		22679		25158		28732		31008		31079	
6/12 and better		396	3.0	414	2.6	553	2.9	651	3.2	702	3.1	887	3.5	1210	4.2	1228	4.0	1335	4.3
<6/12 - 6/18		643	4.8	726	4.6	992	5.1	1062	5.2	1217	5.4	1431	5.7	1704	5.9	1893	6.1	2006	6.5
<6/18 - 6/60		3794	28.4	4509	28.5	5654	29.3	5795	28.1	6624	29.2	7762	30.9	8755	30.5	9875	31.8	9619	31.0
<6/60 - 3/60		696	5.2	920	5.8	1182	6.1	1382	6.7	1509	6.7	1755	7.0	1943	6.8	2056	6.6	2125	6.8
<3/60		7666	57.4	9009	57.0	10412	54.0	11302	54.8	12134	53.5	12777	50.8	14091	49.0	14525	46.8	14846	47.8

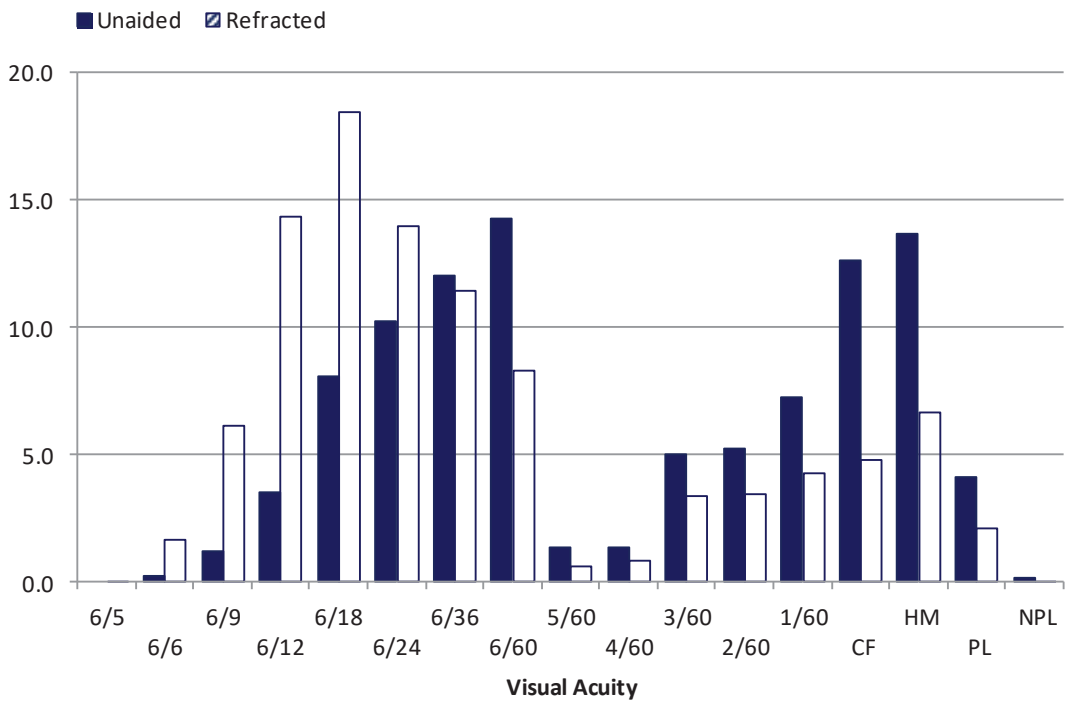


Figure 1.2.7-1: Distribution of Pre-operative Vision (Unaided and Refracted) CSR 2015

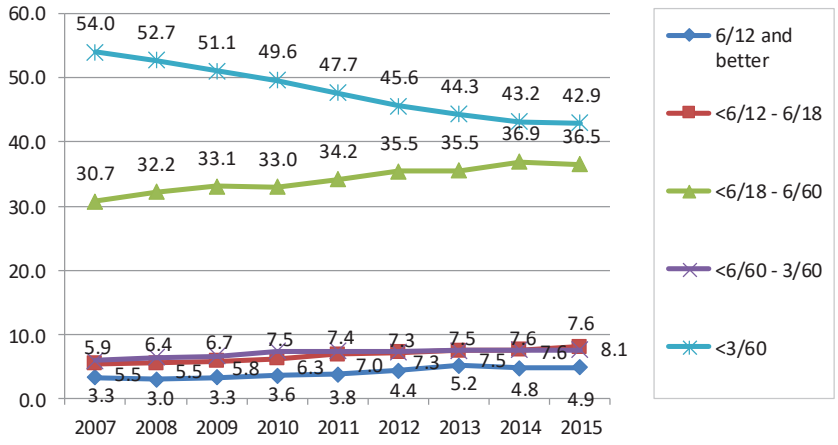


Figure 1.2.7-2: Distribution of Pre-operative Vision (Unaided), CSR 2002-2015

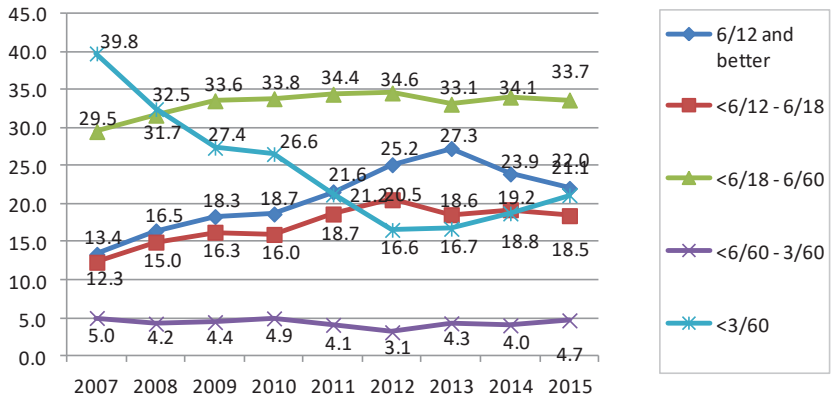


Figure 1.2.7-1: Distribution of Pre-operative Vision (Refracted), CSR 2002-2015

1.2.8 Target Refractive Power

The mean target refractive power in 2015 was -0.4D (SD 0.3), with minimum at -9.9D and maximum at +6.1D. The percentage of eyes aimed to have target refraction within (-0.5 to 0 D) was 73.3% in 2015. Overall data demonstrated that most surgeons participated in CSR aimed to give patient either emmetropic or slightly myopic refraction post-operatively.

Table 1.2.8-1: Distribution of Target Refractive Power, CSR 2007-2015

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Operated eye (N)	11876	15083	20279	24524	25885	26059	28685	32256	36703
Mean	-0.5	-0.1	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
SD	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3
Median	-0.5	-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Minimum	-9	-9.9	-9.9	-9.1	-9.1	-8	-8.5	-8.1	-9.9
Maximum	5	9.5	5.9	6	4.8	9	9	6.0	6.1

Table 1.2.8-2: Distribution of Target Refractive Power (excluding age 0-5 years), CSR 2009-2015

Year	2009	2010	2011	2012	2013	2014	2015
Operated eye (N)	20236	24490	25848	26017	28678	32236	36663
Mean	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
SD	0.4	0.4	0.3	0.4	0.3	0.3	0.3
Median	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Minimum	-9.9	-9.1	-9.1	-8	-8.5	-8.1	-9.9
Maximum	4.9	6	4.8	9	9	2.8	6.1

Table 1.2.8-3: Distribution of Target Refractive Power, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Target refractive power (Dioptres)	Operated eye N=11876		Operated eye N=15083		Operated eye N=20279		Operated eye N=24524		Operated eye N=25885		Operated eye N=26059		Operated eye N=28685		Operated eye N=32256		Operated eye N=36703	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-10-<(-9.5)	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
-9.5-<(-9)	2	0	1	0	1	0	2	0	1	0	0	0	0	0	0	0	1	0
-9-<(-8.5)	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
-8.5-<(-8)	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0.0
-8-<(-7.5)	2	0	3	0	1	0	1	0	0	0	1	0	0	0	1	0	1	0
-7.5-<(-7)	1	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	1	0
-7-<(-6.5)	3	0	1	0	0	0	1	0	1	0	1	0	1	0	1	0	0	0
-6.5-<(-5)	1	0	2	0	7	0	4	0	10	0	10	0	9	0	10	0	4	0
-5-<(-4.5)	3	0	4	0	7	0	3	0	3	0	5	0	5	0	1	0	4	0
-4.5-<(-4)	1	0	3	0	5	0	10	0	3	0	5	0	3	0	4	0	3	0
-4-<(-3.5)	7	0.1	8	0.1	11	0.1	5	0	11	0	5	0	1	0	5	0	5	0
-3.5-<(-3)	6	0.1	7	0	11	0.1	15	0.1	12	0.1	6	0	8	0	5	0	10	0
-3-<(-2.5)	12	0.1	22	0.1	18	0.1	29	0.1	15	0.1	15	0.1	15	0.1	9	0.0	13	0.0
-2.5-<(-2)	26	0.2	21	0.1	29	0.1	33	0.1	26	0.1	38	0.2	35	0.1	27	0.1	31	0.1
-2-<(-1.5)	77	0.6	48	0.3	58	0.3	46	0.2	54	0.2	67	0.3	55	0.2	52	0.2	61	0.2
-1.5-<(-1)	414	3.5	373	2.5	260	1.3	292	1.2	201	0.8	226	0.9	174	0.6	209	0.7	236	0.6
-1-<(-0.5)	4299	36.2	6151	40.8	7972	39.3	7590	31	7507	29	7190	27.6	6241	21.8	6840	21.2	8908	24.3
-0.5-<0	6077	51.2	7480	49.6	10604	52.3	15218	62.1	16913	65.3	17421	66.9	21135	73.7	24210	75.1	26887	73.3
0-<0.5	821	6.9	731	4.8	977	4.8	920	3.8	849	3.3	629	2.4	697	2.4	790	2.5	461	1.3
0.5-<1	91	0.8	158	1	182	0.9	237	1	234	0.9	216	0.8	187	0.7	73	0.2	35	0.1
1-<1.5	8	0.1	31	0.2	17	0.1	23	0.1	20	0.1	32	0.1	8	0	4	0	13	0
1.5-<2	5	0	14	0.1	22	0.1	19	0.1	9	0	52	0.2	28	0.1	5	0.0	8	0.0
2-<2.5	13	0.1	10	0.1	85	0.4	69	0.3	12	0.1	123	0.5	69	0.2	5	0.0	3	0.0
2.5-<3	1	0	6	0	4	0	3	0	2	0	10	0	11	0	2	0	2	0
3-<3.5	1	0	2	0	2	0	0	0	1	0	1	0	0	0	0	0	1	0
3.5-<4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0.0
4-<4.5	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0.0
4.5-<5	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0
5-<5.5	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0.0
5.5-<6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
6-<6.5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0.0
6.5-<7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7-<7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.5-<8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-<8.5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8.5-<9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
9-<9.5	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
9.5-10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Values outside the +10D and -10D were excluded from analysis as they would skew the mean.

Table 1.2.8-4: Distribution of Target Refractive Power (excluding age 0-5 years), CSR 2007-2015

Year	2009		2010		2011		2012		2013		2014		2015	
Target refractive power (Dioptres)	Operated eye N=20236		Operated eye N=24490		Operated eye N=25848		Operated eye N=26017		Operated eye N=28678		Operated eye N=32236		Operated eye N=36663	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
-10-<(-9.5)	2	0.0	0	0	0	0	0	0	0	0	0	0	1	0
-9.5-<(-9)	1	0.0	2	0	1	0	0	0	0	0	0	0	1	0
-9-<(-8.5)	0	0.0	0	0	0	0	0	0	1	0	0	0	1	0
-8.5-<(-8)	0	0.0	0	0	0	0	0	0	1	0	1	0	2	0
-8-<(-7.5)	1	0.0	1	0	0	0.0	1	0.0	0	0	1	0	1	0
-7.5-<(-7)	1	0.0	1	0	0	0.0	2	0.0	0	0	0	0	1	0
-7-<(-6.5)	0	0.0	1	0.0	1	0.0	1	0.0	1	0	1	0	0	0
-6.5-<(-5)	6	0.0	4	0.0	10	0.0	10	0.0	9	0	10	0	4	0
-5-<(-4.5)	7	0.0	3	0.0	3	0.0	5	0.0	5	0	1	0	4	0
-4.5-<(-4)	5	0.0	10	0.0	3	0.0	5	0.0	3	0	4	0	3	0
-4-<(-3.5)	9	0.0	5	0.0	11	0.0	5	0.0	1	0	5	0	5	0
-3.5-<(-3)	10	0.1	15	0.1	12	0.1	6	0.0	8	0	5	0	10	0
-3-<(-2.5)	18	0.1	29	0.1	15	0.1	15	0.1	15	0.1	9	0.0	13	0.0
-2.5-<(-2)	29	0.1	33	0.1	26	0.1	37	0.1	33	0.1	27	0.1	31	0.1
-2-<(-1.5)	58	0.3	46	0.2	53	0.2	67	0.3	55	0.2	52	0.2	59	0.2
-1.5-<(-1)	259	1.3	291	1.2	199	0.8	226	0.9	174	0.6	209	0.7	236	0.6
-1-<(-0.5)	7968	39.4	7587	31.0	7503	29.0	7186	27.6	6240	21.8	6839	21.2	8905	24.3
-0.5-<0	10587	52.3	15210	62.1	16903	65.4	17406	66.9	21132	73.7	24202	75.1	26878	73.3
0-<0.5	970	4.8	910	3.7	836	3.2	623	2.4	696	2.4	788	2.4	457	1.3
0.5-<1	177	0.9	235	1.0	232	0.9	215	0.8	187	0.7	69	0.2	34	0.1
1-<1.5	17	0.1	19	0.1	16	0.1	25	0.1	8	0	4	0	9	0
1.5-<2	20	0.1	16	0.1	8	0.0	49	0.2	28	0.1	3	0.0	3	0.0
2-<2.5	85	0.4	68	0.3	12	0.1	121	0.5	69	0.2	5	0.0	2	0.0
2.5-<3	4	0.0	3	0.0	2	0.0	8	0.0	11	0	1	0	1	0
3-<3.5	1	0.0	0	0.0	1	0.0	1	0.0	0	0	0	0	0	0
3.5-<4	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	1	0
4-<4.5	0	0.0	0	0.0	0	0.0	1	0.0	0	0	0	0	0	0
4.5-<5	1	0.0	1	0.0	1	0.0	0	0.0	0	0	0	0	0	0
5-<5.5	0	0.0	1	0.0	0	0.0	0	0.0	0	0	0	0	0	0
5.5-<6	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0
6-<6.5	0	0.0	1	0.0	0	0.0	0	0.0	0	0	0	0	1	0
6.5-<7	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0
7-<7.5	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0
7.5-<8	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
8-<8.5	0	0.0	0	0	0	0	1	0	0	0	0	0	0	0
8.5-<9	0	0.0	0	0	0	0	1	0	0	0	0	0	0	0
9-<9.5	0	0.0	0	0	0	0	1	0	1	0	0	0	0	0
9.5-10	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0

Values outside the +10D and -10D were excluded from analysis as they would skew the mean..

1.3 Cataract Surgical Practice

1.3.1 Number of Cataract Surgery by SDP

The number of SDPs performing between >1000 cataract surgeries per year appeared to be increasing.

Table 1.3.1-1: Range of Cataract Surgery Registered by SDP per year, Census versus CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR
No. of SDP	33	36	36	36	36	36	36	36	36	36	36	36	41	41	43	43	43	43
	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR	Census	CSR
<100	1	1	1	1	1	1	1	1	1	1	1	1	4	4	2	2	2	2
100-500	15	10	10	15	12	15	10	13	9	9	8	8	7	9	8	11	8	11
501-1000	8	14	14	11	14	12	14	12	16	16	15	16	14	13	15	14	15	14
>1000	9	11	11	9	9	8	11	10	10	10	12	11	16	15	18	16	18	16

Table 1.3.1-2: Number of Cataract Surgery by Month, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
Month	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
January	1579	8.6	1862	8.7	1668	6.8	2347	8.2	2241	7.3	2460	7.6	2844	7.7	3161	7.8	3528	7.9
February	1290	7.0	1653	7.7	1884	7.7	1985	7.0	1815	5.9	2762	8.5	2448	6.6	3258	8.0	2797	6.3
March	1782	9.7	1812	8.4	2122	8.7	2850	10.0	2676	8.7	3055	9.4	2997	8.1	3924	9.7	4057	9.1
April	1625	8.8	2321	10.8	2295	9.4	2714	9.5	2634	8.6	2612	8.0	3378	9.1	3855	9.5	4186	9.4
May	1618	8.8	1871	8.7	2036	8.3	2559	9.0	2576	8.4	3004	9.3	3233	8.7	3153	7.8	3561	8.0
June	1476	8.0	1950	9.1	2086	8.5	2591	9.1	2686	8.8	2652	8.2	3119	8.4	3501	8.6	3863	8.7
July	1808	9.8	2049	9.5	2322	9.5	2670	9.4	2845	9.3	3121	9.6	3557	9.6	3122	7.7	3080	6.9
August	1814	9.8	1791	8.3	1975	8.1	2401	8.4	2570	8.4	2237	6.9	2591	7.0	3403	8.4	3803	8.5
September	1486	8.1	1462	6.8	1572	6.4	1659	5.8	2468	8.1	2454	7.6	3372	9.1	3433	8.5	3702	8.3
October	1376	7.5	1552	7.2	2266	9.3	2447	8.6	2794	9.1	3064	9.4	3421	9.2	3163	7.8	4131	9.3
November	1443	7.8	1646	7.7	2006	8.2	2102	7.4	2632	8.6	2625	8.1	3162	8.5	3477	8.6	4107	9.2
December	1129	6.1	1527	7.1	2206	9.0	2181	7.6	2674	8.7	2427	7.5	3028	8.2	3082	7.6	3719	8.4

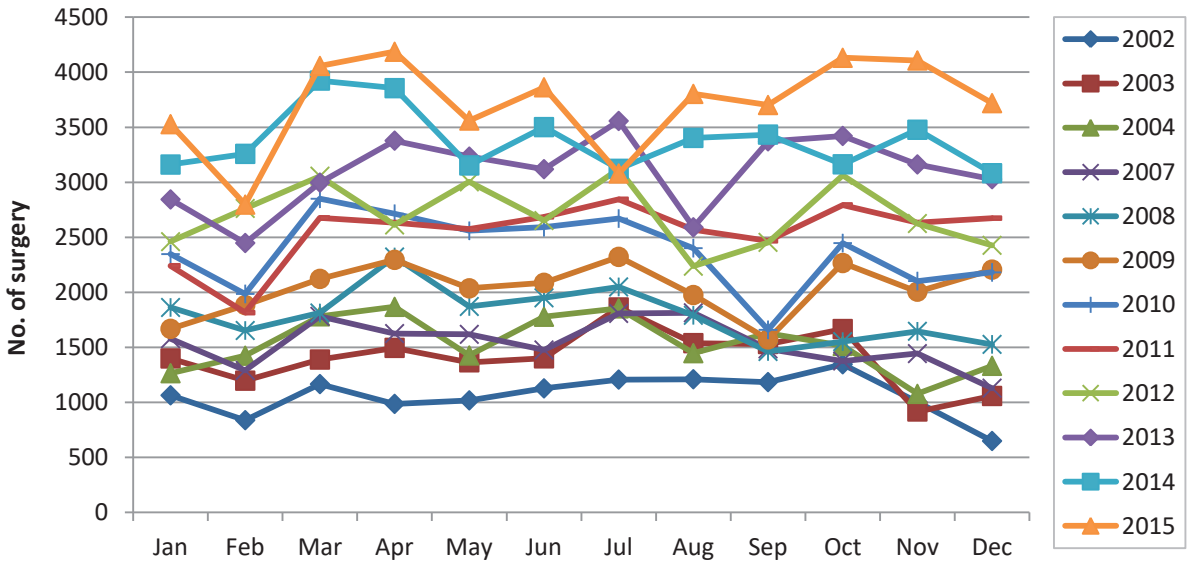


Figure 1.3.1-1: Number of Cataract Surgeries by Month, CSR 2002-2015

1.3.2 Number of Cataract Surgery Registered to CSR by State

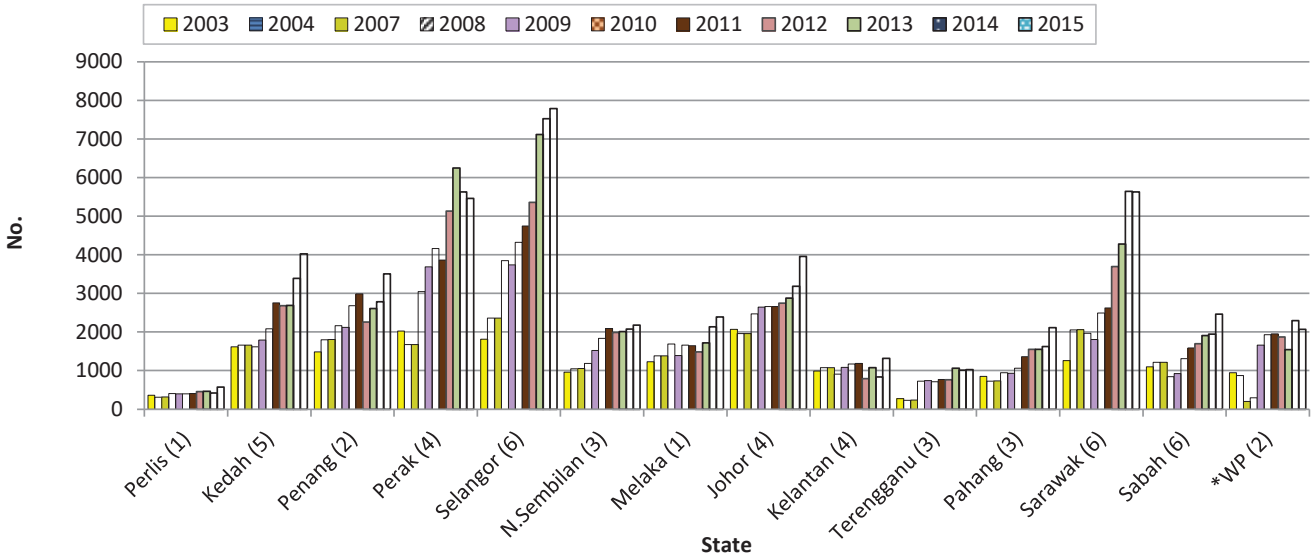


Figure 1.3.2-1: Number of Cataract Surgeries by State, CSR 2003-2015

**Wilayah Persekutuan in 2007 and 2008 for Putrajaya Hospital only*

1.3.3 Surgeon Status

Specialists performed the highest number of cataract surgery followed by the medical officers (MO) and the gazetting specialists. This trend remained unchanged throughout the years. For phaco, the percentage of eyes operated by the specialists appeared to be increasing corresponding to the decrease in the percentage operated by the MOs.

Table 1.3.3-1: Surgeon Status, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Specialist	14327	77.8	16846	78.4	19400	79.4	24216	84.9	25590	83.6	27684	85.3	32861	88.5	36197	89.3	39624	89.0
Gazetting Specialist	1276	6.9	1399	6.5	2053	8.4	1405	4.9	2487	8.1	2411	7.4	2014	5.4	2034	5.0	2251	5.1
Medical Officer	2690	14.6	2697	12.5	2750	11.3	2871	10.1	2478	8.1	2354	7.3	2244	6.0	2249	5.6	2558	5.7
Missing/NA	133	1.0	554	2.6	235	1.0	14	0.1	56	0.2	24	0.1	31	0.1	52	0.1	101	0.2

Table 1.3.3-2: Surgeon Status for Phaco, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)	11960		14781		17717		21810		23872		26345		31625		35429		39131	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Specialist	10294	86.1	12458	84.3	15206	85.8	19797	90.8	20963	87.8	23291	88.4	28774	91.0	32417	91.5	35766	91.4
Gazetting Specialist	805	6.7	882	6.0	1422	8.0	929	4.3	1845	7.7	1850	7.0	1694	5.4	1776	5.0	1899	4.9
Medical Officer	780	8.5	1064	7.2	923	5.2	1078	4.9	1050	4.4	1182	4.5	1132	3.6	1189	3.4	1372	3.5
Missing/NA	81	0.7	377	2.6	166	0.9	6	0.0	14	0.1	22	0.1	25	0.1	47	0.1	94	0.2

Table 1.3.3-3: Surgeon Status for ECCE, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)	5524		5627		5457		5363		5291		4784		4086		3613		3677	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Specialist	3240	58.7	3528	62.7	3133	57.4	3237	60.4	3406	64.4	3231	67.5	2794	68.4	2434	67.4	2333	63.5
Gazetting Specialist	391	7.1	403	7.2	516	9.5	405	7.6	513	9.7	435	9.1	218	5.3	170	4.7	226	6.2
Medical Officer	1848	33.5	1555	27.6	1754	32.1	1718	32.0	1369	25.9	1116	23.3	1072	26.2	1007	27.9	1116	30.4
Missing/NA	45	0.8	141	2.5	54	1.0	3	0.0	3	0.1	2	0.0	2	0.1	2	0.1	2	0.1

Table 1.3.3-4: Specialist by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	14327	77.8	16846	78.4	19400	79.4	24216	85.0	25590	83.6	27684	85.3	32861	88.5	36197	89.3	39624	89.0
Alor Setar	334	81.3	765	77.6	846	76.2	1376	90.1	1742	89.8	1595	86.9	1429	81.3	1839	87.3	2153	92.2
Ampang	4	100.0	200	96.2	421	97.2	491	78.3	620	87.6	809	90.3	813	82.7	722	76.3	633	71.9
Batu Pahat	511	91.9	500	87.3	336	55.8	290	70.6	410	74.0	262	43.1	405	93.5	467	100.0	561	100.0

Bintulu	-	-	25	83.3	101	81.5	219	84.9	330	99.4	389	99.5	375	97.9	374	100.0	350	100.0
Bukit Mertajam	620	91.0	434	89.1	715	96.2	782	97.3	744	92.7	879	94.7	853	93.8	967	96.9	1178	93.1
Ipoh	1068	68.2	1392	80.8	1460	68.3	1859	84.5	1479	81.0	2459	83.9	2741	90.4	2614	94.7	1978	77.7
Sultanah Aminah JB	1031	66.8	825	60.0	1079	81.9	1097	79.7	770	68.3	1079	90.3	1177	87.2	1362	98.6	1607	97.8
Kangar	317	97.8	390	97.5	395	99.0	395	98.8	402	99.8	445	98.0	386	82.8	365	85.7	458	79.5
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	47	100.0	72	100.0	3	100.0
Keningau	-	-	34	100.0	31	100.0	16	21.1	32	61.5	5	29.4	6	40.0	22	16.5	0	0.0
Klang	841	80.8	841	69.1	690	76.3	833	82.7	966	91.0	1317	93.3	1523	94.5	1363	93.3	1946	98.4
Kota Bharu	680	83.5	583	78.9	804	88.3	858	89.4	862	91.1	485	89.0	625	91.6	279	97.9	831	90.2
Queen Elizabeth KK	423	79.4	265	75.5	344	79.4	552	88.5	540	78.7	551	72.2	658	67.3	737	70.9	900	79.4
Kuala Krai	99	79.2	168	98.8	169	96.6	211	97.2	230	95.8	226	91.5	397	100.0	354	97.0	351	90.2
Kuala Lumpur	-	-	28	70.0	871	62.0	1359	82.5	1265	78.0	1387	91.5	1090	94.8	1750	90.6	1512	94.0
Kuala Pilah	180	84.1	225	79.8	257	88.6	310	96.3	465	96.3	424	98.8	425	86.4	461	93.5	377	83.4
Kuala Terengganu	371	70.4	611	84.2	665	89.5	612	85.7	629	81.7	700	91.5	890	87.8	712	79.1	779	78.9
Kuantan	21	87.5	306	77.5	235	80.2	553	89.9	614	90.3	607	88.7	490	79.2	497	86.3	707	65.5
Kuching	719	71.8	763	75.5	698	78.2	941	78.0	993	87.8	1375	83.0	1490	86.6	1514	73.2	1731	85.7
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265	100.0	395	94.5
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	95.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	100.0
Melaka	1112	72.8	1119	66.6	1098	79.2	1342	80.9	1367	83.3	1392	93.5	1550	90.2	1968	92.0	2133	89.3
Miri	12	75.0	356	89.9	404	100.0	576	99.8	501	76.3	513	56.9	904	98.8	888	93.6	583	64.6
Muar	332	94.3	237	70.1	388	71.6	606	98.2	405	58.5	493	74.1	699	97.5	445	61.0	922	99.4
Pulau Pinang	754	68.2	1142	84.2	1024	74.5	1516	80.8	1816	83.1	1079	81.1	1320	77.8	1639	91.5	2076	92.7
Putrajaya	196	96.6	254	99.2	251	100.0	282	100.0	329	100.0	349	98.3	386	98.7	360	98.1	452	97.6
Sandakan	-	-	100	73.0	72	45.6	123	59.1	98	36.2	128	48.3	404	98.3	235	99.2	411	82.4
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	285	99.7	554	99.8	643	99.4
Selayang	1221	86.2	1190	83.3	1164	82.1	1414	83.2	1523	81.9	1465	80.1	1088	81.4	730	81.2	1119	82.7
Serdang	532	87.9	620	89.1	567	94.8	506	97.3	610	91.6	677	95.5	957	93.5	1233	97.5	981	99.9
Seremban	547	57.2	249	27.7	812	66.1	1147	75.5	1262	78.6	1109	71.1	1167	76.8	1078	68.0	1213	70.3
Sibu	337	88.0	254	96.6	130	33.6	345	75.8	230	45.5	675	90.6	759	84.3	859	99.2	521	89.7
Sri Manjung	121	79.6	285	81.4	318	97.2	375	96.9	417	99.3	464	99.6	820	98.6	623	99.7	666	100.0
Sultan Ismail	101	94.4	180	100.0	183	98.9	203	78.7	283	100.0	279	100.0	353	94.4	609	100.0	827	100.0
Sungai Buloh	144	98.6	273	85.6	361	93.3	467	99.8	450	100.0	514	100.0	579	99.8	686	99.0	770	99.5
Sungei Petani	488	98.2	626	98.9	683	99.9	546	97.8	731	90.1	740	87.6	859	92.4	932	91.2	896	89.1
Taiping	279	100.0	378	99.7	610	99.7	683	76.8	853	89.5	899	80.4	1195	93.1	1231	99.8	1317	99.8
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	100.0
Tawau	184	91.5	312	98.4	296	99.3	399	99.5	574	99.8	648	100.0	503	100.0	540	100.0	603	99.3
Teluk Intan	504	75.1	511	86.9	539	88.1	642	93.0	397	59.9	439	71.3	677	61.4	684	67.5	731	78.4
Temerloh	244	55.0	405	76.3	382	59.7	290	64.4	651	95.6	827	95.3	837	96.7	954	91.1	845	99.3
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	100.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	99.5	2	100.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	100.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	59	92.2	-	-	186	99.5
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	95.4
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	76	100.0	798	96.0	1111	98.2
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	86.8	33	82.5

MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1564	98.8	2197	97.0	1714	94.0

Table 1.3.3-5: GazettingSpecialist by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	1276	6.9	1399	6.5	2053	8.4	1405	4.9	2487	8.1	2411	7.4	2,014	5.4	2,034	5.0	2,251	5.1
Alor Setar	0	0.0	74	7.5	30	2.7	7	0.5	3	0.2	131	7.1	165	9.4	96	4.6	1	0.0
Ampang	0	0.0	0	0.0	0	0.0	4	0.6	6	0.8	18	2.0	7	0.7	0	0.0	59	6.7
Batu Pahat	0	0.0	60	10.5	197	32.7	75	18.2	135	24.4	329	54.1	26	6.0	0	0.0	0	0.0
Bintulu	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	2.1	0	0.0	0	0.0
Bukit Mertajam	0	0.0	0	0.0	2	0.3	0	0.0	40	5.0	33	3.6	13	1.4	0	0.0	55	4.3
Ipoh	10	0.6	0	0.0	118	5.5	0	0.0	63	3.5	230	7.8	156	5.1	43	1.6	322	12.6
Sultanah Aminah JB	273	17.7	232	16.9	136	10.3	202	14.7	320	28.4	82	6.9	158	11.7	8	0.6	6	0.4
Kangar	0	0.0	0	0.0	1	0.3	0	0.0	1	0.2	0	0.0	66	14.2	14	3.3	0	0.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
Keningau	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klang	104	10.0	194	15.9	142	15.7	109	10.8	92	8.7	94	6.7	68	4.2	79	5.4	1	0.1
Kota Bharu	41	5.0	42	5.7	2	0.2	2	0.2	4	0.4	6	1.1	5	0.7	0	0.0	6	0.7
Queen Elizabeth KK	0	0.0	9	2.6	44	10.2	42	6.7	92	13.4	152	19.9	173	17.7	202	19.4	169	14.9
Kuala Krai	0	0.0	0	0.0	0	0.0	0	0.0	10	4.2	21	8.5	0	0.0	0	0.0	0	0.0
Kuala Lumpur	-	-	8	20.0	368	26.2	15	0.9	86	5.3	20	1.3	15	1.3	62	3.2	31	1.9
Kuala Pilah	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	53	10.8	30	6.1	71	15.7
Kuala Terengganu	97	18.4	35	4.8	9	1.2	28	3.9	93	12.1	8	1.0	50	4.9	133	14.8	130	13.2
Kuantan	0	0.0	27	6.8	17	5.8	1	0.2	1	0.1	0	0.0	38	6.1	12	2.1	206	19.1
Kuching	147	14.7	96	9.5	56	6.3	96	8.0	54	4.8	141	8.5	175	10.2	483	23.4	240	11.9
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	216	14.1	267	15.9	44	3.2	66	4.0	147	9.0	14	0.9	2	0.1	4	0.2	80	3.3
Miri	0	0.0	4	1.0	0	0.0	0	0.0	148	22.5	383	42.5	11	1.2	58	6.1	313	34.7
Muar	0	0.0	93	27.5	149	27.5	6	1.0	287	41.5	172	25.9	13	1.8	282	38.7	5	0.5
Pulau Pinang	141	12.8	26	1.9	226	16.4	220	11.7	186	8.5	30	2.3	63	3.7	22	1.2	79	3.5
Putrajaya	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sandakan	-	-	1	0.7	1	0.6	0	0.0	55	20.3	17	6.4	0	0.0	0	0.0	0	0.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	1	0.3	0	0.0	0	0.0
Selayang	47	3.3	34	2.4	118	8.3	24	1.4	3	0.2	60	3.3	40	3.0	24	2.7	93	6.9
Serdang	35	5.8	58	8.3	29	4.8	6	1.2	33	5.0	16	2.3	31	3.0	3	0.2	1	0.1
Seremban	43	4.5	28	3.1	18	1.5	46	3.0	6	0.4	4	0.3	32	2.1	74	4.7	120	7.0
Sibu	1	0.3	0	0.0	194	50.1	92	20.2	254	50.3	68	9.1	138	15.3	0	0.0	0	0.0
Sri Manjung	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.4	7	0.8	0	0.0	0	0.0
Sultan Ismail	0	0.0	0	0.0	2	1.1	55	21.3	0	0.0	0	0.0	21	5.6	0	0.0	0	0.0
Sungai Buloh	0	0.0	46	14.4	9	2.3	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	1	0.1
Sungei Petani	6	1.2	0	0.0	0	0.0	0	0.0	47	5.8	3	0.4	0	0.0	0	0.0	74	7.4
Taiping	0	0.0	1	0.3	2	0.3	206	23.2	100	10.5	219	19.6	89	6.9	2	0.2	3	0.2
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Teluk Intan	0	0.0	0	0.0	0	0.0	4	0.6	221	33.3	133	21.6	362	32.8	282	27.8	153	16.4
Temerloh	115	25.9	64	12.1	139	21.7	99	22.0	0	0.0	25	2.9	16	1.8	82	7.8	0	0.0
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	5	7.8	-	-	1	0.5
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	32	3.9	20	1.8
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	7.9	5	12.5
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	7	0.4	2	0.1	6	0.3

Table 1.3.3-6: Medical Officer by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	2690	14.6	2697	12.5	2750	11.3	2871	10.1	2478	8.1	2354	7.2	2,244	6.0	2,249	5.5	2,558	5.7
Alor Setar	76	18.5	146	14.8	234	21.1	144	9.4	194	10.0	109	5.9	164	9.3	169	8.0	182	7.8
Ampang	0	0.0	2	1.0	12	2.8	132	21.1	82	11.6	69	7.7	163	16.6	224	23.7	188	21.4
Batu Pahat	45	8.1	13	2.3	69	11.5	46	11.2	9	1.6	17	2.8	2	0.5	0	0.0	0	0.0
Bintulu	-	-	5	16.7	23	18.5	39	15.1	2	0.6	2	0.5	0	0.0	0	0.0	0	0.0
Bukit Mertajam	59	8.7	53	10.9	26	3.5	22	2.7	19	2.4	16	1.7	43	4.7	31	3.1	32	2.5
Ipoh	441	28.2	291	16.9	335	15.7	330	15.0	230	12.6	220	7.5	114	3.8	102	3.7	247	9.7
Sultanah Aminah JB	234	15.2	313	22.7	102	7.7	77	5.6	37	3.3	34	2.8	15	1.1	11	0.8	30	1.8
Kangar	5	1.5	6	1.5	3	0.8	5	1.3	0	0.0	9	2.0	14	3.0	47	11.0	118	20.5
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
Keningau	-	-	0	0.0	0	0.0	60	78.9	20	38.5	12	70.6	9	60.0	111	83.5	82	100.0
Klang	89	8.5	179	14.7	70	7.7	63	6.3	1	0.1	0	0.0	20	1.2	19	1.3	31	1.6
Kota Bharu	91	11.2	114	15.4	105	11.5	100	10.4	80	8.5	54	9.9	52	7.6	6	2.1	84	9.1
Queen Elizabeth KK	104	19.5	76	21.7	45	10.4	30	4.8	54	7.9	60	7.9	147	15.0	100	9.6	64	5.6
Kuala Krai	26	20.8	2	1.2	6	3.4	6	2.8	0	0.0	0	0.0	0	0.0	11	3.0	38	9.8
Kuala Lumpur	-	-	3	7.5	166	11.8	274	16.6	271	16.7	108	7.1	44	3.8	120	6.2	64	4.0
Kuala Pilah	31	14.5	57	20.2	33	11.4	12	3.7	18	3.7	5	1.2	14	2.8	2	0.4	4	0.9
Kuala Terengganu	59	11.2	78	10.7	69	9.3	74	10.4	48	6.2	57	7.5	74	7.3	55	6.1	78	7.9
Kuantan	3	12.5	62	15.7	41	14.0	61	9.9	65	9.6	77	11.3	90	14.5	67	11.6	166	15.4
Kuching	134	13.4	150	14.8	139	15.6	170	14.1	84	7.4	141	8.5	56	3.3	71	3.4	48	2.4
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	22	5.3
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	198	13.0	285	17.0	244	17.6	250	15.1	128	7.8	82	5.5	167	9.7	166	7.8	176	7.4
Miri	4	25.0	36	9.1	0	0.0	1	0.2	8	1.2	5	0.6	0	0.0	3	0.3	7	0.8
Muar	17	4.8	8	2.4	5	0.9	5	0.8	0	0.0	0	0.0	5	0.7	2	0.3	1	0.1
Pulau Pinang	208	18.8	188	13.9	124	9.0	140	7.5	184	8.4	221	16.6	312	18.4	130	7.3	85	3.8
Putrajaya	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	1.7	5	1.3	7	1.9	11	2.4
Sandakan	-	-	35	25.5	85	53.8	85	40.9	118	43.5	120	45.3	7	1.7	2	0.8	88	17.6
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	1	0.2	4	0.6
Selayang	139	9.8	199	13.9	136	9.6	261	15.4	333	17.9	304	16.6	209	15.6	145	16.1	141	10.4

Serdang	38	6.3	18	2.6	2	0.3	8	1.5	23	3.5	16	2.3	35	3.4	28	2.2	0	0.0
Seremban	351	36.7	163	18.2	392	31.9	326	21.5	337	21.0	446	28.6	321	21.1	433	27.3	393	22.8
Sibu	44	11.5	9	3.4	63	16.3	18	4.0	21	4.2	2	0.3	3	0.3	7	0.8	60	10.3
Sri Manjung	24	15.8	64	18.3	9	2.8	12	3.1	3	0.7	0	0.0	0	0.0	0	0.0	0	0.0
Sultan Ismail	5	4.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	0	0.0	0	0.0	17	4.4	1	0.2	0	0.0	0	0.0	1	0.2	5	0.7	2	0.3
Sungei Petani	2	0.4	0	0.0	1	0.1	12	2.2	33	4.1	102	12.1	71	7.6	90	8.8	36	3.6
Taiping	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	16	8.0	5	1.6	2	0.7	2	0.5	1	0.2	0	0.0	0	0.0	0	0.0	4	0.7
Teluk Intan	166	24.7	77	13.1	73	11.9	44	6.4	45	6.8	44	7.1	62	5.6	46	4.5	48	5.2
Temerloh	81	18.2	60	11.3	119	18.6	61	13.6	30	4.4	16	1.8	13	1.5	11	1.1	6	0.7
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.5	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	-	-	0	0.0
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4.6
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	1	0.1	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5.3	2	5.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	12	0.8	23	1.0	7	0.4

1.3.4 Duration of Surgery

Table 1.3.4-1: Duration of Surgery by Types of Cataract Surgery, CSR 2007-2015

Year	2007		2008		2009*		2010*		2011*		2012*		2013*		2014*		2015*	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR
All eyes	40.2	20.6	38.2	19.6	38.2	20.4	35.5	19.3	30	20-40	30	20-40	27	20-38	26	20-36	25	20-36
Phaco	36.8	19.7	34.1	17.7	33.6	17.7	31.3	16.4	26	20-35	25	19-33	25	20-33	25	20-32	25	20-31
ECCE	45.3	19.7	45.8	19.5	49.1	20.9	47.4	20.2	43	31-60	40	30-55	45	33-60	45	35-61	50	37-65
Phaco → ECCE	57.8	20.6	44.8	24	59.7	24.2	56.1	21.7	55	40-70	55	40-70	55	41-67	55	43-70	58	45-74
ICCE	57.6	23.7	57.5	23.7	58.1	24.4	57.6	28.3	55	45-71	55	40-71	52	35-70	53	42-70	58	44-75
Lens Aspiration	47.8	27.2	60.0	25.6	46.1	25.9	45.4	28.9	40	30-60	35	25-56	31	23-50	35	25-51	39	25-60

Data entered with extreme values i.e. more than 3 hours and less than 15 minutes were not analyzed as it would skew the data

Table 1.3.4-2: Duration of Surgery by Surgeon Status, CSR 2007-2015

Year		2007		2008		2009		2010		2011		2012		2013		2014		2015	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR
Phaco	Specialist	36	19.8	35.4	17.9	32.6	17.3	30.7	16.3	25	20-35	25	20-34	25	20-31	25	20-30	24	20-30
	Gazetting Specialist	40.2	18	47.5	20.8	39.8	19.9	36.2	15.8	30	24-40	28	21-37	30	23-40	30	25-40	33	25-45
	Medical Officers	42.2	18.2	49.2	22.8	41.5	17.7	38.2	16.6	30	25-44	34	25-45	32	25-44	30	25-40	30	22-40
ECCE	Specialist	40.2	17.6	43.9	69.5	42.6	18	42	17.3	36	30-50	35	30-48	40	30-53	40	30-55	42	32-55
	Gazetting Specialist	45.9	17.8	54	71.5	48.4	19.1	48.6	16.1	46	39-60	45	35-55	50	40-60	54	45-70	60	45-75

	Medical Officers	53.9	20.2	63	89.8	60.5	21.4	57.4	22	55	45-70	57	45-66	60	50-72	60	50-75	60.5	50-78

1.3.5 Distribution of Cataract Surgery Performed as Day Care

The day care cataract surgery percentages were calculated by excluding eyes of children and combined surgeries because surgeries done in these eyes might require general anaesthesia therefore hospital admission.

The total number of eyes (excluding children and combined surgeries) and the total number of eyes operated as day care were increasing corresponding to the increasing numbers of cataract surgery registered to CSR. Although the percentage appeared to be increasing over the years, it varied between SDPs.

Table 1.3.5-1: Distribution of Cataract Surgery Performed as Day Care, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Number of SDPs	32		36		36		36		36		36		41		43		50	
Total number of cataract surgery registered to CSR	18426		21496		24438		28506		30611		32473		37150		40532		44534	
Number of surgery excluding children and combined surgery	17402		19835		22517		26514		28398		30144		32833		37999		41956	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Number and % of day care surgery excluding children and combined surgery	7297	41.9	8449	42.6	10633	47.2	13657	51.5	14842	52.3	17827	59.1	20495	62.4	25342	66.7	28959	69.0

**SDP in 2002, 2003 and 2004 included private centres and university hospitals*

Table 1.3.5-2: Distribution of Cataract Surgery Performed as Day Care (Excluding Children and Combined Surgery), CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	7297	41.9	8449	42.6	10633	47.2	13657	51.5	14842	52.3	17827	59.1	20495	62.4	25342	66.7	28959	69.0
Alor Setar	91	27.6	74	8.0	3	0.3	186	13.8	206	11.9	265	16.1	330	21.4	613	33.4	837	39.8
Ampang	3	100.0	181	99.5	412	97.4	574	93.6	685	98.8	832	96.4	886	92.3	824	91.0	777	92.2
Batu Pahat	317	62.2	311	56.9	303	52.0	246	61.3	353	65.2	367	61.2	248	58.6	248	54.0	300	54.2
Bintulu	0	0.0	2	7.7	1	0.9	9	3.8	18	6.1	206	60.4	225	71.0	204	65.2	183	68.5
Bukit Mertajam	82	12.4	25	5.5	650	88.8	714	90.8	719	93.5	846	94.3	840	96.2	906	95.3	1182	96.6
Ipoh	672	48.2	896	58.1	1267	66.0	1487	75.4	1104	71.5	1894	78.5	2284	92.2	2058	86.6	1872	79.1
Sultanah Aminah JB	48	3.2	44	3.3	42	3.5	45	3.7	14	1.4	26	2.5	75	6.0	529	40.3	1152	74.6
Kangar	1	0.3	2	0.5	3	0.8	3	0.8	5	1.3	7	1.6	3	0.7	3	0.7	11	2.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	44	100.0	69	97.2	3	100.0
Keningau	0	0.0	1	3.5	3	10.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	11	13.8
Klang	11	1.1	22	1.9	65	7.5	87	9.6	159	17.9	373	28.2	631	41.1	547	40.0	764	40.9
Kota Bharu	8	1.1	17	2.5	124	14.8	294	33.5	220	24.9	102	20.5	70	11.4	18	6.6	477	56.9
Queen Elizabeth KK	326	67.2	212	64.8	384	97.0	500	98.4	640	97.3	703	97.4	918	96.0	901	90.6	929	88.1
Kuala Krai	0	0.0	0	0.0	0	0.0	2	1.0	75	33.3	133	61.6	295	79.1	306	89.0	374	98.2
Kuala Lumpur	0	0.0	35	92.1	725	53.3	684	42.4	486	30.3	351	24.8	46	4.5	426	25.3	380	27.1

Kuala Pilah	61	29.0	49	19.0	10	5.1	14	4.6	17	4.0	87	22.1	252	54.4	153	33.2	89	20.7
Kuala Terengganu	142	29.5	194	28.0	168	24.3	222	34.2	334	47.0	356	50.6	488	51.0	449	55.1	500	55.7
Kuantan	7	30.4	50	14.8	20	7.9	28	5.1	38	5.9	168	26.5	280	48.6	352	63.4	679	66.6
Kuching	863	91.0	893	93.6	809	95.2	1096	95.0	1055	97.1	1547	97.7	1575	97.9	1838	95.5	1770	95.6
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4.4	48	11.6
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	27.6
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	1420	98.2	1483	95.9	1121	89.3	1425	90.2	1530	95.7	1384	95.5	1504	91.9	1983	96.7	2233	96.8
Miri	15	100.0	385	99.7	397	99.7	568	99.3	640	100.0	868	99.9	910	100.0	939	100.0	859	98.7
Muar	2	0.6	0	0.0	1	0.2	0	0.0	1	0.1	22	3.3	4	0.6	8	1.1	187	20.4
Pulau Pinang	960	93.5	1193	91.9	1232	92.0	1682	94.8	1946	97.1	1262	96.8	1606	97.7	1599	97.7	2005	96.1
Putrajaya	182	95.3	201	81.7	191	76.7	254	90.7	299	92.3	335	96.3	367	94.1	331	90.9	433	95.2
Sandakan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	92	35.7	343	88.2	177	95.2	454	92.1
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	274	96.1	536	96.9	623	98.7
Selayang	1011	90.7	995	78.8	1026	86.8	1219	87.0	1305	91.1	1388	90.4	1088	93.5	760	94.1	855	84.5
Serdang	313	55.0	382	57.4	388	67.2	310	60.5	291	46.5	434	62.7	415	42.7	652	53.7	599	63.2
Seremban	589	70.3	399	69.3	789	85.3	1241	89.4	1433	93.7	1410	96.4	1405	96.8	1442	96.1	1591	97.1
Sibu	0	0.0	1	0.4	1	0.3	2	0.4	3	0.6	394	59.7	630	76.1	790	93.9	549	95.6
Sri Manjung	10	7.0	45	13.1	83	25.9	194	51.2	224	53.8	304	66.7	556	70.7	385	66.5	424	67.2
Sultan Ismail	1	1.0	8	4.6	1	0.5	1	0.4	2	0.7	1	0.4	0	0.0	21	3.5	261	32.2
Sungai Buloh	99	78.0	230	74.4	312	81.0	392	85.4	377	85.9	422	82.9	376	65.7	442	74.9	536	72.8
Sungei Petani	5	1.0	2	0.4	3	0.5	59	11.0	377	47.3	291	35.7	366	41.2	297	30.6	352	36.4
Taiping	54	20.5	46	12.7	95	16.4	117	13.9	130	14.3	516	48.5	621	50.1	689	57.4	750	58.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	100.0
Tawau	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.4	1	0.2	2	0.4
Teluk Intan	2	0.3	66	11.5	1	0.2	1	0.1	5	0.8	3	0.5	6	0.9	4	0.4	11	1.2
Temerloh	1	0.2	5	1.0	2	0.3	1	0.2	151	22.3	438	52.4	456	53.3	567	54.8	512	61.0
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	81.3
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	184	99.5	2	100.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	100.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	2	3.2	-	-	157	86.7
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	70.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	74	98.7	811	99.8	1087	96.5
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	15.2	25	64.1
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	2264	100.0	1824	100.0

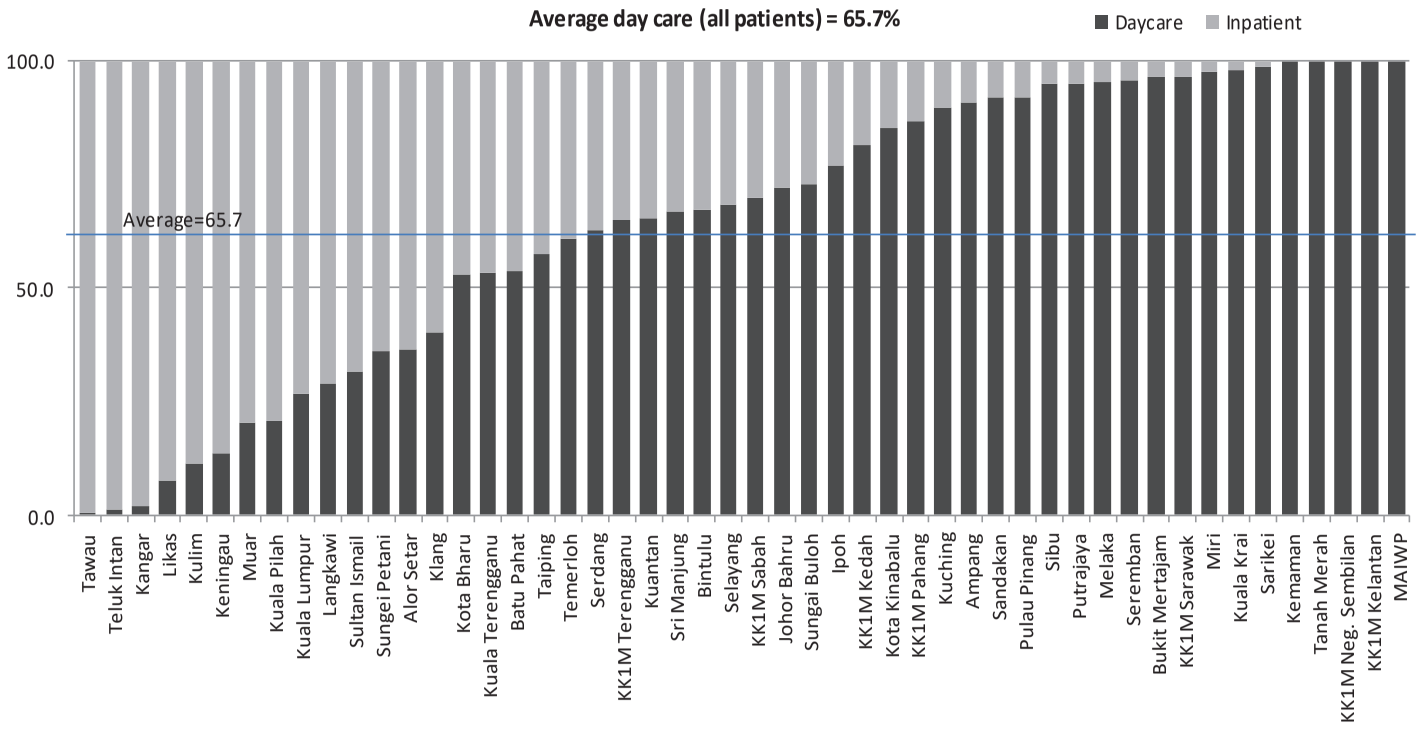


Figure 1.3.5-2: Distribution of Cataract Surgery by SDP (Day Care VS In Patient), CSR 2015

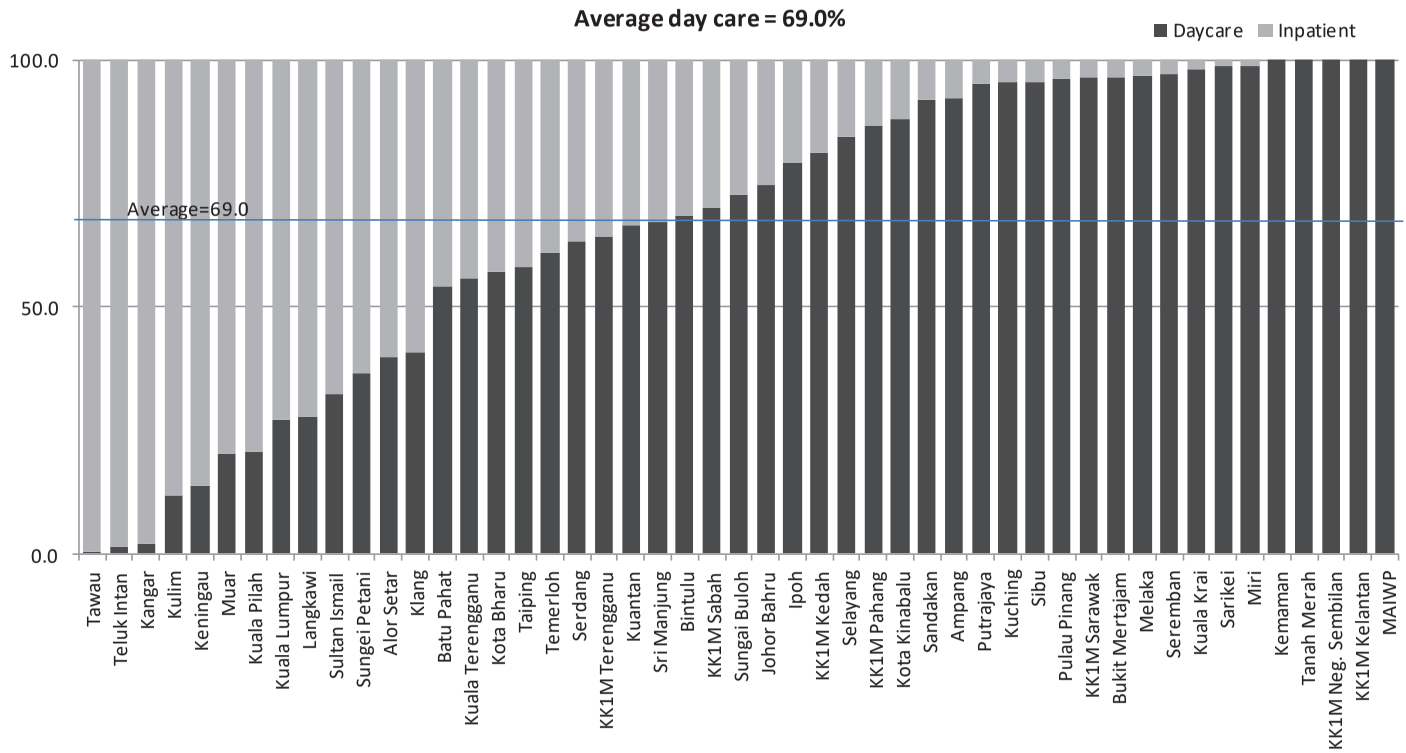


Figure 1.3.5-1: Distribution of Cataract Surgery Performed by SDP (Day Care VS In Patient, Excluding Surgery Done in Children and Combined Surgery), CSR 2015

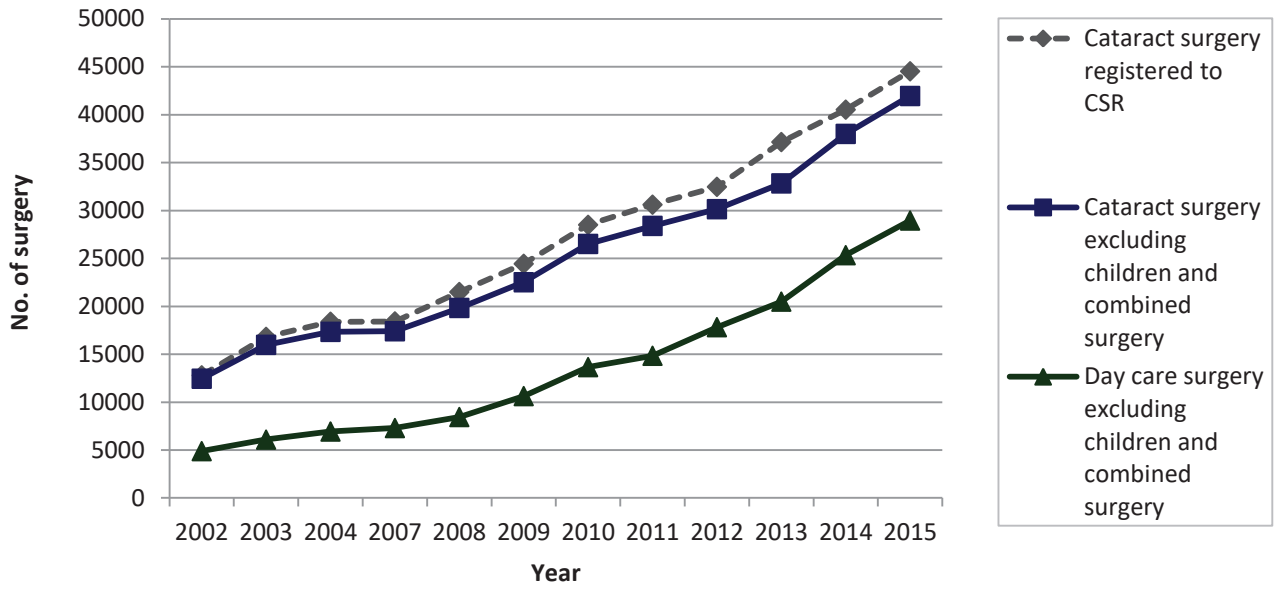


Figure 1.3.5-3: Distribution of Cataract Surgery Performed as Day Care by SDP (Excluding Surgery Done in Children and Combined Surgery), CSR 2002-2015

1.3.6 Distribution of Types of Cataract Surgery

There is a shift from ECCE to phaco as the preferred method of performing cataract surgery. The percentage of phaco converted to ECCE, the proxy indicator for competency in performing phaco surgery, remained the same over the years.

Table 1.3.6-1: Distribution of Types Cataract Surgery, CSR 2007-2015

Year	2007		2008*		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Phaco	11960	65.1	14781	69.1	17717	72.5	21810	76.5	23872	78	26345	81.1	31625	85.1	35429	87.4	39131	87.9
ECCE	5524	30.1	5627	26.3	5457	22.3	5363	18.8	5291	17.3	4784	14.7	4086	11.0	3613	8.9	3677	8.3
Lens Aspiration	323	1.8	340	1.6	400	1.6	451	1.6	460	1.5	444	1.4	364	1.0	370	0.9	521	1.2
Phaco converted to ECCE	432	2.4	524	2.4	573	2.3	586	2.1	652	2.1	621	1.9	769	2.1	805	2.0	833	1.9
ICCE	141	0.8	129	0.6	134	0.5	143	0.5	123	0.4	136	0.4	173	0.5	176	0.4	223	0.5

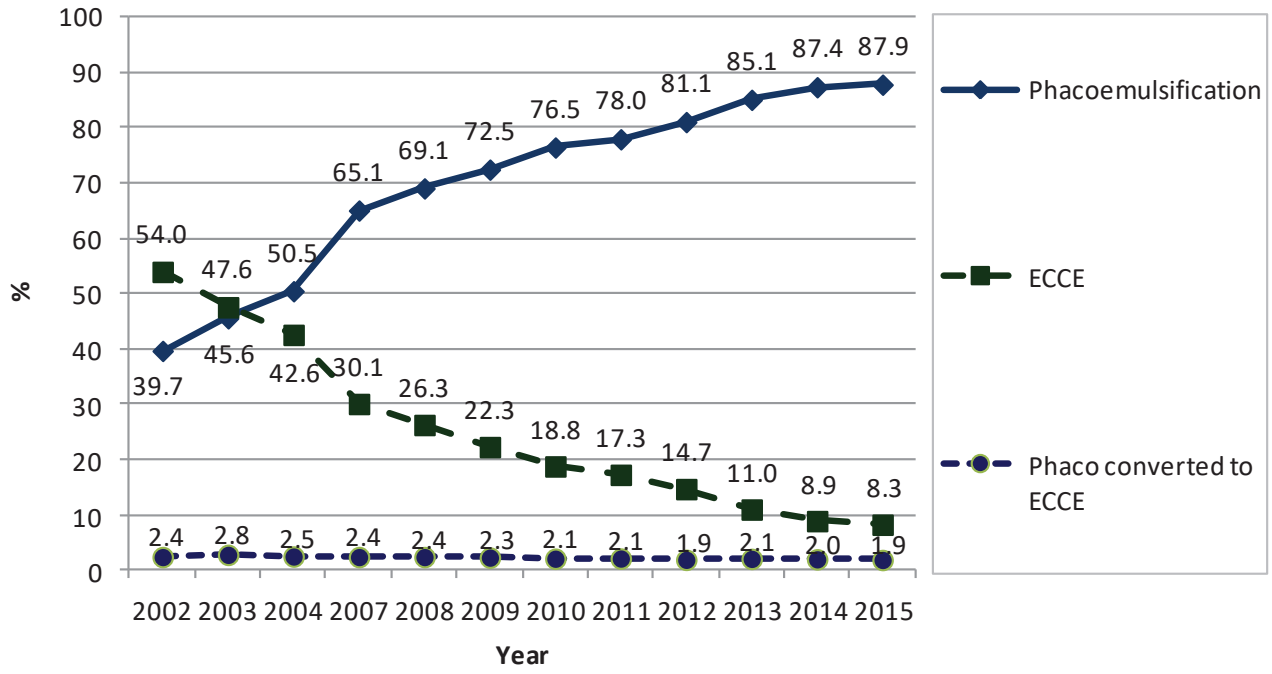


Figure 1.3.6-1: Distribution of Phaco, ECCE and Phaco Converted to ECCE, CSR 2002-2015

Table 1.3.6-2: Distribution of Types Cataract Surgery by SDP, CSR 2007-2015

	Type of Cataract Surgery											
	All Surgeries		Phaco		ECCE		Lens Aspiration		Phaco Converted to ECCE		ICCE	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	44534	100.0	39131	87.9	3677	8.3	521	1.2	833	1.9	223	0.5
Alor Setar	2,336	100.0	1,953	83.6	302	12.9	22	0.9	28	1.2	7	0.3
Ampang	880	100.0	693	78.8	134	15.2	6	0.7	39	4.4	3	0.3
Batu Pahat	561	100.0	486	86.6	48	8.6	12	2.1	12	2.1	3	0.5
Bintulu	350	100.0	337	96.3	6	1.7	0	0.0	6	1.7	0	0.0
Bukit Mertajam	1265	100.0	988	78.1	262	20.7	2	0.2	9	0.7	4	0.3
Ipoh	2,547	100.0	2,258	88.7	170	6.7	16	0.6	74	2.9	21	0.8
Sultanah Aminah JB	1,643	100.0	1,512	92.0	51	3.1	33	2.0	20	1.2	14	0.9
Kangar	576	100.0	423	73.4	140	24.3	2	0.3	6	1.0	3	0.5
Kemaman	3	100.0	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0

Keningau	82	100.0	75	91.5	6	7.3	0	0.0	1	1.2	0	0.0
Klang	1,978	100.0	1,801	91.1	107	5.4	21	1.1	37	1.9	10	0.5
Kota Bharu	921	100.0	549	59.6	305	33.1	25	2.7	33	3.6	3	0.3
Queen Elizabeth KK	1133	100.0	932	82.3	132	11.7	26	2.3	32	2.8	2	0.2
Kuala Krai	389	100.0	274	70.4	108	27.8	2	0.5	3	0.8	1	0.3
Kuala Lumpur	1,609	100.0	1,393	86.6	150	9.3	38	2.4	23	1.4	2	0.1
Kuala Pilah	452	100.0	399	88.3	26	5.8	1	0.2	17	3.8	3	0.7
Kuala Terengganu	987	100.0	773	78.3	162	16.4	20	2.0	16	1.6	12	1.2
Kuantan	1079	100.0	824	76.4	182	16.9	19	1.8	40	3.7	10	0.9
Kuching	2,019	100.0	1,929	95.5	17	0.8	25	1.2	28	1.4	10	0.5
Kulim	418	100.0	360	86.1	40	9.6	1	0.2	13	3.1	2	0.5
Langkawi	60	100.0	49	81.7	10	16.7	0	0.0	1	1.7	0	0.0
Likas	15	100.0	0	0.0	0	0.0	15	100.0	0	0.0	0	0.0
Melaka	2,389	100.0	2,189	91.6	127	5.3	31	1.3	35	1.5	7	0.3
Miri	903	100.0	837	92.7	39	4.3	17	1.9	5	0.6	4	0.4
Muar	928	100.0	855	92.1	42	4.5	7	0.8	20	2.2	4	0.4
Pulau Pinang	2,240	100.0	2,139	95.5	52	2.3	9	0.4	24	1.1	9	0.4
Putrajaya	463	100.0	395	85.3	35	7.6	8	1.7	19	4.1	6	1.3
Sandakan	499	100.0	420	84.2	64	12.8	4	0.8	9	1.8	1	0.2
Sarikei	647	100.0	633	97.8	8	1.2	0	0.0	2	0.3	4	0.6
Selayang	1,353	100.0	1,166	86.2	57	4.2	66	4.9	22	1.6	14	1.0
Serdang	982	100.0	893	90.9	52	5.3	11	1.1	23	2.3	3	0.3
Seremban	1,726	100.0	1,570	91.0	121	7.0	12	0.7	15	0.9	6	0.3
Sibu	581	100.0	538	92.6	18	3.1	4	0.7	7	1.2	9	1.5
Sri Manjung	666	100.0	650	97.6	9	1.4	3	0.5	2	0.3	2	0.3
Sultan Ismail	827	100.0	712	86.1	58	7.0	16	1.9	37	4.5	4	0.5
Sungai Buloh	774	100.0	708	91.5	39	5.0	0	0.0	23	3.0	3	0.4
Sungei Petani	1006	100.0	883	87.8	79	7.9	16	1.6	25	2.5	2	0.2
Taiping	1,320	100.0	1107	83.9	199	15.1	7	0.5	6	0.5	1	0.1
Tanah Merah	9	100.0	5	55.6	4	44.4	0	0.0	0	0.0	0	0.0
Tawau	607	100.0	497	81.9	88	14.5	3	0.5	19	3.1	0	0.0
Teluk Intan	932	100.0	808	86.7	78	8.4	10	1.1	20	2.1	14	1.5
Temerloh	851	100.0	731	85.9	79	9.3	8	0.9	24	2.8	9	1.1
KK1M Kedah	209	100.0	209	100.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	100.0	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	100.0	3	75.0	0	0.0	0	0.0	1	25.0	0	0.0
KK1M Pahang	187	100.0	161	86.1	17	9.1	0	0.0	8	4.3	1	0.5
KK1M Sabah	131	100.0	107	81.7	18	13.7	0	0.0	6	4.6	0	0.0
KK1M Sarawak	1,131	100.0	1,096	96.9	13	1.1	0	0.0	19	1.7	3	0.3
KK1M Terengganu	40	100.0	30	75.0	9	22.5	0	0.0	1	2.5	0	0.0
MAIWP	1,824	100.0	1,777	97.4	13	0.7	3	0.2	23	1.3	7	0.4

Table 1.3.6-3: Distribution of Phaco by SDP, CSR 2007-2015

Years	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	11960	65.1	14781	69.1	17717	72.5	21810	76.5	23872	78.0	26345	81.1	31625	85.1	35429	87.4	39131	87.9
Alor Setar	240	58.4	715	72.9	702	63.2	1147	75.1	1510	77.9	1451	79.1	1358	77.2	1687	80.1	1,953	83.6
Ampang	3	75.0	75	36.1	308	71.1	558	89.0	661	93.4	779	86.9	822	83.6	809	85.5	693	78.8
Batu Pahat	453	81.6	451	79.1	443	73.6	307	74.7	425	76.7	447	73.5	332	76.7	341	73.0	486	86.6
Bintulu	-	-	9	31.0	75	60.5	183	70.9	241	72.6	245	62.7	357	93.2	353	94.4	337	96.3
Bukit Mertajam	403	59.2	163	33.5	462	62.2	503	62.6	427	53.2	564	60.8	620	68.2	749	75.1	988	78.1
Ipoh	1117	71.4	1434	83.6	1801	84.3	1913	87.0	1496	81.9	2596	88.5	2801	92.4	2566	93.0	2,258	88.7
Sultanah Aminah JB	1418	91.9	1293	94.0	1166	88.5	1274	92.5	986	87.5	1069	89.5	1261	93.4	1303	94.4	1,512	92.0
Kangar	91	28.1	303	75.9	367	92.0	342	85.5	375	93.1	412	90.7	421	90.3	356	83.6	423	73.4
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	37	78.7	44	61.1	2	66.7
Keningau	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	40.0	96	72.2	75	91.5
Klang	570	55.0	655	53.8	486	53.8	617	61.3	907	85.5	1224	86.7	1476	91.6	1351	92.5	1,801	91.1
Kota Bharu	406	49.9	383	51.8	538	59.1	604	62.9	580	61.3	367	67.3	386	56.6	162	56.8	549	59.6
Queen Elizabeth KK	346	65.4	260	74.3	331	76.4	481	77.1	534	77.8	529	69.3	694	71.0	847	81.4	932	82.3
Kuala Krai	0	0.0	78	45.9	85	48.6	168	77.4	211	87.9	222	89.9	350	88.2	292	80.0	274	70.4
Kuala Lumpur	NA	NA	25	62.5	925	65.8	1141	69.2	1091	67.3	1208	79.7	956	83.1	1576	81.6	1,393	86.6
Kuala Pilah	24	11.4	58	20.6	73	25.2	149	46.3	376	77.8	361	84.1	416	84.6	430	87.2	399	88.3
Kuala Terengganu	242	46.5	429	59.4	473	63.7	453	63.4	517	67.1	537	70.2	778	76.7	707	78.6	773	78.3
Kuantan	22	91.7	314	80.9	218	74.4	448	72.8	533	78.4	555	81.1	450	72.7	421	73.1	824	76.4
Kuching	680	68.0	702	69.4	654	73.2	966	80.0	996	88.1	1546	93.3	1648	95.8	1986	96.0	1,929	95.5
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	90.2	360	86.1
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	81.7
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	1152	75.9	1335	80.3	1111	80.1	1295	78.1	1315	80.1	1203	80.8	1395	81.2	1919	89.7	2,189	91.6
Miri	7	46.7	296	74.7	392	97.0	556	96.4	593	90.3	849	94.2	892	97.5	893	94.1	837	92.7
Muar	281	80.1	236	70.7	452	83.4	526	85.3	616	89.0	608	91.4	647	90.2	628	86.1	855	92.1
Pulau Pinang	751	68.1	1116	82.3	1208	87.9	1707	91.0	2077	95.0	1260	94.7	1589	93.7	1712	95.6	2,139	95.5
Putrajaya	93	45.8	166	64.8	186	74.1	200	70.9	263	79.9	271	76.3	303	77.5	289	78.7	395	85.3
Sandakan	NA	NA	0	0.0	0	0.0	4	1.9	21	7.7	104	39.2	354	86.1	206	86.9	420	84.2
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	281	98.3	538	96.9	633	97.8
Selayang	1305	92.4	1291	91.0	1255	88.5	1542	90.8	1619	87.1	1625	88.8	1233	92.2	809	90.0	1,166	86.2
Serdang	412	68.1	521	75.0	483	80.8	371	71.3	466	70.0	564	79.5	836	81.7	1072	84.7	893	90.9
Seremban	589	61.9	610	68.9	912	74.2	1249	82.2	1368	85.2	1315	84.3	1363	89.7	1441	90.9	1,570	91.0
Sibu	0	0.0	0	0.0	126	32.6	386	84.8	376	74.5	683	91.7	835	92.8	826	95.4	538	92.6
Sri Manjung	14	9.3	111	31.7	203	62.1	314	81.1	344	81.9	412	88.4	799	96.0	608	97.3	650	97.6
Sultan Ismail	64	63.4	114	63.7	131	70.8	172	66.7	189	66.8	208	74.6	276	73.8	496	81.4	712	86.1
Sungai Buloh	121	82.9	271	85.2	272	70.3	346	73.9	371	82.4	419	81.5	450	77.6	599	86.4	708	91.5
Sungei Petani	410	82.5	483	76.4	580	84.8	455	81.5	662	81.6	604	71.5	704	75.7	743	72.7	883	87.8
Taiping	100	35.8	169	44.6	440	71.9	552	62.1	618	64.8	885	79.2	1060	82.6	1030	83.5	1107	83.9

Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	55.6
Tawau	0	0.0	3	1.0	0	0.0	0	0.0	0	0.0	1	0.2	133	26.4	354	65.6	497	81.9
Teluk Intan	435	64.8	358	60.9	465	76.0	564	81.7	571	86.1	505	82.0	963	87.4	923	91.1	808	86.7
Temerloh	210	47.3	354	67.0	393	61.4	317	70.4	537	78.9	717	82.6	718	82.9	898	85.8	731	85.9
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	100.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	50.5	2	100.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	75.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	47	73.4	-	-	161	86.1
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	107	81.7
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	74	97.4	808	97.2	1,096	96.9
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	84.2	30	75.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1504	95.0	2196	96.9	1,777	97.4

Table 1.3.6-4: Distribution of ECCE by SDP, CSR 2007-2014

Years	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**832**	**n**	**%**	**n**	**%**
All Centres	5524	30.1	5627	26.3	5457	22.3	5363	18.8	5291	17.3	4784	14.7	4086	11.0	3613	8.9	3677	8.3
Alor Setar	160	38.9	247	25.2	349	31.4	310	20.3	349	18.0	294	16.0	338	19.2	343	16.3	302	12.9
Ampang	1	25.0	106	51.0	102	23.6	38	6.1	28	4.0	72	8.0	118	12.0	105	11.1	134	15.2
Batu Pahat	83	15.0	95	16.7	130	21.6	78	19.0	104	18.8	111	18.3	81	18.7	80	17.1	48	8.6
Bintulu	-	-	19	65.5	38	30.6	70	27.1	83	25.0	136	34.8	14	3.7	6	1.6	6	1.7
Bukit Mertajam	265	38.9	315	64.7	265	35.7	284	35.3	350	43.6	338	36.4	277	30.5	237	23.7	262	20.7
Ipoh	396	25.3	240	14.0	238	11.1	208	9.5	193	10.6	250	8.5	146	4.8	126	4.6	170	6.7
Sultanah Aminah JB	53	3.4	30	2.2	55	4.2	27	2.0	72	6.4	69	5.8	44	3.3	26	1.9	51	3.1
Kangar	223	68.8	86	21.6	18	4.5	46	11.5	19	4.7	27	5.9	34	7.3	50	11.7	140	24.3
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	9	19.1	25	34.7	1	33.3
Keningau	-	-	33	97.1	28	90.3	72	94.7	51	98.1	17	100.0	9	60.0	33	24.8	6	7.3
Klang	403	38.9	499	41.0	368	40.7	341	33.9	120	11.3	146	10.3	64	4.0	76	5.2	107	5.4
Kota Bharu	337	41.4	302	40.9	302	33.2	280	29.2	287	30.3	141	25.9	246	36.1	106	37.2	305	33.1
Queen Elizabeth KK	155	29.3	74	21.1	62	14.3	117	18.8	96	14.0	163	21.4	223	22.8	131	12.6	132	11.7
Kuala Krai	119	95.2	81	47.6	82	46.9	33	15.2	15	6.3	16	6.5	24	6.0	51	14.0	108	27.8
Kuala Lumpur	-	-	12	30.0	403	28.7	447	27.1	454	28.0	263	17.3	163	14.2	289	15.0	150	9.3
Kuala Pilah	164	77.7	190	67.6	175	60.3	137	42.5	81	16.8	52	12.1	44	8.9	32	6.5	26	5.8
Kuala Terengganu	243	46.7	238	33.0	226	30.4	207	29.0	201	26.1	177	23.1	185	18.2	150	16.7	162	16.4
Kuantan	1	4.2	37	9.5	46	15.7	114	18.5	98	14.4	89	13.0	140	22.6	132	22.9	182	16.9
Kuching	276	27.6	263	26.0	186	20.8	181	15.0	101	8.9	87	5.3	33	1.9	18	0.9	17	0.8
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	6.4	40	9.6
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	16.7
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	307	20.2	271	16.3	205	14.8	283	17.1	274	16.7	248	16.7	279	16.2	147	6.9	127	5.3
Miri	7	46.7	95	24.0	10	2.5	15	2.6	48	7.3	28	3.1	11	1.2	38	4.0	39	4.3

Muar	49	14.0	81	24.3	52	9.6	44	7.1	38	5.5	19	2.9	41	5.7	56	7.7	42	4.5
Pulau Pinang	270	24.5	177	13.1	124	9.0	127	6.8	68	3.1	34	2.6	47	2.8	29	1.6	52	2.3
Putrajaya	104	51.2	79	30.9	57	22.7	65	23.0	42	12.8	48	13.5	48	12.3	46	12.5	35	7.6
Sandakan	-	-	130	99.2	154	97.5	191	91.8	231	85.2	148	55.8	45	10.9	29	12.2	64	12.8
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	10	1.8	8	1.2
Selayang	44	3.1	70	4.9	106	7.5	80	4.7	116	6.2	75	4.1	43	3.2	34	3.8	57	4.2
Serdang	151	25.0	133	19.1	79	13.2	113	21.7	156	23.4	109	15.4	128	12.5	122	9.6	52	5.3
Seremban	319	33.5	219	24.7	261	21.2	226	14.9	194	12.1	207	13.3	128	8.4	101	6.4	121	7.0
Sibu	372	97.1	257	97.7	258	66.7	48	10.5	96	19.0	43	5.8	34	3.8	12	1.4	18	3.1
Sri Manjung	134	88.7	233	66.6	122	37.3	71	18.3	65	15.5	40	8.6	14	1.7	11	1.8	9	1.4
Sultan Ismail	32	31.7	61	34.1	49	26.5	72	27.9	83	29.3	55	19.7	63	16.8	70	11.5	58	7.0
Sungai Buloh	8	5.5	25	7.9	88	22.7	89	19.0	54	12.0	63	12.3	89	15.3	58	8.4	39	5.0
Sungei Petani	57	11.5	99	15.7	58	8.5	70	12.5	101	12.5	204	24.1	167	18.0	191	18.7	79	7.9
Taiping	159	57.0	194	51.2	154	25.2	303	34.1	315	33.1	208	18.6	206	16.0	190	15.4	199	15.1
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	44.4
Tawau	196	97.5	305	97.1	292	98.0	380	94.8	557	96.9	634	97.8	308	61.2	149	27.6	88	14.5
Teluk Intan	222	33.1	193	32.8	111	18.1	92	13.3	72	10.9	86	14.0	109	9.9	68	6.7	78	8.4
Temerloh	210	47.3	138	26.1	204	31.9	104	23.1	79	11.6	87	10.0	81	9.4	101	9.6	79	9.3
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	44.1	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	11	17.2	-	-	17	9.1
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	13.7
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	1	1.3	12	1.4	13	1.1
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	15.8	9	22.5
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	39	2.5	18	0.8	13	0.7

1.3.7 Distribution of Combined Surgery

Table 1.3.7-1: Distribution of Combined Surgery, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any types of combined surgeries	891	4.8	664	3.1	871	3.6	1082	3.8	1194	3.9	1221	3.8	1026	2.8	1028	2.6	1458	3.3
Specific types of combined surgery																		
Pterygium Surgery	135	0.7	94	0.4	100	0.4	99	0.3	133	0.4	111	0.3	83	0.2	115	0.3	113	0.3
Filtering Glaucoma Surgery	131	0.7	142	0.7	132	0.5	121	0.4	64	0.2	71	0.2	114	0.3	95	0.2	102	0.2
Vitreoretinal Surgery	435	2.4	237	1.1	402	1.6	601	2.1	672	2.2	585	1.8	536	1.4	532	1.3	893	2.0

Penetrating Keratoplasty	0	0.0	3	0.0	6	0.0	2	0.0	1	0.0	3	0.0	2	0.0	2	0.0	1	0.0
Others	190	1.0	188	0.9	259	1.1	272	1.0	344	1.1	477	1.5	311	0.8	304	0.8	367	0.8

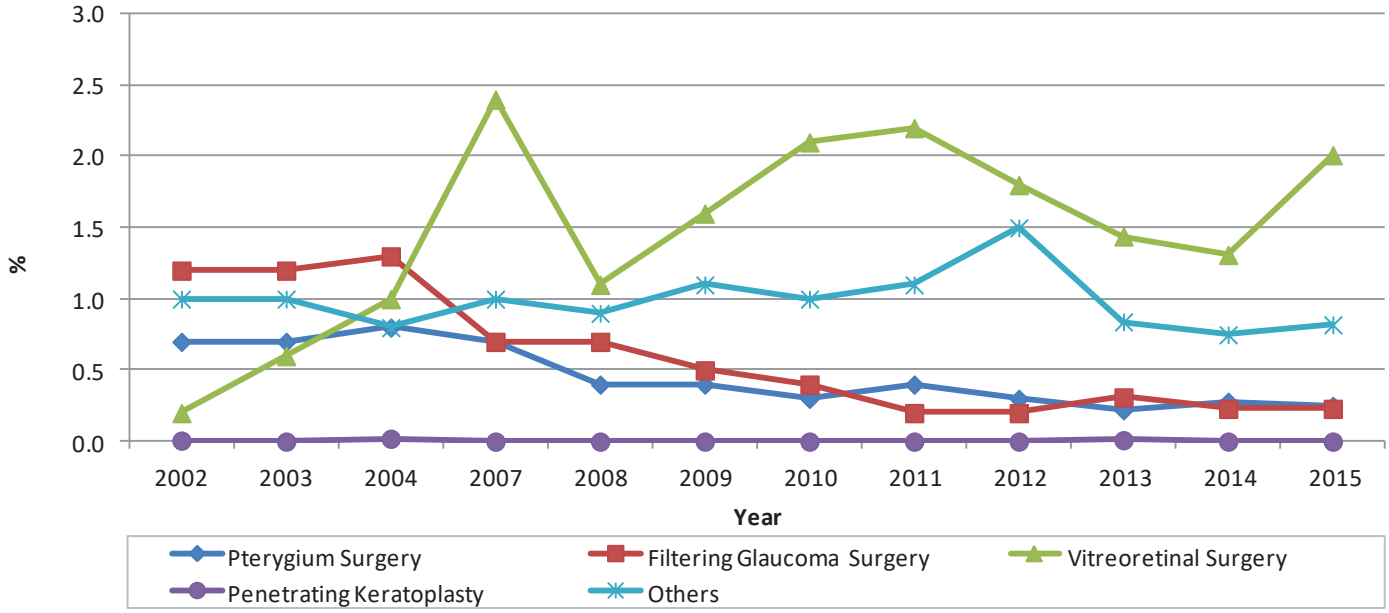


Figure 1.3.7-1: Distribution of Specific Combined Surgery, CSR 2002-2015

Table 1.3.7-2: Distribution of Combined Surgery by SDP, CSR 2007-2015

	Combined Surgery												
	All Surgeries	Any Combined Surgery		Pterygium Surgery		Filtering Surgery		Vitreo-Retinal Surgery		Penetrating Keratoplasty		Others	
	N	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	44534	1458	3.3	113	0.3	102	0.2	893	2.0	1	0.0	367	0.8
Alor Setar	2336	223	9.5	13	0.6	20	0.9	151	6.5	0	0.0	46	2.0
Ampang	880	21	2.4	1	0.1	15	1.7	0	0.0	0	0.0	5	0.6
Batu Pahat	561	5	0.9	1	0.2	0	0.0	0	0.0	0	0.0	4	0.7
Bintulu	350	24	6.9	19	5.4	0	0.0	0	0.0	0	0.0	5	1.4
Bukit Mertajam	1265	9	0.7	0	0.0	1	0.1	0	0.0	0	0.0	9	0.7
Ipoh	2547	89	3.5	1	0.0	5	0.2	78	3.1	0	0.0	5	0.2

Sultanah Aminah JB	1643	54	3.3	2	0.1	3	0.2	29	1.8	0	0.0	20	1.2
Kangar	576	7	1.2	0	0.0	3	0.5	0	0.0	0	0.0	4	0.7
Kemaman	3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Keningau	82	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klang	1978	19	1.0	2	0.1	0	0.0	7	0.4	0	0.0	10	0.5
Kota Bharu	921	65	7.1	1	0.1	2	0.2	45	4.9	0	0.0	19	2.1
Queen Elizabeth KK	1133	43	3.8	12	1.1	2	0.2	19	1.7	0	0.0	10	0.9
Kuala Krai	389	4	1.0	3	0.8	0	0.0	0	0.0	0	0.0	1	0.3
Kuala Lumpur	1609	28	1.7	0	0.0	0	0.0	14	0.9	0	0.0	17	1.1
Kuala Pilah	452	16	3.5	2	0.4	0	0.0	4	0.9	0	0.0	10	2.2
Kuala Terengganu	987	60	6.1	6	0.6	1	0.1	13	1.3	0	0.0	40	4.1
Kuantan	1079	23	2.1	1	0.1	3	0.3	13	1.2	0	0.0	6	0.6
Kuching	2019	157	7.8	1	0.0	4	0.2	140	6.9	1	0.0	11	0.5
Kulim	418	5	1.2	0	0.0	0	0.0	0	0.0	0	0.0	5	1.2
Langkawi	60	1	1.7	0	0.0	0	0.0	0	0.0	0	0.0	1	1.7
Likas	15	3	20.0	0	0.0	0	0.0	0	0.0	0	0.0	3	20.0
Melaka	2389	46	1.9	1	0.0	17	0.7	19	0.8	0	0.0	10	0.4
Miri	903	12	1.3	1	0.1	5	0.6	0	0.0	0	0.0	6	0.7
Muar	928	7	0.8	0	0.0	4	0.4	0	0.0	0	0.0	3	0.3
Pulau Pinang	2240	122	5.4	1	0.0	7	0.3	109	4.9	0	0.0	5	0.2
Putrajaya	463	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Sandakan	499	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Sarikei	647	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Selayang	1353	268	19.8	1	0.1	7	0.5	224	16.6	0	0.0	37	2.7
Serdang	982	12	1.2	3	0.3	0	0.0	1	0.1	0	0.0	8	0.8
Seremban	1726	36	2.1	4	0.2	0	0.0	27	1.6	0	0.0	7	0.4
Sibu	581	1	0.2	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Sri Manjung	666	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sultan Ismail	827	8	1.0	0	0.0	0	0.0	0	0.0	0	0.0	8	1.0
Sungai Buloh	774	6	0.8	1	0.1	0	0.0	0	0.0	0	0.0	5	0.6
Sungei Petani	1006	5	0.5	1	0.1	0	0.0	0	0.0	0	0.0	4	0.4
Taiping	1320	23	1.7	0	0.0	0	0.0	0	0.0	0	0.0	23	1.7
Tanah Merah	9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	607	35	5.8	23	3.8	3	0.5	0	0.0	0	0.0	10	1.6
Teluk Intan	932	4	0.4	3	0.3	0	0.0	0	0.0	0	0.0	1	0.1
Temerloh	851	9	1.1	8	0.9	0	0.0	0	0.0	0	0.0	1	0.1
KK1M Kedah	209	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	187	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5
KK1M Sabah	131	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Sarawak	1131	3	0.3	0	0.0	0	0.0	0	0.0	0	0.0	3	0.3
KK1M Terengganu	40	1	2.5	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5

MAIWP	1824	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

1.3.8 Anaesthesia in Cataract Surgery

Majority of cataract surgeries were done under local anaesthesia (LA). There was a shift from subtenon to topical anaesthesia as the preferred method of LA.

The percentage of surgeons using combined, subconjunctival and intracameral LA appeared to be increasing

Table 1.3.8-1: Types of Anaesthesia, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
General Anesthesia	1207	6.6	1223	5.7	1578	6.5	1884	6.6	1845	6.0	2117	6.5	2229	6.0	2415	6.0	2655	6.0
Local Anesthesia	17143	93.4	20188	94.3	22776	93.2	26440	92.8	28634	93.5	30215	93.1	34622	93.2	37654	92.9	41422	93.0
Type of local anasthesia																		
Subtenon	9990	58.3	11014	54.6	11525	50.6	10952	41.4	10512	36.7	9849	32.6	9913	28.6	9351	24.8	9294	22.4
Topical	4853	28.3	6680	33.1	8382	36.8	13112	49.6	16825	58.8	18461	61.1	22220	64.2	25068	66.6	28458	68.7
Peribulbar	1282	7.5	1227	6.1	1244	5.5	881	3.3	440	1.5	279	0.9	308	0.9	474	1.3	218	0.5
Retrobulbar	1031	6.0	1182	5.9	1037	4.6	864	3.3	808	2.8	667	2.2	503	1.5	436	1.2	753	1.8
Intracameral	249	1.5	710	3.5	1596	7.0	2587	9.8	2933	10.2	3419	11.3	4733	13.7	6311	16.8	8938	21.6
Subconjunctival	232	1.4	251	1.2	437	1.9	898	3.4	771	2.7	1266	4.2	1338	3.9	1352	3.6	1253	3.0
Facial block	20	0.1	143	0.7	95	0.4	40	0.2	43	0.2	21	0.1	24	0.1	14	0.0	11	0.0
Others	0	0.0	NA	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Combined local anaesthesia	720	4.2	1274	6.3	1918	8.4	3182	12.0	4038	14.1	4375	14.5	4868	14.1	5954	15.8	7902	19.1
Types of sedation for patients under local anaesthesia																		
No sedation	9668	56.4*	11234	55.6	12809	56.2	15970	60.4	18646	65.1	19379	64.1	18685	54.0	19249	51.1	22260	53.7
Oral sedation alone	2387	13.9	2923	14.5	3532	15.5	3171	12.0	2852	10.0	1810	6.0	1391	4.0	1823	4.8	2879	7.0
Intravenous alone	72	0.4	37	0.2	35	0.2	22	0.1	27	0.1	36	0.1	31	0.1	36	0.1	66	0.2
Intravenous plus oral	0	0.0	NA	NA	NA	NA	2	0.0	6	0.0	6	0.0	1	0.0	2	0.0	1	0.0
Intramuscular alone	3	0.0	121	0.6	52	0.2	0	0.0	3	0.0	2	0.0	18	0.1	1	0.0	0	0.0

**There was a significant percentage of missing values in sedation for 2007; these missing values may be in 'no sedation' category where data were not entered.*

Table 1.3.8-2: Types of Anaesthesia (50 years and above), CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	16715		19709		22496		26336		28425		30228		34815		38305		41880	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
General Anesthesia	628	3.8	681	3.5	950	6.5	1184	4.5	1173	4.1	1412	4.7	1545	4.4	1760	4.6	1784	4.3
Local Anesthesia	16018	95.8	18946	96.1	21468	93.2	24981	94.9	27131	95.5	28689	94.9	32985	94.7	36107	94.3	39658	94.7
Type of local anasthesia																		

Subtenon	9397	58.7	10354	54.7	10861	50.6	10338	41.4	9979	36.8	9340	32.6	9435	28.6	8938	24.8	8885	22.4
Topical	4510	28.2	6274	33.1	7952	37.0	12473	49.9	16003	59.0	17557	61.2	21203	64.3	24071	66.7	27349	69.0
Peribulbar	1224	7.6	1159	6.1	1173	5.5	842	3.4	415	1.5	257	0.9	287	0.9	441	1.2	197	0.5
Retrobulbar	905	5.6	1084	5.7	921	4.3	749	3.0	665	2.5	573	2.0	430	1.3	382	1.1	608	1.5
Intracameral	231	1.4	685	3.6	1527	7.1	2447	9.8	2818	10.4	3287	11.5	4539	13.8	6089	16.9	8585	21.6
Subconjunctival	218	1.4	233	1.2	412	1.9	847	3.4	721	2.7	1200	4.2	1272	3.9	1295	3.6	1202	3.0
Facial block	20	0.1	134	0.7	86	0.4	39	0.2	40	0.1	20	0.1	24	0.1	13	0.0	11	0.0
Others	0	0.0	NA	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Combined local anaesthesia	672	4.2	1219	6.4	1815	8.5	3030	12.1	3830	14.1	4135	14.4	4645	14.1	5700	15.8	7564	19.1
Types of sedation for patients under local anaesthesia																		
No sedation	9027	56.4	10524	55.5	12056	56.2	15019	60.1	17616	64.9	18386	64.1	17810	54.0	18485	51.2	21347	59.1
Oral sedation alone	2264	14.1	2798	14.8	3355	15.6	3055	12.2	2731	10.1	1748	6.1	1339	4.1	1755	4.9	2776	7.7
Intravenous alone	55	0.3	37	0.2	29	0.1	18	0.1	23	0.1	34	0.1	28	0.1	26	0.1	62	0.2
Intravenous plus oral	0	0.0	NA	NA	NA	NA	2	0.0	5	0.0	6	0.0	1	0.0	1	0.0	1	0.0
Intramuscular alone	3	0.0	114	0.6	47	0.2	0	0.0	2	0.0	2	0.0	17	0.1	1	0.0	0	0.0

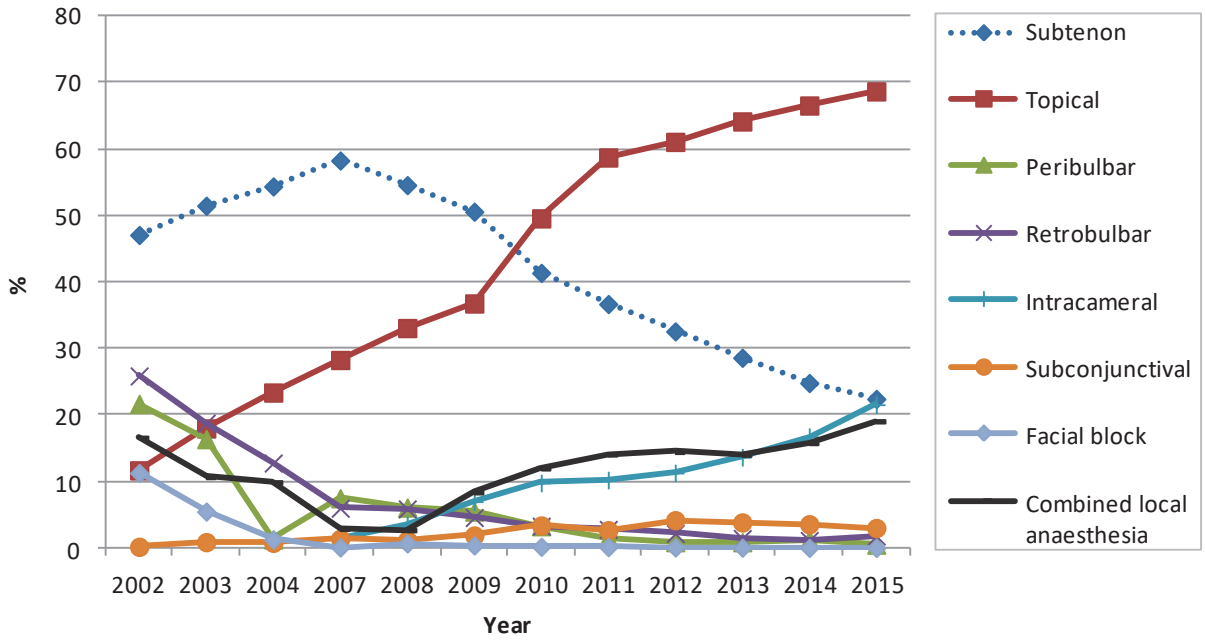


Figure 1.3.8-1: Types of Anaesthesia, CSR 2002-2015

Table 1.3.8-3: Types of Anaesthesia by SDP, CSR 2015

Types of Anaesthesia					
		General		Local	
	N	n	%	n	%
All Centres	44534	2655	6.0	41422	93.0
Alor Setar	2336	277	11.9	2056	88.0
Ampang	880	27	3.1	844	95.9
Batu Pahat	561	27	4.8	534	95.2
Bintulu	350	1	0.3	349	99.7
Bukit Mertajam	1265	37	2.9	1218	96.3
Ipoh	2,547	433	17.0	2,085	81.9
Sultanah Aminah JB	1,643	76	4.6	1,564	95.2
Kangar	576	8	1.4	565	98.1
Kemaman	3	0	0.0	3	100.0
Keningau	82	0	0.0	80	97.6
Klang	1,978	253	12.8	1,706	86.2
Kota Bharu	921	45	4.9	869	94.4
Queen Elizabeth KK	1133	107	9.4	1021	90.1
Kuala Krai	389	4	1.0	385	99.0
Kuala Lumpur	1,609	159	9.9	1,424	88.5
Kuala Pilah	452	16	3.5	430	95.1
Kuala Terengganu	987	59	6.0	904	91.6
Kuantan	1079	126	11.7	950	88.0
Kuching	2,019	113	5.6	1,901	94.2
Kulim	418	9	2.2	409	97.8
Langkawi	60	1	1.7	56	93.3
Likas	15	15	100.0	0	0.0
Melaka	2,389	58	2.4	2,305	96.5
Miri	903	19	2.1	884	97.9
Muar	928	20	2.2	907	97.7
Pulau Pinang	2,240	47	2.1	2,088	93.2
Putrajaya	463	18	3.9	439	94.8
Sandakan	499	16	3.2	473	94.8
Sarikei	647	4	0.6	642	99.2
Selayang	1,353	82	6.1	1,168	86.3
Serdang	982	34	3.5	942	95.9
Seremban	1,726	67	3.9	1,656	95.9
Sibu	581	12	2.1	569	97.9
Sri Manjung	666	24	3.6	640	96.1
Sultan Ismail	827	118	14.3	709	85.7
Sungai Buloh	774	65	8.4	691	89.3
Sungei Petani	1006	98	9.7	902	89.7

Taiping	1,320	128	9.7	1,192	90.3
Tanah Merah	9	0	0.0	9	100.0
Tawau	607	5	0.8	601	99.0
Teluk Intan	932	21	2.3	910	97.6
Temerloh	851	22	2.6	829	97.4
KK1M Kedah	209	0	0.0	209	100.0
KK1M Kelantan	2	0	0.0	2	100.0
KK1M Neg. Sembilan	4	0	0.0	4	100.0
KK1M Pahang	187	3	1.6	183	97.9
KK1M Sabah	131	0	0.0	125	95.4
KK1M Sarawak	1131	0	0.0	1129	99.8
KK1M Terengganu	40	1	2.5	37	92.5
MAIWP	1,824	0	0.0	1,824	100.0

Table 1.3.8-4: Types of Anaesthesia by SDP (50 years and above), CSR 2015

Types of Anaesthesia					
		General		Local	
	N	**n**	**%**	**n**	**%**
All Centres	41,880	1,784	4.3	39,658	94.7
Alor Setar	2,173	184	8.5	1,986	91.4
Ampang	838	16	1.9	813	97.0
Batu Pahat	529	13	2.5	516	97.5
Bintulu	317	0	0.0	317	100.0
Bukit Mertajam	1194	18	1.5	1166	97.7
Ipoh	2,429	363	14.9	2,037	83.9
Sultanah Aminah JB	1,511	43	2.8	1,465	97.0
Kangar	558	5	0.9	550	98.6
Kemaman	3	0	0.0	3	100.0
Keningau	81	0	0.0	79	97.5
Klang	1,853	197	10.6	1,637	88.3
Kota Bharu	836	18	2.2	813	97.2
Queen Elizabeth KK	1028	70	6.8	953	92.7
Kuala Krai	372	2	0.5	370	99.5
Kuala Lumpur	1,488	109	7.3	1354	91.0
Kuala Pilah	436	13	3.0	417	95.6
Kuala Terengganu	912	30	3.3	861	94.4
Kuantan	1011	91	9.0	917	90.7

Kuching	1,876	61	3.3	1,810	96.5
Kulim	397	5	1.3	392	98.7
Langkawi	57	1	1.8	53	93.0
Likas	0	0	0.0	0	0.0
Melaka	2,280	24	1.1	2,230	97.8
Miri	859	4	0.5	855	99.5
Muar	891	11	1.2	879	98.7
Pulau Pinang	2,160	36	1.7	2,021	93.6
Putrajaya	433	12	2.8	415	95.8
Sandakan	464	9	1.9	445	95.9
Sarikei	629	2	0.3	626	99.5
Selayang	1,154	23	2.0	1,037	89.9
Serdang	933	20	2.1	907	97.2
Seremban	1,646	45	2.7	1,598	97.1
Sibu	550	10	1.8	540	98.2
Sri Manjung	642	17	2.6	623	97.0
Sultan Ismail	769	80	10.4	689	89.6
Sungai Buloh	723	51	7.1	655	90.6
Sungei Petani	937	65	6.9	866	92.4
Taiping	1,275	110	8.6	1,165	91.4
Tanah Merah	9	0	0.0	9	100.0
Tawau	528	0	0.0	527	99.8
Teluk Intan	878	11	1.3	866	98.6
Temerloh	810	11	1.4	799	98.6
KK1M Kedah	206	0	0.0	206	100.0
KK1M Kelantan	2	0	0.0	2	100.0
KK1M Neg. Sembilan	4	0	0.0	4	100.0
KK1M Pahang	185	3	1.6	181	97.8
KK1M Sabah	125	0	0.0	120	96.0
KK1M Sarawak	1111	0	0.0	1109	99.8
KK1M Terengganu	39	1	2.6	36	92.3
MAIWP	1,739	0	0.0	1,739	100.0

Table 1.3.8-5: Types of Local Anaesthesia by SDP, CSR 2015

	Local Anaesthesia																
	All	Retrobulbar		Peribulbar		Subtenon		Sub-conjunctival		Facial block		Topical		Intracameral		Combined	
	N	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	41,422	753	1.8	218	0.5	9,294	22.4	1,253	3.0	11	0.0	28,458	68.7	8,938	21.6	7,902	19.1
Alor Setar	2,056	113	5.5	24	1.2	275	13.4	4	0.2	0	0.0	1371	66.7	572	27.8	301	14.6
Ampang	844	0	0.0	0	0.0	134	15.9	2	0.2	0	0.0	707	83.8	730	86.5	699	82.8

Batu Pahat	534	8	1.5	0	0.0	348	65.2	141	26.4	0	0.0	9	1.7	93	17.4	64	12.0
Bintulu	349	0	0.0	0	0.0	346	99.1	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1218	2	0.2	0	0.0	281	23.1	0	0.0	0	0.0	16	1.3	936	76.8	22	1.8
Ipoh	2,085	16	0.8	41	2.0	279	13.4	12	0.6	1	0.0	1,531	73.4	1,858	89.1	1,509	72.4
Sultanah Aminah JB	1,564	27	1.7	1	0.1	354	22.6	0	0.0	1	0.1	953	60.9	546	34.9	644	41.2
Kangar	565	4	0.7	0	0.0	559	98.9	0	0.0	0	0.0	1	0.2	0	0.0	1	0.2
Kemaman	3	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	3	100.0	0	0.0	1	33.3
Keningau	80	0	0.0	4	5.0	1	1.3	1	1.3	0	0.0	76	95.0	0	0.0	1	1.3
Klang	1,706	50	2.9	1	0.1	168	9.8	1	0.1	1	0.1	1,482	86.9	33	1.9	58	3.4
Kota Bharu	869	24	2.8	8	0.9	784	90.2	18	2.1	2	0.2	59	6.8	10	1.2	29	3.3
Queen Elizabeth KK	1021	1	0.1	10	1.0	249	24.4	11	1.1	0	0.0	928	90.9	152	14.9	319	31.2
Kuala Krai	385	0	0.0	0	0.0	86	22.3	1	0.3	0	0.0	332	86.2	0	0.0	53	13.8
Kuala Lumpur	1,424	10	0.7	43	3.0	332	23.3	4	0.3	0	0.0	651	45.7	803	56.4	431	30.3
Kuala Pilah	430	0	0.0	1	0.2	300	69.8	1	0.2	0	0.0	225	52.3	4	0.9	100	23.3
Kuala Terengganu	904	0	0.0	1	0.1	304	33.6	0	0.0	1	0.1	597	66.0	10	1.1	26	2.9
Kuantan	950	14	1.5	0	0.0	769	80.9	0	0.0	0	0.0	290	30.5	21	2.2	149	15.7
Kuching	1,901	69	3.6	33	1.7	25	1.3	0	0.0	1	0.1	1,838	96.7	26	1.4	97	5.1
Kulim	409	0	0.0	0	0.0	45	11.0	1	0.2	0	0.0	404	98.8	362	88.5	391	95.6
Langkawi	56	0	0.0	0	0.0	10	17.9	0	0.0	0	0.0	40	71.4	5	8.9	2	3.6
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,305	16	0.7	1	0.0	64	2.8	0	0.0	0	0.0	2,251	97.7	18	0.8	54	2.3
Miri	884	1	0.1	0	0.0	317	35.9	0	0.0	0	0.0	661	74.8	1	0.1	98	11.1
Muar	907	0	0.0	0	0.0	37	4.1	7	0.8	0	0.0	891	98.2	354	39.0	367	40.5
Pulau Pinang	2,088	109	5.2	0	0.0	124	5.9	1	0.0	0	0.0	1,884	90.2	7	0.3	48	2.3
Putrajaya	439	0	0.0	0	0.0	45	10.3	0	0.0	0	0.0	356	81.1	407	92.7	355	80.9
Sandakan	473	0	0.0	0	0.0	23	4.9	7	1.5	1	0.2	450	95.1	0	0.0	3	0.6
Sarikei	642	0	0.0	0	0.0	6	0.9	0	0.0	0	0.0	641	99.8	0	0.0	6	0.9
Selayang	1,168	278	23.8	7	0.6	166	14.2	48	4.1	0	0.0	830	71.1	179	15.3	314	26.9
Serdang	942	0	0.0	0	0.0	247	26.2	0	0.0	1	0.1	561	59.6	157	16.7	173	18.4
Seremban	1,656	0	0.0	24	1.4	199	12.0	0	0.0	0	0.0	1382	83.5	243	14.7	244	14.7
Sibu	569	0	0.0	0	0.0	22	3.9	530	93.1	0	0.0	567	99.6	0	0.0	21	3.7
Sri Manjung	640	0	0.0	0	0.0	8	1.3	400	62.5	0	0.0	634	99.1	0	0.0	2	0.3
Sultan Ismail	709	1	0.1	0	0.0	170	24.0	38	5.4	0	0.0	46	6.5	1	0.1	40	5.6
Sungai Buloh	691	0	0.0	2	0.3	88	12.7	3	0.4	1	0.1	271	39.2	387	56.0	158	22.9
Sungei Petani	902	3	0.3	0	0.0	104	11.5	0	0.0	0	0.0	841	93.2	0	0.0	51	5.7
Taiping	1,192	0	0.0	1	0.1	343	28.8	0	0.0	0	0.0	866	72.7	0	0.0	19	1.6
Tanah Merah	9	0	0.0	0	0.0	9	100.0	7	77.8	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	601	1	0.2	0	0.0	154	25.6	2	0.3	0	0.0	437	72.7	0	0.0	3	0.5
Teluk Intan	910	0	0.0	2	0.2	903	99.2	2	0.2	0	0.0	0	0.0	3	0.3	2	0.2
Temerloh	829	1	0.1	10	1.2	378	45.6	3	0.4	1	0.1	220	26.5	112	13.5	182	22.0
KK1M Kedah	209	0	0.0	0	0.0	2	1.0	0	0.0	0	0.0	209	100.0	2	1.0	4	1.9
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	3	75.0	0	0.0	0	0.0	4	100.0	0	0.0	3	75.0

KK1M Pahang	183	0	0.0	0	0.0	105	57.4	0	0.0	0	0.0	79	43.2	7	3.8	39	21.3
KK1M Sabah	125	0	0.0	0	0.0	18	14.4	0	0.0	0	0.0	122	97.6	25	20.0	39	31.2
KK1M Sarawak	1129	0	0.0	0	0.0	13	1.2	0	0.0	0	0.0	1,107	98.1	1	0.1	13	1.2
KK1M Terengganu	37	0	0.0	0	0.0	9	24.3	0	0.0	0	0.0	28	75.7	1	2.7	1	2.7
MAIWP	1,824	5	0.3	4	0.2	87	4.8	7	0.4	0	0.0	1,607	88.1	870	47.7	766	42.0

Table 1.3.8-6: Types of Local Anaesthesia by SDP (50 years and above), CSR 2015

	Local Anaesthesia																
	All	Retrobulbar		Peribulbar		Subtenon		Sub-conjunctival		Facial block		Topical		Intracameral		Combined	
	N	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	39,658	608	1.5	197	0.5	8,885	22.4	1,202	3.0	11	0.0	27,349	69.0	8,585	21.6	7,564	19.1
Alor Setar	1,986	101	5.1	21	1.1	270	13.6	3	0.2	0	0.0	1322	66.6	556	28.0	286	14.4
Ampang	813	0	0.0	0	0.0	127	15.6	2	0.2	0	0.0	682	83.9	701	86.2	673	82.8
Batu Pahat	516	8	1.6	0	0.0	334	64.7	139	26.9	0	0.0	9	1.7	90	17.4	63	12.2
Bintulu	317	0	0.0	0	0.0	314	99.1	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1,166	2	0.2	0	0.0	271	23.2	0	0.0	0	0.0	16	1.4	894	76.7	22	1.9
Ipoh	2,037	13	0.6	35	1.7	275	13.5	11	0.5	1	0.0	1,500	73.6	1,823	89.5	1,480	72.7
Sultanah Aminah JB	1,465	22	1.5	0	0.0	338	23.1	378	25.8	1	0.1	891	60.8	511	34.9	605	41.3
Kangar	550	4	0.7	0	0.0	544	98.9	0	0.0	0	0.0	1	0.2	0	0.0	1	0.2
Kemaman	3	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	3	100.0	0	0.0	1	33.3
Keningau	79	0	0.0	4	5.1	1	1.3	0	0.0	0	0.0	75	94.9	0	0.0	1	1.3
Klang	1,637	47	2.9	1	0.1	161	9.8	1	0.1	1	0.1	1,421	86.8	32	2.0	54	3.3
Kota Bharu	813	21	2.6	8	1.0	731	89.9	1	0.1	2	0.2	56	6.9	10	1.2	26	3.2
Queen Elizabeth KK	953	1	0.1	9	0.9	232	24.3	7	0.7	0	0.0	869	91.2	143	15.0	301	31.6
Kuala Krai	370	0	0.0	0	0.0	83	22.4	17	4.6	0	0.0	319	86.2	0	0.0	51	13.8
Kuala Lumpur	1,354	10	0.7	40	3.0	323	23.9	10	0.7	0	0.0	619	45.7	759	56.1	411	30.4
Kuala Pilah	417	0	0.0	1	0.2	293	70.3	1	0.2	0	0.0	215	51.6	4	1.0	96	23.0
Kuala Terengganu	861	0	0.0	1	0.1	292	33.9	3	0.3	1	0.1	570	66.2	10	1.2	25	2.9
Kuantan	917	13	1.4	0	0.0	743	81.0	1	0.1	0	0.0	277	30.2	19	2.1	140	15.3
Kuching	1,810	53	2.9	28	1.5	24	1.3	3	0.2	1	0.1	1,760	97.2	25	1.4	87	4.8
Kulim	392	0	0.0	0	0.0	40	10.2	0	0.0	0	0.0	387	98.7	347	88.5	374	95.4
Langkawi	53	0	0.0	0	0.0	10	18.9	0	0.0	0	0.0	37	69.8	5	9.4	2	3.8
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,230	14	0.6	1	0.0	61	2.7	1	0.0	0	0.0	2,178	97.7	13	0.6	47	2.1
Miri	855	1	0.1	0	0.0	301	35.2	0	0.0	0	0.0	643	75.2	1	0.1	93	10.9
Muar	879	0	0.0	0	0.0	35	4.0	0	0.0	0	0.0	864	98.3	346	39.4	358	40.7
Pulau Pinang	2,021	85	4.2	0	0.0	122	6.0	0	0.0	0	0.0	1,841	91.1	7	0.3	45	2.2
Putrajaya	415	0	0.0	0	0.0	44	10.6	0	0.0	0	0.0	340	81.9	384	92.5	339	81.7
Sandakan	445	0	0.0	0	0.0	21	4.7	1	0.2	1	0.2	424	95.3	0	0.0	3	0.7

Sarikei	626	0	0.0	0	0.0	6	1.0	0	0.0	0	0.0	625	99.8	0	0.0	6	1.0
Selayang	1,037	203	19.6	7	0.7	151	14.6	7	0.7	0	0.0	763	73.6	173	16.7	279	26.9
Serdang	907	0	0.0	0	0.0	234	25.8	0	0.0	1	0.1	542	59.8	155	17.1	170	18.7
Seremban	1,598	0	0.0	23	1.4	192	12.0	44	2.8	0	0.0	1338	83.7	234	14.6	236	14.8
Sibu	540	0	0.0	0	0.0	21	3.9	0	0.0	0	0.0	538	99.6	0	0.0	20	3.7
Sri Manjung	623	0	0.0	0	0.0	5	0.8	0	0.0	0	0.0	620	99.5	0	0.0	2	0.3
Sultan Ismail	689	1	0.1	0	0.0	165	23.9	515	74.7	0	0.0	46	6.7	1	0.1	40	5.8
Sungai Buloh	655	0	0.0	2	0.3	86	13.1	37	5.6	1	0.2	255	38.9	364	55.6	147	22.4
Sungei Petani	866	3	0.3	0	0.0	100	11.5	3	0.3	0	0.0	808	93.3	0	0.0	50	5.8
Taiping	1,165	0	0.0	1	0.1	338	29.0	0	0.0	0	0.0	844	72.4	0	0.0	19	1.6
Tanah Merah	9	0	0.0	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	527	1	0.2	0	0.0	136	25.8	5	0.9	0	0.0	383	72.7	0	0.0	3	0.6
Teluk Intan	866	0	0.0	2	0.2	860	99.3	2	0.2	0	0.0	0	0.0	1	0.1	1	0.1
Temerloh	799	1	0.1	10	1.3	360	45.1	2	0.3	1	0.1	213	26.7	109	13.6	175	21.9
KK1M Kedah	206	0	0.0	0	0.0	2	1.0	0	0.0	0	0.0	206	100.0	2	1.0	4	1.9
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	3	75.0	0	0.0	0	0.0	4	100.0	0	0.0	3	75.0
KK1M Pahang	181	0	0.0	0	0.0	104	57.5	0	0.0	0	0.0	78	43.1	7	3.9	39	21.5
KK1M Sabah	120	0	0.0	0	0.0	17	14.2	0	0.0	0	0.0	118	98.3	23	19.2	37	30.8
KK1M Sarawak	1,109	0	0.0	0	0.0	13	1.2	0	0.0	0	0.0	1,087	98.0	1	0.1	13	1.2
KK1M Terengganu	36	0	0.0	0	0.0	9	25.0	0	0.0	0	0.0	27	75.0	1	2.8	1	2.8
MAIWP	1,739	4	0.2	3	0.2	83	4.8	7	0.4	0	0.0	1,535	88.3	832	47.8	735	42.3

Table 1.3.8-7: Types of Local Anaesthesia by SDP (Excluding Combined Surgery), CSR 2015

	Local Anesthesia																
	All	Retrobulbar		Peribulbar		Subtenon		Sub-conjunctival		Facial block		Topical		Intracameral		Combined	
	N	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	40,299	197	0.5	124	0.3	9,027	22.4	1,219	3.0	10	0.0	28,020	69.5	8,876	22.0	7,583	18.8
Alor Setar	1,900	7	0.4	16	0.8	259	13.6	1	0.1	0	0.0	1,327	69.8	563	29.6	273	14.4
Ampang	825	0	0.0	0	0.0	123	14.9	2	0.2	0	0.0	694	84.1	720	87.3	687	83.3
Batu Pahat	529	8	1.5	0	0.0	344	65.0	140	26.5	0	0.0	9	1.7	92	17.4	63	11.9
Bintulu	325	0	0.0	0	0.0	322	99.1	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1,209	2	0.2	0	0.0	274	22.7	0	0.0	0	0.0	16	1.3	933	77.2	21	1.7
Ipoh	2,026	1	0.0	5	0.2	276	13.6	10	0.5	1	0.0	1,505	74.3	1,848	91.2	1,481	73.1
Sultanah Aminah JB	1,518	0	0.0	0	0.0	343	22.6	393	25.9	1	0.1	925	60.9	543	35.8	614	40.4
Kangar	558	4	0.7	0	0.0	552	98.9	0	0.0	0	0.0	1	0.2	0	0.0	1	0.2
Kemaman	3	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	3	100.0	0	0.0	1	33.3
Keningau	80	0	0.0	4	5.0	1	1.3	0	0.0	0	0.0	76	95.0	0	0.0	1	1.3
Klang	1,694	50	3.0	1	0.1	163	9.6	1	0.1	1	0.1	1,475	87.1	33	1.9	58	3.4
Kota Bharu	823	2	0.2	2	0.2	759	92.2	1	0.1	2	0.2	56	6.8	9	1.1	18	2.2

Queen Elizabeth KK	996	0	0.0	7	0.7	233	23.4	4	0.4	0	0.0	907	91.1	147	14.8	298	29.9
Kuala Krai	381	0	0.0	0	0.0	86	22.6	18	4.7	0	0.0	328	86.1	0	0.0	53	13.9
Kuala Lumpur	1,408	8	0.6	39	2.8	330	23.4	11	0.8	0	0.0	643	45.7	799	56.7	428	30.4
Kuala Pilah	414	0	0.0	0	0.0	284	68.6	1	0.2	0	0.0	222	53.6	4	1.0	97	23.4
Kuala Terengganu	872	0	0.0	0	0.0	281	32.2	4	0.5	1	0.1	587	67.3	10	1.1	23	2.6
Kuantan	934	2	0.2	0	0.0	765	81.9	1	0.1	0	0.0	290	31.0	21	2.2	149	16.0
Kuching	1,777	5	0.3	3	0.2	20	1.1	1	0.1	0	0.0	1,760	99.0	26	1.5	42	2.4
Kulim	404	0	0.0	0	0.0	43	10.6	0	0.0	0	0.0	399	98.8	357	88.4	386	95.5
Langkawi	55	0	0.0	0	0.0	9	16.4	0	0.0	0	0.0	40	72.7	5	9.1	2	3.6
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,276	3	0.1	1	0.0	58	2.5	1	0.0	0	0.0	2,230	98.0	18	0.8	42	1.8
Miri	875	1	0.1	0	0.0	310	35.4	0	0.0	0	0.0	658	75.2	1	0.1	97	11.1
Muar	901	0	0.0	0	0.0	34	3.8	0	0.0	0	0.0	885	98.2	353	39.2	363	40.3
Pulau Pinang	1,972	8	0.4	0	0.0	120	6.1	0	0.0	0	0.0	1,867	94.7	6	0.3	41	2.1
Putrajaya	439	0	0.0	0	0.0	45	10.3	0	0.0	0	0.0	356	81.1	407	92.7	355	80.9
Sandakan	472	0	0.0	0	0.0	23	4.9	1	0.2	1	0.2	449	95.1	0	0.0	3	0.6
Sarikei	641	0	0.0	0	0.0	6	0.9	0	0.0	0	0.0	640	99.8	0	0.0	6	0.9
Selayang	935	85	9.1	3	0.3	159	17.0	4	0.4	0	0.0	735	78.6	173	18.5	235	25.1
Serdang	932	0	0.0	0	0.0	244	26.2	0	0.0	1	0.1	557	59.8	157	16.8	173	18.6
Seremban	1,644	0	0.0	24	1.5	195	11.9	47	2.9	0	0.0	1,373	83.5	243	14.8	242	14.7
Sibu	569	0	0.0	0	0.0	22	3.9	0	0.0	0	0.0	567	99.6	0	0.0	21	3.7
Sri Manjung	640	0	0.0	0	0.0	8	1.3	0	0.0	0	0.0	634	99.1	0	0.0	2	0.3
Sultan Ismail	702	1	0.1	0	0.0	168	23.9	525	74.8	0	0.0	45	6.4	1	0.1	39	5.6
Sungai Buloh	688	0	0.0	2	0.3	86	12.5	38	5.5	1	0.1	270	39.2	386	56.1	157	22.8
Sungei Petani	899	3	0.3	0	0.0	102	11.3	3	0.3	0	0.0	839	93.3	0	0.0	50	5.6
Taiping	1,173	0	0.0	1	0.1	328	28.0	0	0.0	0	0.0	862	73.5	0	0.0	19	1.6
Tanah Merah	9	0	0.0	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	566	1	0.2	0	0.0	137	24.2	1	0.2	0	0.0	422	74.6	0	0.0	0	0.0
Teluk Intan	906	0	0.0	2	0.2	899	99.2	2	0.2	0	0.0	0	0.0	3	0.3	2	0.2
Temerloh	821	1	0.1	10	1.2	372	45.3	1	0.1	1	0.1	217	26.4	110	13.4	178	21.7
KK1M Kedah	209	0	0.0	0	0.0	2	1.0	0	0.0	0	0.0	209	100.0	2	1.0	4	1.9
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	3	75.0	0	0.0	0	0.0	4	100.0	0	0.0	3	75.0
KK1M Pahang	182	0	0.0	0	0.0	104	57.1	0	0.0	0	0.0	78	42.9	7	3.8	38	20.9
KK1M Sabah	125	0	0.0	0	0.0	18	14.4	0	0.0	0	0.0	122	97.6	25	20.0	39	31.2
KK1M Sarawak	1,126	0	0.0	0	0.0	12	1.1	0	0.0	0	0.0	1,104	98.0	1	0.1	12	1.1
KK1M Terengganu	36	0	0.0	0	0.0	8	22.2	0	0.0	0	0.0	27	75.0	1	2.8	0	0.0
MAIWP	1,824	5	0.3	4	0.2	87	4.8	7	0.4	0	0.0	1,607	88.1	870	47.7	766	42.0

Table 1.3.8-8: Types of Local Anaesthesia by SDP (50 years and above, Excluding Combined Surgery), CSR 2015

	Local Anesthesia																
	All	Retrobulbar		Peribulbar		Subtenon		Sub-conjunctival		Facial block		Topical		Intracameral		Combined	
	N	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	38,711	173	0.4	117	0.3	8,633	22.3	1,171	3.0	10	0.0	26,975	69.7	8,526	22.0	7,291	18.8
Alor Setar	1,847	6	0.3	14	0.8	255	13.8	1	0.1	0	0.0	1,284	69.5	547	29.6	260	14.1
Ampang	796	0	0.0	0	0.0	118	14.8	2	0.3	0	0.0	670	84.2	691	86.8	662	83.2
Batu Pahat	511	8	1.6	0	0.0	330	64.6	138	27.0	0	0.0	9	1.8	89	17.4	62	12.1
Bintulu	293	0	0.0	0	0.0	290	99.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1,157	2	0.2	0	0.0	264	22.8	0	0.0	0	0.0	16	1.4	891	77.0	21	1.8
Ipoh	1,986	1	0.1	4	0.2	272	13.7	10	0.5	1	0.1	1,476	74.3	1,813	91.3	1,454	73.2
Sultanah Aminah JB	1,426	0	0.0	0	0.0	328	23.0	371	26.0	1	0.1	869	60.9	508	35.6	581	40.7
Kangar	543	4	0.7	0	0.0	537	98.9	0	0.0	0	0.0	1	0.2	0	0.0	1	0.2
Kemaman	3	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0	3	100.0	0	0.0	1	33.3
Keningau	79	0	0.0	4	5.1	1	1.3	0	0.0	0	0.0	75	94.9	0	0.0	1	1.3
Klang	1,625	47	2.9	1	0.1	156	9.6	1	0.1	1	0.1	1,414	87.0	32	2.0	54	3.3
Kota Bharu	772	2	0.3	2	0.3	709	91.8	1	0.1	2	0.3	54	7.0	9	1.2	17	2.2
Queen Elizabeth KK	930	0	0.0	7	0.8	217	23.3	4	0.4	0	0.0	849	91.3	138	14.8	281	30.2
Kuala Krai	366	0	0.0	0	0.0	83	22.7	17	4.6	0	0.0	315	86.1	0	0.0	51	13.9
Kuala Lumpur	1,341	8	0.6	37	2.8	321	23.9	10	0.7	0	0.0	613	45.7	756	56.4	409	30.5
Kuala Pilah	401	0	0.0	0	0.0	277	69.1	1	0.2	0	0.0	212	52.9	4	1.0	93	23.2
Kuala Terengganu	831	0	0.0	0	0.0	270	32.5	3	0.4	1	0.1	560	67.4	10	1.2	22	2.6
Kuantan	902	2	0.2	0	0.0	739	81.9	1	0.1	0	0.0	277	30.7	19	2.1	140	15.5
Kuching	1,711	3	0.2	3	0.2	20	1.2	1	0.1	0	0.0	1,696	99.1	25	1.5	41	2.4
Kulim	387	0	0.0	0	0.0	38	9.8	0	0.0	0	0.0	382	98.7	342	88.4	369	95.3
Langkawi	52	0	0.0	0	0.0	9	17.3	0	0.0	0	0.0	37	71.2	5	9.6	2	3.8
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,203	3	0.1	1	0.0	55	2.5	1	0.0	0	0.0	2,158	98.0	13	0.6	36	1.6
Miri	846	1	0.1	0	0.0	294	34.8	0	0.0	0	0.0	640	75.7	1	0.1	92	10.9
Muar	873	0	0.0	0	0.0	32	3.7	0	0.0	0	0.0	858	98.3	345	39.5	354	40.5
Pulau Pinang	1,931	8	0.4	0	0.0	118	6.1	0	0.0	0	0.0	1,827	94.6	6	0.3	39	2.0
Putrajaya	415	0	0.0	0	0.0	44	10.6	0	0.0	0	0.0	340	81.9	384	92.5	339	81.7
Sandakan	444	0	0.0	0	0.0	21	4.7	1	0.2	1	0.2	423	95.3	0	0.0	3	0.7
Sarikei	625	0	0.0	0	0.0	6	1.0	0	0.0	0	0.0	624	99.8	0	0.0	6	1.0
Selayang	875	68	7.8	3	0.3	147	16.8	4	0.5	0	0.0	693	79.2	169	19.3	220	25.1
Serdang	898	0	0.0	0	0.0	231	25.7	0	0.0	1	0.1	539	60.0	155	17.3	170	18.9
Seremban	1,586	0	0.0	23	1.5	188	11.9	43	2.7	0	0.0	1,329	83.8	234	14.8	234	14.8
Sibu	540	0	0.0	0	0.0	21	3.9	0	0.0	0	0.0	538	99.6	0	0.0	20	3.7
Sri Manjung	623	0	0.0	0	0.0	5	0.8	0	0.0	0	0.0	620	99.5	0	0.0	2	0.3
Sultan Ismail	682	1	0.1	0	0.0	163	23.9	510	74.8	0	0.0	45	6.6	1	0.1	39	5.7
Sungai Buloh	652	0	0.0	2	0.3	84	12.9	37	5.7	1	0.2	254	39.0	363	55.7	146	22.4

Sungei Petani	863	3	0.3	0	0.0	98	11.4	3	0.3	0	0.0	806	93.4	0	0.0	49	5.7
Taiping	1,146	0	0.0	1	0.1	323	28.2	0	0.0	0	0.0	840	73.3	0	0.0	19	1.7
Tanah Merah	9	0	0.0	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	496	1	0.2	0	0.0	121	24.4	0	0.0	0	0.0	369	74.4	0	0.0	0	0.0
Teluk Intan	862	0	0.0	2	0.2	856	99.3	2	0.2	0	0.0	0	0.0	1	0.1	1	0.1
Temerloh	791	1	0.1	10	1.3	354	44.8	1	0.1	1	0.1	210	26.5	107	13.5	171	21.6
KK1M Kedah	206	0	0.0	0	0.0	2	1.0	0	0.0	0	0.0	206	100.0	2	1.0	4	1.9
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	3	75.0	0	0.0	0	0.0	4	100.0	0	0.0	3	75.0
KK1M Pahang	180	0	0.0	0	0.0	103	57.2	0	0.0	0	0.0	77	42.8	7	3.9	38	21.1
KK1M Sabah	120	0	0.0	0	0.0	17	14.2	0	0.0	0	0.0	118	98.3	23	19.2	37	30.8
KK1M Sarawak	1,106	0	0.0	0	0.0	12	1.1	0	0.0	0	0.0	1,084	98.0	1	0.1	12	1.1
KK1M Terengganu	35	0	0.0	0	0.0	8	22.9	0	0.0	0	0.0	26	74.3	1	2.9	0	0.0
MAIWP	1,739	4	0.2	3	0.2	83	4.8	7	0.4	0	0.0	1,535	88.3	832	47.8	735	42.3

Table 1.3.8-9: Subtenon Anaesthesia by SDP, CSR 2007-2015

Years	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	9990	58.3	11014	54.6	11525	50.6	10952	41.4	10512	36.7	9849	32.6	9,913	28.6	9,351	24.8	9,294	22.4
Alor Setar	35	9.5	109	12.1	239	25.3	274	20.7	323	18.8	426	26.5	600	40.8	379	21.1	275	13.4
Ampang	3	75.0	162	78.3	110	27.1	70	11.5	27	3.8	58	6.7	117	12.4	125	13.8	134	15.9
Batu Pahat	545	99.6	567	99.5	562	94.8	280	69.5	156	29.1	161	27.4	166	39.8	293	64.8	348	65.2
Bintulu	-	-	24	0.0	118	99.2	255	99.6	328	100.0	382	100.0	374	98.9	374	100.0	346	99.1
Bukit Mertajam	422	69.5	294	64.1	239	32.7	399	50.8	423	54.3	384	42.7	275	31.0	283	29.3	281	23.1
Ipoh	702	47.1	921	56.2	872	43.5	567	27.3	387	23.5	517	19.6	448	16.8	198	8.9	279	13.4
Sultanah Aminah JB	1103	74.0	801	60.1	942	74.8	464	35.3	436	41.1	501	43.9	521	40.4	278	20.7	354	22.6
Kangar	313	98.4	389	98.5	383	98.5	383	98.7	397	100.0	442	99.1	457	98.5	414	99.0	559	98.9
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	8	17.4	24	33.8	1	33.3
Keningau	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	7.1	20	15.5	1	1.3
Klang	468	57.1	297	27.3	178	24.1	326	38.5	67	7.2	62	5.0	45	3.3	58	4.6	168	9.8
Kota Bharu	726	99.2	672	99.3	837	98.0	885	97.6	884	99.0	495	97.6	629	98.6	273	99.3	784	90.2
Queen Elizabeth KK	195	39.2	81	24.1	82	20.3	115	22.0	91	14.0	142	19.9	206	22.3	248	25.9	249	24.4
Kuala Krai	115	100.0	142	86.6	169	98.8	203	95.8	222	94.9	243	99.6	388	100.0	248	69.3	86	22.3
Kuala Lumpur	NA	NA	27	73.0	620	50.7	800	56.7	829	60.7	601	46.8	310	31.0	761	43.9	332	23.3
Kuala Pilah	208	99.5	270	97.8	252	89.7	237	79.5	371	79.6	304	72.6	208	44.1	303	65.9	300	69.8
Kuala Terengganu	419	85.2	590	84.8	417	59.7	267	39.8	274	38.1	291	40.6	215	22.7	207	24.7	304	33.6
Kuantan	9	47.4	162	54.9	143	63.8	358	78.9	456	77.2	345	63.3	366	76.3	399	86.0	769	80.9
Kuching	404	42.7	254	26.3	145	17.1	142	12.5	54	4.9	86	5.4	56	3.4	59	3.0	25	1.3
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	5.4	45	11.0
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	17.9
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0

Melaka	443	30.1	463	28.9	376	28.5	310	19.5	211	13.4	128	9.0	223	13.7	123	6.0	64	2.8
Miri	1	6.3	352	90.0	187	46.9	90	15.7	161	24.9	60	6.8	24	2.7	364	38.4	317	35.9
Muar	166	49.7	326	98.5	528	99.2	460	77.7	104	15.8	54	8.3	37	5.4	53	7.6	37	4.1
Pulau Pinang	967	97.6	687	54.5	474	37.3	328	18.5	76	3.5	56	4.4	165	10.0	122	7.0	124	5.9
Putrajaya	188	98.9	236	99.6	240	99.2	260	100.0	240	80.3	125	37.4	100	27.0	77	21.8	45	10.3
Sandakan	NA	NA	0	0.0	86	57.7	116	61.4	140	55.6	113	45.0	24	6.0	7	3.0	23	4.9
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	5	0.9	6	0.9
Selayang	152	11.1	174	12.7	190	13.9	249	15.1	211	11.8	323	18.4	260	19.9	131	16.8	166	14.2
Serdang	522	91.7	375	56.9	396	70.7	375	80.5	432	70.7	414	60.6	339	36.1	362	31.0	247	26.2
Seremban	210	24.1	294	35.4	356	30.7	563	38.3	591	38.5	422	29.1	270	18.7	240	15.8	199	12.0
Sibu	33	9.6	96	38.9	155	40.4	26	5.8	37	7.4	10	1.3	11	1.2	22	2.6	22	3.9
Sri Manjung	136	92.5	133	38.7	28	8.6	35	9.2	47	11.4	32	7.2	9	1.1	4	0.7	8	1.3
Sultan Ismail	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	15	5.3	159	32.9	170	24.0
Sungai Buloh	98	80.3	221	90.2	325	99.4	374	91.2	319	79.4	292	67.4	373	77.9	158	26.7	88	12.7
Sungei Petani	472	99.0	591	98.2	646	99.2	235	44.9	180	23.3	236	29.3	229	26.1	218	24.7	104	11.5
Taiping	156	71.2	166	54.2	121	22.4	328	41.4	402	48.4	356	36.4	373	32.5	189	17.5	343	28.8
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	100.0
Tawau	195	100.0	303	98.4	287	99.7	382	99.5	553	100.0	615	99.2	380	78.8	406	77.2	154	25.6
Teluk Intan	190	28.6	406	72.0	397	66.4	386	58.2	472	73.2	586	99.2	1,063	98.9	986	99.1	903	99.2
Temerloh	390	94.4	429	83.1	425	67.8	410	96.7	611	94.0	586	69.9	403	47.5	491	48.2	378	45.6
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138	75.4	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	75.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	51	79.7	-	-	105	57.4
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	14.4
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	1	1.3	5	0.6	13	1.2
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	28.6	9	24.3
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	171	10.8	123	5.4	87	4.8

Table 1.3.8-10: Subtenon Anaesthesia by SDP (50 years and above), CSR 2007-2015

Years	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	9397	56.2	10354	54.7	10861	50.6	10338	41.4	9979	36.8	9340	32.6	9,435	28.6	8,938	24.8	8,885	22.4
Alor Setar	33	8.8	103	11.9	228	25.8	263	21.0	309	19.0	418	27.0	586	41.2	373	21.6	270	13.6
Ampang	2	66.7	150	77.7	103	26.8	66	11.3	27	4.0	56	6.7	114	12.7	121	13.8	127	15.6
Batu Pahat	511	99.2	534	99.4	537	94.5	269	70.6	152	29.4	157	27.8	163	40.2	285	64.9	334	64.7
Bintulu	-	-	22	88.0	106	99.1	230	100.0	303	100.0	356	100.0	342	99.4	341	100.0	314	99.1
Bukit Mertajam	402	65.2	279	64.1	224	32.4	372	50.7	408	54.9	358	42.2	265	31.5	269	29.0	271	23.2
Ipoh	663	46.0	881	55.9	838	43.4	550	27.6	378	23.6	500	19.7	430	16.8	192	8.9	275	13.5
Sultanah Aminah JB	1025	72.9	724	59.5	846	74.7	427	35.1	403	41.3	468	45.1	478	40.2	254	20.0	338	23.1

Kangar	298	97.1	363	98.6	365	98.4	365	98.6	383	100.0	418	99.1	446	98.5	395	99.0	544	98.9
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	8	18.2	21	31.8	1	33.3
Keningau	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	7.1	20	16.0	1	1.3
Klang	442	47.4	271	26.7	169	24.1	312	39.2	63	7.3	58	5.0	43	3.3	54	4.5	161	9.8
Kota Bharu	683	95.5	628	99.2	760	98.1	818	97.4	828	99.0	459	97.7	591	98.7	252	99.2	731	89.9
Queen Elizabeth KK	181	39.2	73	23.7	74	20.2	108	22.3	85	13.9	132	19.9	193	22.2	235	25.8	232	24.3
Kuala Krai	111	96.5	132	86.8	163	98.8	188	95.4	208	94.5	231	99.6	369	100.0	239	68.7	83	22.4
Kuala Lumpur	-	-	27	77.1	594	50.8	759	56.6	796	61.3	581	47.4	298	31.0	737	44.2	323	23.9
Kuala Pilah	197	98.5	251	98.0	240	89.6	228	79.7	355	79.2	292	72.5	195	43.1	294	65.5	293	70.3
Kuala Terengganu	390	82.5	557	84.7	392	59.7	251	40.1	261	38.1	273	40.6	198	22.0	197	24.8	292	33.9
Kuantan	7	33.3	151	54.5	138	63.3	338	78.6	444	77.5	330	62.9	356	76.2	386	86.4	743	81.0
Kuching	379	42.6	227	25.6	129	16.2	135	12.6	50	4.9	76	5.1	49	3.2	52	2.8	24	1.3
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	5.6	40	10.2
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	18.9
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	428	30.6	455	30.0	363	29.2	303	20.0	210	14.0	125	9.2	216	14.0	118	5.9	61	2.7
Miri	1	6.3	330	89.7	176	46.2	85	15.7	151	24.5	56	6.6	22	2.5	348	38.4	301	35.2
Muar	158	48.2	308	98.4	507	99.2	429	77.7	100	15.9	51	8.0	36	5.6	51	7.6	35	4.0
Pulau Pinang	929	91.5	668	54.6	462	37.4	320	18.7	74	3.6	53	4.2	153	9.6	113	6.7	122	6.0
Putrajaya	178	95.2	226	99.6	231	99.1	255	100.0	224	80.3	116	36.4	95	26.5	74	21.8	44	10.6
Sandakan	-	-	0	0.0	80	58.8	110	61.5	134	55.8	107	46.1	23	6.2	6	2.8	21	4.7
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	5	0.9	6	1.0
Selayang	132	10.6	165	13.5	178	14.4	227	15.1	191	11.8	300	18.5	244	20.2	116	16.1	151	14.6
Serdang	485	89.2	358	57.0	380	70.5	354	80.6	407	71.3	389	61.1	324	36.5	345	30.7	234	25.8
Seremban	199	22.7	272	34.6	336	30.7	529	37.9	562	38.2	392	28.4	258	18.5	234	16.0	192	12.0
Sibu	32	9.3	89	39.0	145	40.6	23	5.5	33	7.1	10	1.4	10	1.2	21	2.6	21	3.9
Sri Manjung	128	90.1	123	38.9	27	8.7	34	9.2	44	11.2	31	7.2	9	1.2	4	0.7	5	0.8
Sultan Ismail	4	4.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	15	5.5	153	32.8	165	23.9
Sungai Buloh	91	70.5	207	90.4	306	99.4	346	91.1	294	78.8	280	67.1	356	77.9	146	26.4	86	13.1
Sungei Petani	444	96.3	551	98.2	612	99.2	225	45.5	172	23.4	231	30.1	221	26.3	212	25.4	100	11.5
Taiping	148	58.3	158	53.6	117	22.5	313	41.3	385	48.7	349	36.8	367	33.1	182	17.3	338	29.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	100.0
Tawau	169	100.0	275	98.2	258	99.6	334	99.7	500	100.0	561	99.1	338	78.1	377	77.4	136	25.8
Teluk Intan	176	28.2	386	72.0	375	65.6	371	58.2	458	73.0	570	99.3	1,031	98.8	964	99.1	860	99.3
Temerloh	371	90.5	410	83.5	402	68.4	401	96.6	587	94.1	555	69.7	382	47.2	478	48.3	360	45.1
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	75.1	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	75.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	48	80.0	-	-	104	57.5
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	14.2
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	1	1.4	5	0.6	13	1.2
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	28.6	9	25.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	159	10.5	112	5.2	83	4.8

Table 1.3.8-11: Topical Anaesthesia by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	4853	28.3	6680	33.1	8382	36.8	13112	49.6	16825	58.8	18461	61.1	22,220	64.2	25,068	66.6	28,458	68.7
Alor Setar	1	0.3	95	10.6	124	13.1	676	51.2	876	51.0	922	57.4	547	37.2	1107	61.7	1371	66.7
Ampang	3	75.0	64	30.9	248	61.1	500	81.8	674	95.9	807	92.7	908	96.3	827	91.1	707	83.8
Batu Pahat	1	0.2	0	0.0	25	4.2	85	21.1	355	66.2	184	31.3	15	3.6	0	0.0	9	1.7
Bintulu	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	0	0.0	2	0.4	62	8.5	0	0.0	1	0.1	8	0.9	0	0.0	2	0.2	16	1.3
Ipoh	573	38.5	594	36.2	1137	56.7	1521	73.3	1348	81.7	2167	82.1	2,417	90.8	2,163	97.2	1,531	73.4
Sultanah Aminah JB	359	24.1	501	37.6	159	12.6	488	37.1	1034	97.5	1114	97.7	289	22.4	440	32.7	953	60.9
Kangar	0	0.0	0	0.0	3	0.8	3	0.8	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	29	63.0	52	73.2	3	100.0
Keningau	-	-	28	93.3	21	91.3	2	2.8	0	0.0	0	0.0	0	0.0	74	57.4	76	95.0
Klang	210	25.6	566	52.1	427	57.7	480	56.7	751	81.0	981	79.4	1,298	94.8	1,138	91.0	1,482	86.9
Kota Bharu	0	0.0	1	0.1	12	1.4	22	2.4	7	0.8	8	1.6	0	0.0	0	0.0	59	6.8
Queen Elizabeth KK	242	48.7	221	65.8	265	65.8	416	79.7	582	89.4	624	87.4	791	85.7	796	83.1	928	90.9
Kuala Krai	0	0.0	9	5.5	1	0.6	14	6.6	93	39.7	0	0.0	0	0.0	161	45.0	332	86.2
Kuala Lumpur	NA	NA	2	5.4	208	17.0	237	16.8	202	14.8	163	12.7	352	35.2	509	29.4	651	45.7
Kuala Pilah	0	0.0	1	0.4	0	0.0	9	3.0	38	8.2	51	12.2	236	50.0	103	22.4	225	52.3
Kuala Terengganu	75	15.2	99	14.2	274	39.3	402	59.9	445	61.8	434	60.5	765	80.6	650	77.6	597	66.0
Kuantan	4	21.1	40	13.6	2	0.9	9	2.0	7	1.2	0	0.0	0	0.0	49	10.6	290	30.5
Kuching	528	55.8	733	75.9	714	84.0	1000	88.3	1061	96.5	1530	95.6	1,592	97.8	1,855	93.9	1,838	96.7
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	189	72.4	404	98.8
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	71.4
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	1075	73.1	1233	76.9	1014	76.9	1572	98.7	1549	98.6	1415	99.3	1,541	94.8	2,008	97.5	2,251	97.7
Miri	0	0.0	12	3.1	211	52.9	483	84.3	478	73.9	823	92.9	882	97.5	627	66.2	661	74.8
Muar	160	47.9	4	1.2	1	0.2	130	22.0	547	83.1	584	89.3	580	84.8	644	92.7	891	98.2
Pulau Pinang	8	0.8	560	44.4	814	64.1	1387	78.4	2002	92.4	1185	92.2	1,525	92.6	1,573	89.8	1,884	90.2
Putrajaya	0	0.0	0	0.0	0	0.0	0	0.0	3	1.0	1	0.3	4	1.1	4	1.1	356	81.1
Sandakan	NA	NA	12	9.2	34	22.8	86	45.5	83	32.9	92	36.7	367	91.5	225	96.6	450	95.1
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	280	98.6	546	98.9	641	99.8
Selayang	983	71.5	981	71.7	989	72.2	1142	69.4	1255	70.1	1262	71.9	969	74.1	600	76.8	830	71.1
Serdang	33	5.8	247	37.5	151	27.0	88	18.9	164	26.8	264	38.7	533	56.8	752	64.4	561	59.6
Seremban	1	0.1	102	12.3	273	23.5	632	43.0	1059	69.0	999	68.9	980	67.8	1156	76.0	1382	83.5
Sibu	0	0.0	0	0.0	173	45.1	347	77.1	450	89.6	736	99.3	889	99.6	843	98.8	567	99.6
Sri Manjung	11	7.5	201	58.4	298	92.0	353	92.9	365	88.8	418	93.9	781	98.9	587	98.3	634	99.1
Sultan Ismail	0	0.0	0	0.0	1	0.8	10	5.7	58	32.0	87	46.8	212	75.4	95	19.6	46	6.5
Sungai Buloh	27	22.1	15	6.1	6	1.8	33	8.0	76	18.9	105	24.2	62	12.9	193	32.6	271	39.2

Sungei Petani	0	0.0	0	0.0	0	0.0	240	45.9	640	82.9	633	78.6	711	81.1	756	85.7	841	93.2
Taiping	63	28.8	102	33.3	213	39.4	466	58.8	431	51.9	626	64.1	776	67.7	906	83.7	866	72.7
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	94	19.5	112	21.3	437	72.7
Teluk Intan	469	70.6	152	27.0	287	48.0	258	38.9	152	23.6	12	2.0	17	1.6	33	3.3	0	0.0
Temerloh	27	6.5	103	20.0	234	37.3	21	5.0	39	6.0	226	27.0	337	39.7	243	23.8	220	26.5
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	100.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	18.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	100.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	16	25.0	-	-	79.0	43.2
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122.0	97.6
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	74	98.7	818	99.3	1107	98.1
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	80.0	28	75.7
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1,351	85.3	2,171	95.8	1,607	88.1

Table 1.3.8-12: Topical Anaesthesia by SDP (50 years and above), CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	4510	27.0	6274	33.1	7952	37.0	12473	49.9	16003	59.0	17557	61.2	21,203	64.3	24,071	66.7	27,349	69.0
Alor Setar	1	0.3	88	10.1	115	13.0	652	52.0	839	51.5	888	57.4	523	36.8	1064	61.6	1322	66.6
Ampang	2	66.7	62	32.1	236	61.3	475	81.6	653	96.3	777	92.5	867	96.2	801	91.1	682	83.9
Batu Pahat	1	0.2	0	0.0	25	4.4	80	21.0	340	65.8	172	30.5	14	3.5	0	0.0	9	1.7
Bintulu	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	0	0.0	2	0.5	62	9.0	0	0.0	1	0.1	8	0.9	0	0.0	1	0.1	16	1.4
Ipoh	534	37.1	575	36.5	1090	56.5	1455	73.0	1309	81.8	2090	82.3	2,333	91.1	2,104	97.3	1,500	73.6
Sultanah Aminah JB	339	24.1	464	38.2	151	13.3	458	37.6	951	97.5	1016	98.0	271	22.8	414	32.6	891	60.8
Kangar	0	0.0	0	0.0	3	0.8	3	0.8	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	27	61.4	49	74.2	3	100.0
Keningau	-	-	23	92.0	19	90.5	2	3.0	0	0.0	0	0.0	0	0.0	73	58.4	75	94.9
Klang	196	21.0	531	52.3	408	58.2	446	56.0	695	81.0	922	79.3	1,230	94.6	1,084	90.9	1,421	86.8
Kota Bharu	0	0.0	1	0.2	10	1.3	22	2.6	6	0.7	8	1.7	0	0.0	0	0.0	56	6.9
Queen Elizabeth KK	210	45.5	204	66.2	241	65.8	390	80.4	546	89.5	583	87.8	745	85.8	754	82.7	869	91.2
Kuala Krai	0	0.0	9	5.9	1	0.6	14	7.1	86	39.1	0	0.0	0	0.0	157	45.1	319	86.2
Kuala Lumpur	-	-	1	2.9	198	16.9	223	16.6	189	14.6	157	12.8	338	35.2	494	29.6	619	45.7
Kuala Pilah	0	0.0	0	0.0	0	0.0	9	3.1	38	8.5	49	12.2	229	50.7	101	22.5	215	51.6
Kuala Terengganu	68	14.4	94	14.3	259	39.4	373	59.6	423	61.8	408	60.6	732	81.2	615	77.4	570	66.2
Kuantan	4	19.0	37	13.4	2	0.9	9	2.1	5	0.9	0	0.0	0	0.0	45	10.1	277	30.2
Kuching	489	55.0	681	76.8	675	84.7	945	88.2	992	96.4	1429	95.6	1,514	98.2	1,770	94.4	1,760	97.2
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	71.6	387	98.7
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	69.8

Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	991	70.8	1151	75.9	951	76.5	1495	98.7	1483	98.5	1350	99.3	1,464	94.8	1,940	97.5	2,178	97.7
Miri	0	0.0	12	3.3	204	53.5	457	84.3	457	74.2	791	93.1	842	97.6	600	66.2	643	75.2
Muar	155	47.3	4	1.3	1	0.2	121	21.9	521	83.0	568	89.4	543	84.3	618	92.7	864	98.3
Pulau Pinang	7	0.7	543	44.4	789	63.9	1346	78.6	1931	92.8	1153	92.4	1,473	92.9	1,518	90.2	1,841	91.1
Putrajaya	0	0.0	0	0.0	0	0.0	0	0.0	2	0.7	1	0.3	4	1.1	4	1.2	340	81.9
Sandakan	-	-	11	8.9	31	22.8	83	46.4	79	32.9	84	36.2	339	91.6	207	96.3	424	95.3
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	267	98.9	536	98.9	625	99.8
Selayang	927	74.5	906	73.9	921	74.3	1080	71.7	1192	73.4	1185	72.9	907	75.0	568	78.8	763	73.6
Serdang	26	4.8	235	37.4	149	27.6	82	18.7	149	26.1	243	38.1	504	56.8	723	64.4	542	59.8
Seremban	1	0.1	97	12.3	255	23.3	602	43.1	1015	69.0	962	69.7	947	67.9	1103	75.5	1338	83.7
Sibu	0	0.0	0	0.0	163	45.7	328	77.9	419	89.5	695	99.3	833	99.6	801	98.8	538	99.6
Sri Manjung	10	7.0	184	58.2	284	91.6	341	92.7	350	89.1	406	94.0	761	98.8	581	98.3	620	99.5
Sultan Ismail	0	0.0	0	0.0	1	0.9	10	5.8	58	32.2	82	45.3	207	75.5	89	19.1	46	6.7
Sungai Buloh	24	18.6	14	6.1	6	1.9	31	8.2	73	19.6	102	24.5	59	12.9	181	32.8	255	38.9
Sungei Petani	0	0.0	0	0.0	0	0.0	225	45.5	607	82.7	596	77.7	678	80.8	712	85.3	808	93.3
Taiping	61	24.0	102	34.6	205	39.3	447	59.0	409	51.7	605	63.8	744	67.1	879	83.7	844	72.4
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	88	20.3	102	20.9	383	72.7
Teluk Intan	440	70.5	146	27.2	279	48.8	248	38.9	148	23.6	11	1.9	16	1.5	31	3.2	0	0.0
Temerloh	24	5.9	97	19.8	217	36.9	21	5.1	37	5.9	216	27.1	314	38.8	238	24.1	213	26.7
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206	100.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	18.6	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	100.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	16	26.7	-	-	78.0	43.1
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118.0	98.3
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	73	98.6	794	99.4	1087	98.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	80.0	27	75.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1,301	85.6	2,080	95.9	1,535	88.3

Table 1.3.8-13: Types of Sedation in Eyes Given Local Anaesthesia by SDP, CSR 2015

	Types of sedation								
	All Local Anaesthesia	No Sedation		Oral Alone		Intravenous Alone		Intramuscular Alone	
	N	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**

All Centres	41,422	22,260	53.7	2,879	7.0	66	0.2	0	0.0
Alor Setar	2,056	1,534	74.6	2	0.1	3	0.1	0	0.0
Ampang	844	22	2.6	0	0.0	2	0.2	0	0.0
Batu Pahat	534	473	88.6	0	0.0	0	0.0	0	0.0
Bintulu	349	347	99.4	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1218	335	27.5	349	28.7	0	0.0	0	0.0
Ipoh	2,085	963	46.2	4	0.2	21	1.0	0	0.0
Sultanah Aminah JB	1,564	1076	68.8	0	0.0	0	0.0	0	0.0
Kangar	565	2	0.4	0	0.0	0	0.0	0	0.0
Kemaman	3	0	0.0	0	0.0	0	0.0	0	0.0
Keningau	80	80	100.0	0	0.0	0	0.0	0	0.0
Klang	1,706	183	10.7	0	0.0	0	0.0	0	0.0
Kota Bharu	869	468	53.9	12	1.4	1	0.1	0	0.0
Queen Elizabeth KK	1021	636	62.3	2	0.2	0	0.0	0	0.0
Kuala Krai	385	197	51.2	0	0.0	0	0.0	0	0.0
Kuala Lumpur	1,424	35	2.5	0	0.0	0	0.0	0	0.0
Kuala Pilah	430	332	77.2	2	0.5	0	0.0	0	0.0
Kuala Terengganu	904	477	52.8	1	0.1	7	0.8	0	0.0
Kuantan	950	127	13.4	10	1.1	0	0.0	0	0.0
Kuching	1,901	1039	54.7	0	0.0	0	0.0	0	0.0
Kulim	409	125	30.6	1	0.2	0	0.0	0	0.0
Langkawi	56	41	73.2	0	0.0	0	0.0	0	0.0
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,305	2,060	89.4	3	0.1	0	0.0	0	0.0
Miri	884	802	90.7	2	0.2	0	0.0	0	0.0
Muar	907	904	99.7	0	0.0	0	0.0	0	0.0
Pulau Pinang	2,088	369	17.7	1539	73.7	5	0.2	0	0.0
Putrajaya	439	278	63.3	3	0.7	0	0.0	0	0.0
Sandakan	473	106	22.4	0	0.0	0	0.0	0	0.0
Sarikei	642	634	98.8	0	0.0	0	0.0	0	0.0
Selayang	1,168	550	47.1	1	0.1	7	0.6	0	0.0
Serdang	942	205	21.8	0	0.0	4	0.4	0	0.0
Seremban	1,656	933	56.3	1	0.1	0	0.0	0	0.0
Sibu	569	553	97.2	3	0.5	0	0.0	0	0.0
Sri Manjung	640	605	94.5	0	0.0	0	0.0	0	0.0
Sultan Ismail	709	700	98.7	0	0.0	0	0.0	0	0.0
Sungai Buloh	691	15	2.2	1	0.1	1	0.1	0	0.0
Sungei Petani	902	853	94.6	0	0.0	0	0.0	0	0.0
Taiping	1,192	1,191	99.9	0	0.0	0	0.0	0	0.0
Tanah Merah	9	9	100.0	0	0.0	0	0.0	0	0.0
Tawau	601	220	36.6	144	24.0	0	0.0	0	0.0
Teluk Intan	910	9	1.0	794	87.3	1	0.1	0	0.0
Temerloh	829	384	46.3	4	0.5	13	1.6	0	0.0

KK1M Kedah	209	206	98.6	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	4	100.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	183	67	36.6	1	0.5	1	0.5	0	0.0
KK1M Sabah	125	78	62.4	0	0.0	0	0.0	0	0.0
KK1M Sarawak	1129	564	50.0	0	0.0	0	0.0	0	0.0
KK1M Terengganu	37	5	13.5	0	0.0	0	0.0	0	0.0
MAIWP	1,824	1,464	80.3	0	0.0	0	0.0	0	0.0

Number or percentage may be more than total or 100% as patient might have more than one type of local Anaesthesia

Table 1.3.8-14: Types of Sedation in Eyes Given Local Anaesthesia by SDP (50 years and above), CSR 2015

	Types of sedation								
	All Local Anaesthesia	No Sedation		Oral Alone		Intravenous Alone		Intramuscular Alone	
	N	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	39,658	21,347	53.8	2,776	7.0	62	0.2	0	0.0
Alor Setar	1,986	1,477	74.4	2	0.1	3	0.2	0	0.0
Ampang	813	21	2.6	0	0.0	2	0.2	0	0.0
Batu Pahat	516	459	89.0	0	0.0	0	0.0	0	0.0
Bintulu	317	315	99.4	0	0.0	0	0.0	0	0.0
Bukit Mertajam	1,166	316	27.1	336	28.8	0	0.0	0	0.0
Ipoh	2,037	944	46.3	4	0.2	20	1.0	0	0.0
Sultanah Aminah JB	1,465	1017	69.4	0	0.0	0	0.0	0	0.0
Kangar	550	1	0.2	0	0.0	0	0.0	0	0.0
Kemaman	3	0	0.0	0	0.0	0	0.0	0	0.0
Keningau	79	79	100.0	0	0.0	0	0.0	0	0.0
Klang	1,637	177	10.8	0	0.0	0	0.0	0	0.0
Kota Bharu	813	438	53.9	7	0.9	1	0.1	0	0.0
Queen Elizabeth KK	953	594	62.3	2	0.2	0	0.0	0	0.0
Kuala Krai	370	187	50.5	0	0.0	0	0.0	0	0.0
Kuala Lumpur	1354	35	2.6	0	0.0	0	0.0	0	0.0
Kuala Pilah	417	324	77.7	2	0.5	0	0.0	0	0.0
Kuala Terengganu	861	456	53.0	1	0.1	7	0.8	0	0.0
Kuantan	917	124	13.5	10	1.1	0	0.0	0	0.0
Kuching	1,810	993	54.9	0	0.0	0	0.0	0	0.0
Kulim	392	122	31.1	1	0.3	0	0.0	0	0.0
Langkawi	53	40	75.5	0	0.0	0	0.0	0	0.0
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2,230	1,995	89.5	3	0.1	0	0.0	0	0.0
Miri	855	774	90.5	2	0.2	0	0.0	0	0.0

Muar	879	877	99.8	0	0.0	0	0.0	0	0.0
Pulau Pinang	2,021	347	17.2	1503	74.4	4	0.2	0	0.0
Putrajaya	415	263	63.4	3	0.7	0	0.0	0	0.0
Sandakan	445	101	22.7	0	0.0	0	0.0	0	0.0
Sarikei	626	619	98.9	0	0.0	0	0.0	0	0.0
Selayang	1,037	498	48.0	1	0.1	7	0.7	0	0.0
Serdang	907	194	21.4	0	0.0	3	0.3	0	0.0
Seremban	1,598	893	55.9	1	0.1	0	0.0	0	0.0
Sibu	540	525	97.2	3	0.6	0	0.0	0	0.0
Sri Manjung	623	588	94.4	0	0.0	0	0.0	0	0.0
Sultan Ismail	689	680	98.7	0	0.0	0	0.0	0	0.0
Sungai Buloh	655	13	2.0	1	0.2	1	0.2	0	0.0
Sungei Petani	866	820	94.7	0	0.0	0	0.0	0	0.0
Taiping	1,165	1,164	99.9	0	0.0	0	0.0	0	0.0
Tanah Merah	9	9	100.0	0	0.0	0	0.0	0	0.0
Tawau	527	192	36.4	133	25.2	0	0.0	0	0.0
Teluk Intan	866	9	1.0	757	87.4	1	0.1	0	0.0
Temerloh	799	369	46.2	3	0.4	12	1.5	0	0.0
KK1M Kedah	206	204	99.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	4	100.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	181	66	36.5	1	0.6	1	0.6	0	0.0
KK1M Sabah	120	75	62.5	0	0.0	0	0.0	0	0.0
KK1M Sarawak	1,109	551	49.7	0	0.0	0	0.0	0	0.0
KK1M Terengganu	36	5	13.9	0	0.0	0	0.0	0	0.0
MAIWP	1,739	1,393	80.1	0	0.0	0	0.0	0	0.0

Table 1.3.8-15: Oral Sedation Alone by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	2387	13.9	2923	14.5	3532	15.5	3171	12.0	2852	10.0	1810	6.0	1391	4.0	1823	4.8	2879	7.0
Alor Setar	4	1.1	9	1.0	23	2.4	4	0.3	0	0.0	1	0.1	1	0.1	0	0.0	2	0.1
Ampang	0	0.0	0	0.0	1	0.2	3	0.5	0	0.0	3	0.3	2	0.2	0	0.0	0	0.0
Batu Pahat	0	0.0	1	0.2	3	0.5	1	0.2	1	0.2	1	0.2	4	1.0	4	0.9	0	0.0
Bintulu	-	-	7	24.1	29	24.4	32	12.5	4	1.2	0	0.0	1	0.3	0	0.0	0	0.0
Bukit Mertajam	204	33.6	356	77.6	466	63.8	308	39.2	185	23.7	107	12.0	66	7.4	108	11.3	349	28.7
Ipoh	7	0.5	6	0.4	9	0.4	13	0.6	11	0.7	2	0.1	7	0.3	3	0.1	4	0.2
Sultanah Aminah JB	188	12.6	212	15.9	57	4.5	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kangar	4	1.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0

Keningau	-	-	1	3.3	0	0.0	1	1.4	2	4.5	0	0.0	0	0.0	0	0.0	0	0.0
Klang	1	0.1	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Kota Bharu	5	0.7	5	0.7	15	1.8	5	0.6	1	0.1	0	0.0	0	0.0	0	0.0	12	1.4
Queen Elizabeth KK	0	0.0	0	0.0	0	0.0	0	0.0	5	0.8	0	0.0	1	0.1	2	0.2	2	0.2
Kuala Krai	3	2.6	11	6.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0
Kuala Lumpur	NA	NA	0	0.0	1	0.1	1	0.1	2	0.1	15	1.2	32	3.2	10	0.6	0	0.0
Kuala Pilah	99	47.4	97	35.1	205	73.0	77	25.8	211	45.3	96	23.0	22	4.7	24	5.2	2	0.5
Kuala Terengganu	16	3.3	2	0.3	72	10.3	104	15.5	15	2.1	23	3.3	2	0.2	3	0.4	1	0.1
Kuantan	0	0.0	0	0.0	0	0.0	2	0.4	5	0.8	0	0.0	1	0.2	0	0.0	10	1.1
Kuching	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0	1	0.1	0	0.0	2	0.1	0	0.0
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	1	0.2
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	0	0.0	2	0.1	7	0.5	0	0.0	0	0.0	0	0.0	1	0.1	2	0.1	3	0.1
Miri	0	0.0	0	0.0	0	0.0	1	0.2	3	0.5	0	0.0	0	0.0	0	0.0	2	0.2
Muar	4	1.2	0	0.0	0	0.0	4	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pulau Pinang	847	85.5	1124	89.2	1018	80.2	1339	75.6	1382	63.8	662	51.6	818	49.7	1227	70.1	1539	73.9
Putrajaya	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	4	1.2	6	1.6	6	1.7	3	0.7
Sandakan	-	-	0	0.0	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
Selayang	13	0.9	2	0.1	10	0.7	13	0.8	6	0.3	1	0.1	3	0.2	0	0.0	1	0.1
Serdang	2	0.4	0	0.0	0	0.0	3	0.6	0	0.0	0	0.0	5	0.5	1	0.1	0	0.0
Seremban	3	0.3	5	0.6	14	1.2	2	0.1	4	0.3	2	0.1	1	0.1	1	0.1	1	0.1
Sibu	323	94.2	57	23.1	141	36.7	39	8.7	24	4.8	1	0.1	0	0.0	1	0.1	3	0.5
Sri Manjung	3	2.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1	2	0.3	0	0.0
Sultan Ismail	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	1	0.8	1	0.4	4	1.2	0	0.0	1	0.2	0	0.0	0	0.0	1	0.2	1	0.1
Sungei Petani	253	53.0	487	80.9	578	88.8	443	84.7	281	36.4	11	1.4	4	0.5	1	0.1	0	0.0
Taiping	7	3.2	20	6.5	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.6	12	2.3	144	24.0
Teluk Intan	0	0.0	158	28.0	366	61.2	356	53.7	95	14.7	353	59.7	247	23.0	408	41.0	794	87.3
Temerloh	400	96.9	357	69.2	511	81.5	414	97.6	613	94.3	526	63.1	153	18.0	4	0.4	4	0.5
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	9	14.1	-	-	1.0	0.5
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0

Table 1.3.8-16: Oral Sedation Alone by SDP (50 years and above), CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	2264	13.5	2798	14.8	3355	15.6	3055	12.2	2731	10.1	1748	6.1	1339	4.1	1755	4.9	2776	7.0
Alor Setar	4	1.1	9	1.0	23	2.6	4	0.3	0	0.0	1	0.1	1	0.1	0	0.0	2	0.1
Ampang	0	0.0	0	0.0	1	0.3	3	0.5	0	0.0	3	0.4	2	0.2	0	0.0	0	0.0
Batu Pahat	0	0.0	0	0.0	2	0.4	1	0.3	1	0.2	0	0.0	4	1.0	3	0.7	0	0.0
Bintulu	-	-	7	28.0	25	23.4	31	13.5	4	1.3	0	0.0	1	0.3	0	0.0	0	0.0
Bukit Mertajam	198	32.1	340	78.2	437	63.2	284	38.7	174	23.4	102	12.0	63	7.5	104	11.3	336	28.8
Ipoh	6	0.4	6	0.4	9	0.5	13	0.7	9	0.6	2	0.1	6	0.2	3	0.1	4	0.2
Sultanah Aminah JB	173	12.3	200	16.4	52	4.6	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kangar	3	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
Keningau	-	-	1	4.0	0	0.0	1	1.5	2	4.9	0	0.0	0	0.0	0	0.0	0	0.0
Klang	1	0.1	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Kota Bharu	5	0.7	4	0.6	14	1.8	5	0.6	1	0.1	0	0.0	0	0.0	0	0.0	7	0.9
Queen Elizabeth KK	0	0.0	0	0.0	0	0.0	0	0.0	5	0.8	0	0.0	1	0.1	2	0.2	2	0.2
Kuala Krai	3	2.6	11	7.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0
Kuala Lumpur	-	-	0	0.0	1	0.1	1	0.1	2	0.2	14	1.1	31	3.2	9	0.5	0	0.0
Kuala Pilah	95	47.5	92	35.9	194	72.4	75	26.2	200	44.6	92	22.8	21	4.6	20	4.5	2	0.5
Kuala Terengganu	16	3.4	2	0.3	65	9.9	98	15.7	14	2.0	21	3.1	2	0.2	3	0.4	1	0.1
Kuantan	0	0.0	0	0.0	0	0.0	2	0.5	5	0.9	0	0.0	1	0.2	0	0.0	10	1.1
Kuching	0	0.0	0	0.0	2	0.3	1	0.1	0	0.0	1	0.1	0	0.0	2	0.1	0	0.0
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	1	0.3
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	0	0.0	2	0.1	7	0.6	0	0.0	0	0.0	0	0.0	1	0.1	2	0.1	3	0.1
Miri	0	0.0	0	0.0	0	0.0	1	0.2	3	0.5	0	0.0	0	0.0	0	0.0	2	0.2
Muar	4	1.2	0	0.0	0	0.0	4	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pulau Pinang	809	79.7	1092	89.2	992	80.4	1300	75.9	1331	64.0	648	51.9	789	49.7	1177	70.0	1503	74.5
Putrajaya	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	3	0.9	4	1.1	6	1.8	3	0.7
Sandakan	-	-	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
Selayang	9	0.7	2	0.2	9	0.7	12	0.8	5	0.3	1	0.1	2	0.2	0	0.0	1	0.1
Serdang	2	0.4	0	0.0	0	0.0	3	0.7	0	0.0	0	0.0	5	0.6	1	0.1	0	0.0
Seremban	2	0.2	5	0.6	13	1.2	2	0.1	3	0.2	2	0.1	1	0.1	1	0.1	1	0.1
Sibu	307	89.0	53	23.2	131	36.7	36	8.6	23	4.9	1	0.1	0	0.0	1	0.1	3	0.6
Sri Manjung	3	2.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1	2	0.3	0	0.0

Sultan Ismail	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	1	0.8	1	0.4	4	1.3	0	0.0	1	0.3	0	0.0	0	0.0	1	0.2	1	0.2
Sungei Petani	237	51.4	456	81.3	546	88.5	421	85.1	265	36.1	11	1.4	3	0.4	1	0.1	0	0.0
Taiping	7	2.8	19	6.4	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.7	12	2.5	133	25.2
Teluk Intan	0	0.0	153	28.5	346	60.5	347	54.5	92	14.7	342	59.6	242	23.2	400	41.1	757	87.5
Temerloh	379	92.4	340	69.2	482	82.0	405	97.6	590	94.6	503	63.2	145	17.9	4	0.4	3	0.4
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	9	15.0	-	-	1.0	0.6
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0

Table 1.3.8-17: Intravenous Sedation Alone by SDP, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	72	0.4	37	0.2	35	0.2	22	0.1	27	0.1	36	0.1	31	0.1	36	0.1	66	0.2
Alor Setar	1	0.3	1	0.1	0	0.0	1	0.1	0	0.0	5	0.3	1	0.1	1	0.1	3	0.1
Ampang	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
Batu Pahat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bintulu	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	2	0.3	0	0.0	2	0.3	3	0.4	0	0.0	10	1.3	3	0.3	7	0.8	0	0.0
Ipoh	6	0.4	8	0.5	6	0.3	1	0.0	4	0.2	3	0.1	2	0.1	3	0.1	21	1.0
Sultanah Aminah JB	0	0.0	0	0.0	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kangar	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	1	2.2	0	0.0	0	0.0
Keningau	-	-	0	0.0	0	0.0	3	4.2	6	13.6	0	0.0	0	0.0	1	0.8	0	0.0
Klang	11	1.3	3	0.3	2	0.3	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Kota Bharu	5	0.7	2	0.3	6	0.7	2	0.2	0	0.0	0	0.0	1	0.2	0	0.0	1	0.1
Queen Elizabeth KK	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Kuala Krai	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Kuala Lumpur	NA	NA	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	1	0.1	1	0.1	0	0.0
Kuala Pilah	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0
Kuala Terengganu	7	1.4	14	2.0	7	1.0	5	0.7	13	1.8	12	1.7	7	0.7	7	0.8	7	0.8
Kuantan	0	0.0	0	0.0	0	0.0	2	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kuching	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0

Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
Miri	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Muar	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Pulau Pinang	3	0.3	4	0.3	0	0.0	0	0.0	0	0.0	2	0.3	1	0.1	1	0.2	5	0.9
Putrajaya	0	0.0	0	0.0	2	0.8	0	0.0	0	0.0	0	0.0	1	0.3	1	0.3	0	0.0
Sandakan	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	0	0.0	0	0.0
Selayang	33	2.4	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	0.6
Serdang	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2	1	0.1	4	0.4
Seremban	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sibu	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sri Manjung	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Sultan Ismail	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Sungei Petani	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Taiping	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Teluk Intan	0	0.0	1	0.2	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9
Temerloh	0	0.0	2	0.4	1	0.2	0	0.0	1	0.2	2	0.6	7	0.8	9	0.9	13	1.6
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	1	0.5
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1	0.1	0	0.0	0	0.0

Table 1.3.8-18: Intravenous Sedation Alone by SDP (50 years and above), CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All Centres	55	0.3	37	0.2	29	0.1	18	0.1	23	0.1	34	0.1	28	0.1	26	0.1	62	0.2
Alor Setar	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	4	0.3	1	0.1	1	0.1	3	0.2
Ampang	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2
Batu Pahat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bintulu	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	2	0.3	0	0.0	2	0.3	2	0.3	0	0.0	10	1.2	3	0.4	6	0.7	0	0.0
Ipoh	4	0.3	8	0.5	6	0.3	1	0.1	3	0.2	3	0.1	2	0.1	2	0.1	20	1.0

Sultanah Aminah JB	0	0.0	0	0.0	3	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kangar	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	1	2.3	0	0.0	0	0.0
Keningau	-	-	0	0.0	0	0.0	3	4.5	5	12.2	0	0.0	0	0.0	0	0.0	0	0.0
Klang	9	1.0	3	0.3	2	0.3	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Kota Bharu	5	0.7	2	0.3	5	0.6	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Queen Elizabeth KK	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Kuala Krai	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kuala Lumpur	-	-	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0
Kuala Pilah	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0
Kuala Terengganu	5	1.1	14	2.1	4	0.6	5	0.8	12	1.8	11	1.6	6	0.7	2	0.3	7	0.8
Kuantan	0	0.0	0	0.0	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kuching	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Melaka	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Miri	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Muar	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Pulau Pinang	3	0.3	4	0.3	0	0.0	0	0.0	0	0.0	2	0.2	1	0.1	1	0.2	4	0.8
Putrajaya	0	0.0	0	0.0	2	0.9	0	0.0	0	0.0	0	0.0	1	0.3	1	0.3	0	0.0
Sandakan	-	-	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	0	0.0	0	0.0
Selayang	23	1.8	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	0.7
Serdang	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2	1	0.1	3	0.3
Seremban	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sibu	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sri Manjung	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Sultan Ismail	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Sungei Petani	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Taiping	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
Tawau	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Teluk Intan	0	0.0	1	0.2	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9
Temerloh	0	0.0	2	0.4	0	0.0	0	0.0	1	0.2	2	0.3	7	0.9	8	0.8	12	1.5
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	1	1.7	-	-	1.0	0.6
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0	0	0.0

MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	1	0.1	0	0.0	0	0.0

1.3.9 Intraocular Lens (IOL)

The material and type of IOL used demonstrated a shift from PMMA to Acrylic and from non-foldable to foldable. This pattern was consistent with the shift from ECCE to Phaco as the preferred method of cataract surgery.

Table 1.3.9-1: IOL Implantation, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No of patients (N)	18426		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
With IOL	17873	97.0	21115	98.2	23982	98.1	27980	98.1	30061	98.2	31991	98.5	36545	98.4	40006	98.7	43869	98.5
Without IOL	553	3.0	375	1.7	423	1.7	502	1.8	487	1.6	419	1.3	431	1.2	495	1.2	651	1.5
Not Available	-	-	6	0.0	33	0.1	24	0.1	63	0.2	63	0.2	174	0.5	31	0.1	14	0.0
IOL Placement																		
No of IOL	17873		21115		23982		27980		30061		31991		36545		40006		43869	
PCIOL	17350	97.1	20342	96.3	23032	96	26932	96.3	28963	96.3	30683	95.9	35194	96.3	38453	96.1	42365	96.6
ACIOL	482	2.7	454	2.2	570	2.4	543	1.9	573	1.9	575	1.8	595	1.6	633	1.6	739	1.7
Scleral Fixated IOL	35	0.2	36	0.2	21	0.1	20	0.1	21	0.1	15	0.0	25	0.1	29	0.1	23	0.1
Others	6	0.0	14	0.1	22	0.1	21	0.1	44	0.1	53	0.2	59	0.2	94	0.2	95	0.2
Not Available /missing	-	-	269	1.3	337	1.4	464	1.7	460	1.5	665	2.1	672	1.8	797	2.0	647	1.5
Materials of IOL																		
No of IOL	17873		21115		23982		27980		30061		31991		36545		40006		43869	
1. Acrylic	11955	66.9	15382	72.8	19160	79.9	24270	86.7	26917	89.5	28861	90.2	32798	89.7	37056	92.6	40466	92.2
2. PMMA	5547	31.0	5300	25.1	4313	18.0	3259	11.6	2603	8.7	2295	7.2	2083	5.7	1736	4.3	1952	4.4
3. Silicone	97	0.5	113	0.5	137	0.6	75	0.3	110	0.4	117	0.4	347	0.9	143	0.4	211	0.5
4. Others	74	0.4	19	0.1	58	0.2	32	0.1	37	0.1	84	0.3	75	0.2	115	0.3	180	0.4
Not Available/ missing	200	1.1	301	1.4	314	1.3	344	1.2	394	1.3	634	2.0	1242	3.4	956	2.4	1060	2.4
Types of IOL																		
No of IOL	17873		21115		23982		27980		30061		31991		36545		40006		43869	
1. Foldable	11972	67.0	15320	72.6	19093	79.6	24036	85.9	26553	88.3	29107	91.0	33987	93.0	37536	93.8	41575	94.8
2. Non-foldable	5590	31.3	5316	25.2	4280	17.8	3231	11.5	2694	9.0	2345	7.3	1929	5.3	1820	4.5	1868	4.3
Not Available/ missing	311	1.7	479	2.3	609	2.5	713	2.5	814	2.7	539	1.7	629	1.7	650	1.6	426	1.0

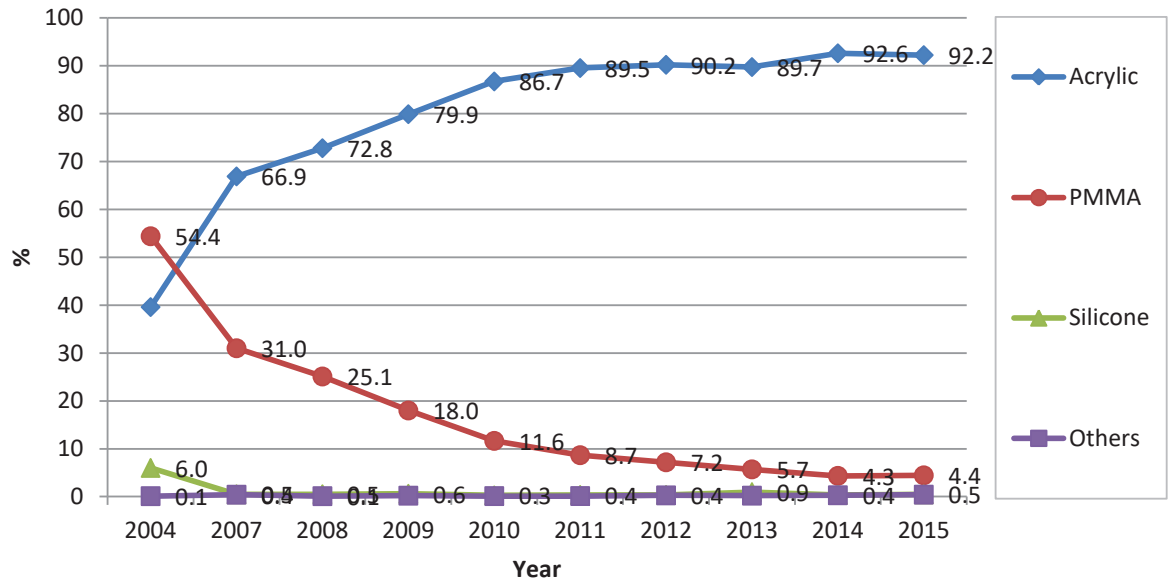


Figure 1.3.9-1: Intraocular Lens Implantation, CSR 2002-2015

Table 1.3.9-2: Distribution of IOL Placement by SDP, CSR 2015

Cataract Surgery With IOL							
		Posterior Chamber IOL		Anterior Chamber IOL		Scleral Fixated IOL	
	N	n	%	n	%	n	%
All Centres	43869	42365	96.6	739	1.7	23	0.1
Alor Setar	2268	2191	96.6	27	1.2	0	0.0
Ampang	871	819	94.0	24	2.8	1	0.1
Batu Pahat	559	550	98.4	5	0.9	0	0.0
Bintulu	346	338	97.7	6	1.7	0	0.0
Bukit Mertajam	1258	1216	96.7	5	0.4	2	0.2
Ipoh	2506	2420	96.6	59	2.4	0	0.0
Sultanah Aminah JB	1633	1566	95.9	48	2.9	0	0.0
Kangar	570	522	91.6	21	3.7	0	0.0
Kemaman	3	3	100.0	0	0.0	0	0.0
Keningau	82	79	96.3	0	0.0	0	0.0
Klang	1961	1874	95.6	48	2.4	0	0.0
Kota Bharu	900	830	92.2	14	1.6	1	0.1
Queen Elizabeth KK	1110	1046	94.2	23	2.1	3	0.3
Kuala Krai	384	354	92.2	9	2.3	0	0.0
Kuala Lumpur	1601	1555	97.1	8	0.5	0	0.0

Kuala Pilah	448	417	93.1	15	3.3	1	0.2
Kuala Terengganu	954	908	95.2	25	2.6	1	0.1
Kuantan	1067	991	92.9	36	3.4	2	0.2
Kuching	1950	1908	97.8	27	1.4	3	0.2
Kulim	407	394	96.8	2	0.5	0	0.0
Langkawi	60	59	98.3	0	0.0	0	0.0
Likas	10	8	80.0	2	20.0	0	0.0
Melaka	2356	2309	98.0	12	0.5	3	0.1
Miri	889	877	98.7	4	0.4	1	0.1
Muar	921	903	98.0	15	1.6	2	0.2
Pulau Pinang	2203	2174	98.7	6	0.3	1	0.0
Putrajaya	456	433	95.0	18	3.9	0	0.0
Sandakan	496	485	97.8	3	0.6	0	0.0
Sarikei	643	634	98.6	8	1.2	0	0.0
Selayang	1286	1191	92.6	50	3.9	0	0.0
Serdang	978	952	97.3	16	1.6	0	0.0
Seremban	1717	1649	96.0	31	1.8	0	0.0
Sibu	571	550	96.3	20	3.5	0	0.0
Sri Manjung	660	656	99.4	3	0.5	0	0.0
Sultan Ismail	820	797	97.2	13	1.6	2	0.2
Sungai Buloh	772	735	95.2	18	2.3	0	0.0
Sungei Petani	988	966	97.8	15	1.5	0	0.0
Taiping	1311	1294	98.7	17	1.3	0	0.0
Tanah Merah	9	9	100.0	0	0.0	0	0.0
Tawau	593	579	97.6	6	1.0	0	0.0
Teluk Intan	919	878	95.5	27	2.9	0	0.0
Temerloh	835	820	98.2	10	1.2	0	0.0
KK1M Kedah	209	206	98.6	1	0.5	0	0.0
KK1M Kelantan	2	2	100.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	4	100.0	0	0.0	0	0.0
KK1M Pahang	184	175	95.1	6	3.3	0	0.0
KK1M Sabah	129	115	89.1	3	2.3	0	0.0
KK1M Sarawak	1110	1089	98.1	12	1.1	0	0.0
KK1M Terengganu	40	37	92.5	1	2.5	0	0.0
MAIWP	1820	1798	98.8	20	1.1	0	0.0

1.4 Intraoperative Complication

The percentage occurrence of PCR was maintained throughout the years. The more serious complications such as nucleus drop (or dropped nucleus) and suprachoroidal haemorrhage were not frequent and the trend remained unchanged.

1.4.1 Intra-operative Complications

Table 1.4.1-1: Distribution of Type of Intra-operative Complications, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of patients (N)	18380		21496		24438		28506		30611		32473		37150		40532		44534	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Patient with intra-op complication	1999	10.9	1636	7.6	1645	6.7	1610	5.6	1787	5.8	1702	5.2	1998	5.4	2159	5.3	2224	5.0
Types of complications:																		
PCR	764	4.2	798	3.7	858	3.5	840	2.9	936	3.1	870	2.7	1017	2.7	1100	2.7	1145	2.6
Vitreous loss	569	3.1	608	2.8	642	2.6	639	2.2	611	2.0	529	1.6	644	1.7	661	1.6	793	1.8
Zonular dehiscence	275	1.5	322	1.5	372	1.5	377	1.3	362	1.2	359	1.1	391	1.0	467	1.2	602	1.4
Drop nucleus	21	0.1	33	0.2	40	0.2	38	0.1	58	0.2	56	0.2	63	0.2	87	0.2	90	0.2
Suprachoroidal haemorrhage	9	0.0	10	0.0	13	0.1	9	0.0	8	0.0	8	0.0	8	0.0	4	0.0	4	0.0
Central corneal oedema	58	0.3	27	0.1	22	0.1	26	0.1	36	0.1	30	0.1	23	0.1	36	0.1	15	0.0
Others	350	1.9	361	1.7	373	1.5	338	1.2	449	1.5	439	1.3	572	1.5	550	1.4	546	1.2

Table 1.4.1-2: Distribution of Type of Intra-operative Complications (Posterior Capsular Rupture) CSR 2007-2015

Year	*2007**		*2008*		*2009*		*2010*		*2011*		*2012*		*2013*		*2014*		*2015*	
No. of patients (N)	*18380*		*21496*		*24438*		*28506*		*30611*		*32473*		*37150*		*40532*		*44534*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Patient with intra-op complication	*1999*	*10.9*	*1636*	*7.6*	*1645*	*6.7*	*1610*	*5.6*	*1787*	*5.8*	*1702*	*5.2*	*1998*	*5.4*	*2159*	*5.3*	*2224*	*5.0*
Types of complications:																		
PCR and Others**	764	4.2	798	3.7	858	3.5	840	2.9	936	3.1	870	2.7	1017	2.7	1100	2.7	1145	2.6
PCR Only			347	1.6	403	1.6	402	1.4	485	1.6	481	1.5	547	1.5	588	1.4	555	1.2

**Data from 2007 could not be analyzed due to improperly organized old data.*

***PCR and Others = including PCR only, and PCR+Others*

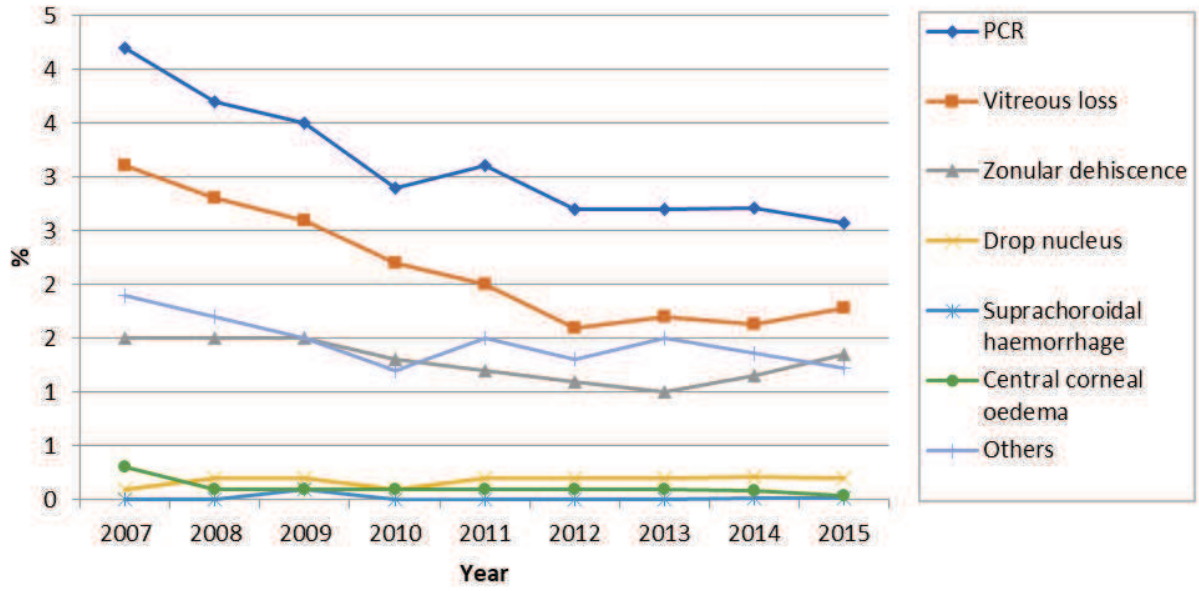


Figure 1.4.1-1: Distribution of Specific Type of Intra-operative Complications, CSR 2007-2015

1.4.2 Intra-operative Complication by Type of Cataract Surgery

Similar to previous years, phacoemulsification resulted in the lowest percentage of intra-operative complications in 2015. It was followed by lens aspiration and ECCE

Table 1.4.2-1: Intra-operative Complications by Types of Cataract Surgery, CSR 2007-2015

Year	2007		2008		2009			2010			2011		
	n	%	n	%	N	n	%	N	n	%	N	n	%
Phaco	969	8.1	753	5.1	17717	787	4.4	21810	798	3.7	23872	927	3.9
ECCE	691	12.5	532	9.5	5457	460	8.4	5363	442	8.2	5291	404	7.6
Lens Aspiration	51	15.8	31	9.1	400	38	9.5	451	34	7.5	460	29	6.3
ICCE	63	44.7	60	46.5	134	64	47.8	143	64	44.8	123	53	43.1
Phaco → ECCE	225	52.1	240	45.8	573	276	48.2	586	249	42.5	652	316	48.5
Others	-	-	16	25.8	74	8	10.8	104	20	19.2	132	21	15.9
Missing	9	20.0	4	12.1	83	12	14.5	49	3	6.1	81	37	45.7

Year	2012			2013			2014			2015		
	N	n	%	N	n	%	N	n	%	N	n	%
Phaco	26345	930	3.5	31625	1112	3.5	35429	1282	3.6	39131	1194	3.1
ECCE	4784	359	7.5	4086	373	9.1	3613	340	9.4	3677	405	11.0
Lens Aspiration	444	26	5.9	364	31	8.5	370	23	6.2	521	35	6.7
ICCE	136	58	42.6	173	68	39.3	176	70	39.8	223	104	46.6
Phaco → ECCE	621	300	48.3	769	383	49.8	805	402	49.9	833	444	53.3
Others	110	27	24.5	84	20	23.8	118	37	31.4	144	40	27.8
Missing	33	2	6.1	49	11	22.4	21	5	23.8	5	2	40.0

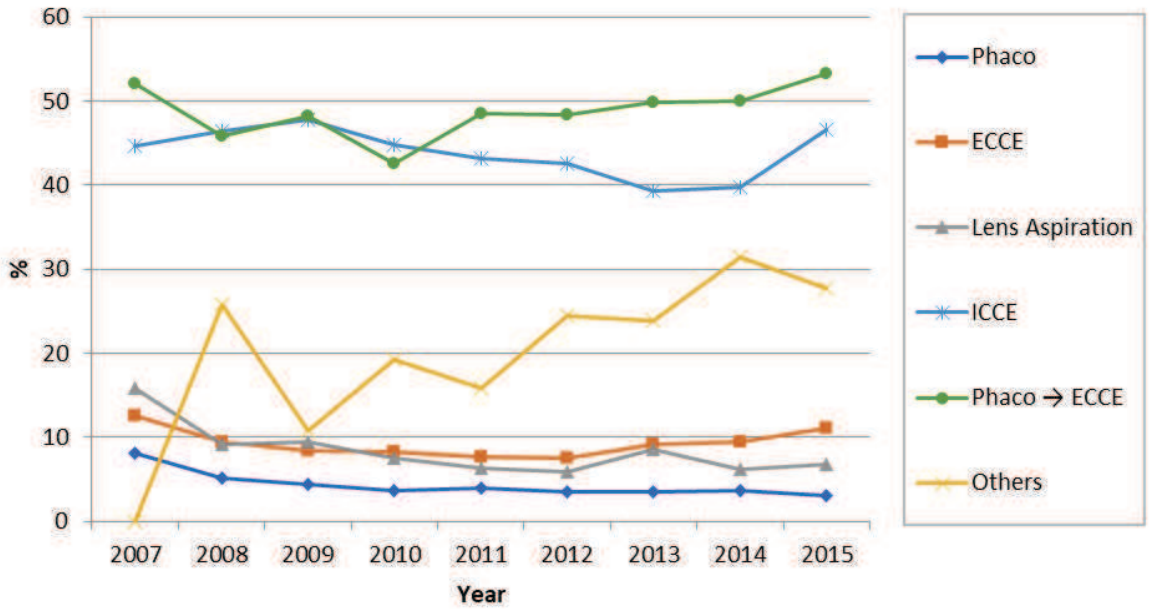


Figure 1.4.2-1: Intra-operative Complications by Type of Cataract Surgery, CSR 2007-2015

Table 1.4.2-2: Types Intra-operative Complications by Types of Cataract Surgery, CSR 2015

	All Surgeries		Phaco		ECCE		Lens Aspiration		ICCE		Phaco converted to ECCE		Others	
Number of patients (N)	44534		39131		3677		521		223		833		144	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-op complication	2224	5.0	1194	3.1	405	11.2	35	6.7	104	46.6	444	53.3	40	27.8
Types of complications:														
Posterior capsule rupture	1145	2.6	690	1.8	173	4.8	21	4.0	21	9.4	228	27.4	12	8.3
Vitreous loss	793	1.8	305	0.8	143	4.0	13	2.5	70	31.4	234	28.1	27	18.8
Zonular dehiscence	602	1.4	234	0.6	118	3.3	5	1.0	66	29.6	155	18.6	23	16.0
Dropped nucleus	90	0.2	64	0.2	5	0.1	2	0.4	0	0.0	18	2.2	1	0.7
Suprachoroidal haemorrhage	4	0.0	0	0.0	1	0.0	0	0.0	0	0.0	3	0.4	0	0.0
Central corneal oedema	15	0.0	12	0.0	1	0.0	0	0.0	0	0.0	2	0.2	0	0.0
Others	546	1.2	289	0.7	133	3.7	11	2.1	21	9.4	83	10.0	8	5.6

Table 1.4.2-1: Distribution of the Types Intra-operative Complications by SDP (All Cataract Surgeries), CSR 2015

Hospital	N	Any intra-op complication		PCR		Vitreous loss		Zonular Dehiscence		Dropped Nucleus		Suprachoroidal Haemorrhage		Central Corneal Edema		Others	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All centre	44534	2224	5.0	1145	2.6	793	1.8	602	1.4	90	0.2	4	0.0	15	0.0	546	1.2
Alor Setar	2336	72	3.1	50	2.1	31	1.3	18	0.8	4	0.2	0	0.0	0	0.0	8	0.3
Ampang	880	71	8.1	45	5.1	24	2.7	18	2.0	4	0.5	0	0.0	0	0.0	9	1.0
Batu Pahat	561	33	5.9	15	2.7	12	2.1	10	1.8	0	0.0	0	0.0	0	0.0	8	1.4
Bintulu	350	7	2.0	5	1.4	0	0.0	3	0.9	0	0.0	0	0.0	0	0.0	1	0.3
Bukit Mertajam	1265	34	2.7	14	1.1	7	0.6	5	0.4	0	0.0	0	0.0	0	0.0	14	1.1
Ipoh	2547	144	5.7	87	3.4	81	3.2	42	1.6	6	0.2	0	0.0	0	0.0	20	0.8
Kangar	576	45	7.8	31	5.4	9	1.6	10	1.7	2	0.3	0	0.0	0	0.0	2	0.3
Kemaman	3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Keningau	82	1	1.2	0	0.0	0	0.0	1	1.2	0	0.0	0	0.0	0	0.0	0	0.0
Klang	1978	112	5.7	39	2.0	24	1.2	38	1.9	6	0.3	0	0.0	2	0.1	34	1.7
Kota Bharu	921	65	7.1	40	4.3	26	2.8	10	1.1	5	0.5	0	0.0	0	0.0	13	1.4
Kuala Krai	389	20	5.1	16	4.1	12	3.1	1	0.3	1	0.3	1	0.3	0	0.0	4	1.0
Kuala Lumpur	1609	37	2.3	18	1.1	14	0.9	10	0.6	1	0.1	1	0.1	0	0.0	9	0.6
Kuala Pilah	452	43	9.5	15	3.3	18	4.0	15	3.3	2	0.4	0	0.0	2	0.4	14	3.1
Kuala Terengganu	987	90	9.1	42	4.3	35	3.5	24	2.4	2	0.2	0	0.0	0	0.0	34	3.4
Kuantan	1079	86	8.0	44	4.1	29	2.7	17	1.6	2	0.2	0	0.0	0	0.0	26	2.4
Kulim	418	19	4.5	8	1.9	7	1.7	5	1.2	0	0.0	0	0.0	0	0.0	9	2.2
Langkawi	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Likas	15	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	2389	108	4.5	72	3.0	51	2.1	29	1.2	2	0.1	0	0.0	0	0.0	11	0.5
Miri	903	21	2.3	10	1.1	5	0.6	3	0.3	2	0.2	0	0.0	1	0.1	7	0.8
Muar	928	39	4.2	26	2.8	12	1.3	6	0.6	3	0.3	0	0.0	1	0.1	2	0.2

Pulau Pinang	2240	80	3.6	35	1.6	28	1.3	35	1.6	0	0.0	0	0.0	0	0.0	15	0.7
Putrajaya	463	31	6.7	17	3.7	19	4.1	14	3.0	1	0.2	0	0.0	0	0.0	1	0.2
Queen Elizabeth KK	1133	106	9.4	44	3.9	35	3.1	41	3.6	6	0.5	0	0.0	2	0.2	31	2.7
Sandakan	499	6	1.2	5	1.0	4	0.8	0	0.0	0	0.0	0	0.0	0	0.0	2	0.4
Sarikei	647	9	1.4	4	0.6	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	4	0.6
Selayang	1353	70	5.2	35	2.6	19	1.4	19	1.4	4	0.3	1	0.1	0	0.0	17	1.3
Serdang	982	40	4.1	17	1.7	13	1.3	15	1.5	2	0.2	0	0.0	0	0.0	7	0.7
Seremban	1726	75	4.3	39	2.3	37	2.1	22	1.3	3	0.2	0	0.0	0	0.0	16	0.9
Sibu	581	44	7.6	23	4.0	16	2.8	9	1.5	2	0.3	0	0.0	0	0.0	11	1.9
Sri Manjung	666	20	3.0	13	2.0	3	0.5	4	0.6	0	0.0	0	0.0	0	0.0	5	0.8
Sultan Ismail	827	40	4.8	26	3.1	18	2.2	6	0.7	0	0.0	0	0.0	0	0.0	14	1.7
Sultanah Aminah JB	1643	92	5.6	47	2.9	40	2.4	37	2.3	2	0.1	0	0.0	0	0.0	6	0.4
Sungai Buloh	774	38	4.9	12	1.6	13	1.7	17	2.2	0	0.0	0	0.0	1	0.1	10	1.3
Sungei Petani	1006	58	5.8	27	2.7	22	2.2	18	1.8	0	0.0	1	0.1	0	0.0	15	1.5
Taiping	1320	30	2.3	19	1.4	17	1.3	11	0.8	5	0.4	0	0.0	0	0.0	2	0.2
Tanah Merah	9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	607	26	4.3	22	3.6	15	2.5	2	0.3	0	0.0	0	0.0	0	0.0	3	0.5
Teluk Intan	932	56	6.0	30	3.2	26	2.8	21	2.3	2	0.2	0	0.0	0	0.0	10	1.1
Temerloh	851	125	14.7	15	1.8	9	1.1	14	1.6	1	0.1	0	0.0	1	0.1	112	13.2
Sarawak	2019	94	4.7	63	3.1	33	1.6	21	1.0	14	0.7	0	0.0	2	0.1	7	0.3
KK1M Kedah	209	4	1.9	2	1.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	3	1.4
KK1M Neg. Sembilan	4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	187	15	8.0	7	3.7	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	10	5.3
KK1M Terengganu	40	2	5.0	0	0.0	0	0.0	1	2.5	0	0.0	0	0.0	0	0.0	1	2.5
KK1M Sabah	131	12	9.2	2	1.5	5	3.8	6	4.6	1	0.8	0	0.0	2	1.5	3	2.3
KK1M Sarawak	1131	51	4.5	36	3.2	10	0.9	8	0.7	2	0.2	0	0.0	0	0.0	5	0.4
MAIWP	1824	53	2.9	28	1.5	12	0.7	16	0.9	2	0.1	0	0.0	1	0.1	11	0.6

Table 1.4.2-4: Distribution of the Types Intra-operative Complications by SDP (Phaco converted to ECCE), CSR 2015

Hospital	N	Any intra-op complication		PCR		Vitreous loss		Zonular Dehiscence		Nucleus drop (or dropped nucleus)		Suprachoroidal Haemorrhage		Central Corneal Edema		Others	
			,		,		,		,		,		,		,		,
All centre	833	444	53.3	228	27.4	234	28.1	155	18.6	18	2.2	3	0.4	2	0.2	83	10.0
Alor Setar	28	13	46.4	6	21.4	7	25.0	6	21.4	0	0.0	0	0.0	0	0.0	1	3.6
Ampang	39	21	53.8	16	41.0	9	23.1	4	10.3	3	7.7	0	0.0	0	0.0	1	2.6
Batu Pahat	12	6	50.0	3	25.0	4	33.3	3	25.0	0	0.0	0	0.0	0	0.0	1	8.3
Bintulu	6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Bukit Mertajam	9	6	66.7	6	66.7	1	11.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ipoh	74	32	43.2	16	21.6	21	28.4	13	17.6	1	1.4	0	0.0	0	0.0	3	4.1
Kangar	6	4	66.7	3	50.0	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	0	0.0
Kemaman	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Keningau	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klang	37	25	67.6	9	24.3	11	29.7	11	29.7	3	8.1	0	0.0	0	0.0	5	13.5
Kota Bharu	33	10	30.3	5	15.2	6	18.2	2	6.1	0	0.0	0	0.0	0	0.0	2	6.1
Kuala Krai	3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kuala Lumpur	23	12	52.2	7	30.4	5	21.7	2	8.7	1	4.3	1	4.3	0	0.0	3	13.0
Kuala Pilah	17	9	52.9	3	17.6	4	23.5	3	17.6	1	5.9	0	0.0	0	0.0	5	29.4
Kuala Terengganu	16	12	75.0	3	18.8	4	25.0	4	25.0	1	6.3	0	0.0	0	0.0	5	31.3
Kuantan	40	19	47.5	8	20.0	9	22.5	6	15.0	1	2.5	0	0.0	0	0.0	5	12.5
Kulim	13	5	38.5	2	15.4	5	38.5	3	23.1	0	0.0	0	0.0	0	0.0	1	7.7
Langkawi	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Likas	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Melaka	35	16	45.7	13	37.1	12	34.3	3	8.6	0	0.0	0	0.0	0	0.0	0	0.0
Miri	5	4	80.0	3	60.0	3	60.0	0	0.0	0	0.0	0	0.0	0	0.0	1	20.0
Muar	20	6	30.0	4	20.0	3	15.0	2	10.0	1	5.0	0	0.0	0	0.0	0	0.0

Pulau Pinang	24	14	58.3	6	25.0	6	25.0	7	29.2	0	0.0	0	0.0	0	0.0	2	8.3
Putrajaya	19	11	57.9	4	21.1	9	47.4	8	42.1	1	5.3	0	0.0	0	0.0	0	0.0
Queen Elizabeth KK	32	17	53.1	7	21.9	9	28.1	8	25.0	0	0.0	0	0.0	2	6.3	5	15.6
Sandakan	9	2	22.2	2	22.2	1	11.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sarikei	2	2	100.0	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0
Selayang	22	14	63.6	7	31.8	6	27.3	5	22.7	1	4.5	1	4.5	0	0.0	1	4.5
Serdang	23	16	69.6	6	26.1	7	30.4	8	34.8	0	0.0	0	0.0	0	0.0	2	8.7
Seremban	15	11	73.3	5	33.3	6	40.0	5	33.3	0	0.0	0	0.0	0	0.0	2	13.3
Sibu	7	5	71.4	0	0.0	0	0.0	1	14.3	0	0.0	0	0.0	0	0.0	4	57.1
Sri Manjung	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sultan Ismail	37	19	51.4	12	32.4	11	29.7	5	13.5	0	0.0	0	0.0	0	0.0	8	21.6
Sultanah Aminah JB	20	17	85.0	9	45.0	12	60.0	8	40.0	0	0.0	0	0.0	0	0.0	0	0.0
Sungai Buloh	23	9	39.1	2	8.7	5	21.7	6	26.1	0	0.0	0	0.0	0	0.0	1	4.3
Sungei Petani	25	12	48.0	8	32.0	8	32.0	5	20.0	0	0.0	1	4.0	0	0.0	0	0.0
Taiping	6	5	83.3	3	50.0	5	83.3	2	33.3	2	33.3	0	0.0	0	0.0	0	0.0
Tanah Merah	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tawau	19	13	68.4	13	68.4	10	52.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Teluk Intan	20	12	60.0	7	35.0	8	40.0	5	25.0	0	0.0	0	0.0	0	0.0	2	10.0
Temerloh	24	16	66.7	3	12.5	2	8.3	1	4.2	1	4.2	0	0.0	0	0.0	14	58.3
Sarawak	28	18	64.3	7	25.0	10	35.7	8	28.6	0	0.0	0	0.0	0	0.0	2	7.1
KK1M Kedah	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	8	2	25.0	1	12.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	25.0
KK1M Terengganu	1	1	100.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Sabah	6	2	33.3	1	16.7	2	33.3	1	16.7	1	16.7	0	0.0	0	0.0	0	0.0
KK1M Sarawak	19	10	52.6	7	36.8	4	21.1	2	10.5	0	0.0	0	0.0	0	0.0	0	0.0
MAIWP	23	16	69.6	10	43.5	9	39.1	6	26.1	0	0.0	0	0.0	0	0.0	4	17.4

1.4.3 Intra-operative Complications by Combined Surgery

The percentage of intra-operative complications was higher in combined surgery when compared to cataract surgery performed alone. PCR and vitreous loss remained the commonest complications encountered.

Table 1.4.3-1: Distribution of Intra-operative Complications by Any Combined Surgery, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
No. of combined surgery (N)	891		664		871		1082		1194		1221		1026		1028		1458	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any intra-operative complication	131	14.7	89	10.0	113	13.0	121	11.2	222	18.6	240	19.7	149	14.5	175	17.0	213	14.6
Types of complications:																		
PCR	56	6.3	54	6.1	62	7.1	61	5.6	140	11.7	146	12.0	85	8.3	111	10.8	129	8.8
Vitreous loss	41	4.6	40	4.5	51	5.9	53	4.9	101	8.5	123	10.1	75	7.3	83	8.1	99	6.8
Zonular dehiscence	21	2.4	15	1.7	21	2.4	28	2.6	49	4.1	61	5.0	37	3.6	46	4.5	65	4.5
Dropped nucleus	4	0.4	3	0.3	8	0.9	10	0.9	20	1.7	16	1.3	12	1.2	18	1.8	15	1.0
Suprachoroidal haemorrhage	0	0.0	0.0	0.0	4	0.5	1	0.1	2	0.2	2	0.2	0	0.0	1	0.1	1	0.1
Central corneal oedema	7	0.8	3	0.3	1	0.1	2	0.2	0	0.0	2	0.2	1	0.1	2	0.2	1	0.1
Others	30	3.4	14	1.6	21	2.4	24	2.2	29	2.4	38	3.1	25	2.4	22	2.1	34	2.3

Table 1.4.3-2: Distribution of Intra-operative Complications by Specific Combined Surgery, CSR 2015

	All Surgeries		Any Combined Surgery		Pterygium Surgery		Filtering Surgery		Vitreo-Retinal Surgery		Penetrating Keratoplasty		Others	
No. of patients (N)	44534		1458		113		102		893		1		367	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any intra-op complication	2224	5.0	213	14.6	9	8.0	5	4.9	65	7.3	0	0.0	136	37.1

Types of complications:														
PCR	1145	2.6	129	8.8	3	2.7	1	1.0	43	4.8	0	0.0	83	22.6
Vitreous loss	793	1.8	99	6.8	1	0.9	2	2.0	19	2.1	0	0.0	78	21.3
Zonular dehiscene	602	1.4	65	4.5	4	3.5	2	2.0	16	1.8	0	0.0	44	12.0
Dropped nucleus	90	0.2	15	1.0	0	0.0	0	0.0	6	0.7	0	0.0	9	2.5
Suprachoroidal haemorrhage	4	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3
Central corneal oedema	15	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3
Others	546	1.2	34	2.3	4	3.5	1	1.0	8	0.9	0	0.0	21	5.7

Table 1.4.3-3: Distribution of Intra-operative Complications when Combined with Filtering Surgery, CSR 2007-2015

Year	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	131		142		132		121		64		71		114		95		102	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-op complication	24	18.3	9	6.3	16	12.1	8	6.6	5	7.8	3	4.2	8	7.0	4	4.2	5	4.9
Types of complications:																		
Posterior capsule rupture	9	6.9	3	2.1	4	3.0	3	2.5	1	1.6	2	2.8	3	2.6	3	3.2	1	1.0
Vitreous loss	7	5.3	5	3.5	7	5.3	2	1.7	3	4.7	1	1.4	1	0.9	1	1.1	2	2.0
Zonular dehiscence	4	3.1	3	2.1	5	3.8	1	0.8	3	4.7	0	0.0	5	4.4	1	1.1	2	2.0
Dropped nucleus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Suprachoroidal haemorrhage	0	0.0	0	0.0	2	1.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Central corneal oedema	3	2.3	2	1.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Others	5	3.8	1	0.7	3	2.3	3	2.5	0	0.0	0	0.0	1	0.9	0	0.0	1	1.0

Table 1.4.3-4: Distribution of Intra-operative Complications when Combined with Vitreoretinal Surgery, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
N	435		237		402		601		672		585		536		532		893	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-op complication	45	10.3	21	8.9	32	8.0	35	5.8	69	10.3	45	7.7	32	6.0	41	7.7	65	7.3
Types of complications:																		
Posterior capsule rupture	18	4.1	17	7.2	18	4.5	22	3.7	41	6.1	23	3.9	16	3.0	21	3.9	43	4.8
Vitreous loss	11	2.5	6	2.5	5	1.2	9	1.5	10	1.5	8	1.4	9	1.7	5	0.9	19	2.1
Zonular dehiscence	6	1.4	1	0.4	2	0.5	5	0.8	13	1.9	6	1.0	4	0.7	13	2.4	16	1.8
Dropped nucleus	3	0.7	2	0.8	6	1.5	6	1.0	15	2.2	7	1.2	6	1.1	11	2.1	6	0.7
Suprachoroidal haemorrhage	0	0.0	0	0.0	2	0.5	0	0.0	2	0.3	1	0.2	0	0.0	0	0.0	0	0.0
Central corneal oedema	3	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0
Others	12	2.8	3	1.3	5	1.2	4	0.7	10	1.5	15	2.6	5	0.9	7	1.3	8	0.9

1.4.4 Intra-operative Complications by Types of Local Anaesthesia

Table 1.4.4-1: Intra-operative Complications by Types of Local Anaesthesia, CSR 2015

	All local anaesthesia		Retrobulbar		Peribulbar		Subtenon		Sub-Conjunctival		Facial Block		Topical		Intracameral	
N	41422		753		218		9294		1253		11		28458		8938	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-op complication	2014	4.9	27	3.6	10	4.6	908	9.8	96	7.7	1	9.1	1184	4.2	368	4.1
Types of																

complications:															
Posterior capsule rupture	1051	2.5	18	2.4	2	0.9	424	4.6	50	4.0	0	0.0	643	2.3	205	2.3
Vitreous loss	723	1.7	6	0.8	4	1.8	375	4.0	45	3.6	0	0.0	417	1.5	150	1.7
Zonular dehiscene	542	1.3	5	0.7	6	2.8	286	3.1	31	2.5	1	9.1	324	1.1	106	1.2
Dropped nucleus	82	0.2	1	0.1	0	0.0	29	0.3	2	0.2	0	0.0	56	0.2	17	0.2
Suprachoroidal haemorrhage	4	0.0	0	0.0	0	0.0	3	0.0	0	0.0	0	0.0	1	0.0	0	0.0
Central corneal oedema	14	0.0	0	0.0	0	0.0	6	0.1	0	0.0	0	0.0	10	0.0	0	0.0
Other	488	1.2	4	0.5	3	1.4	242	2.6	19	1.5	0	0.0	249	0.9	75	0.8

Number or percentage may be more than total or 100% as patient might have more than one intra-operative complication.

1.4.5 Intra-operative Complications by Surgeon Status

In 2015, intra-operative complications were highest in surgeries performed by the gazetting specialists. The complications were mainly PCR and vitreous loss.

Table 1.4.5-1: Intra-operative Complications by Surgeon Status (All Surgery), CSR 2007-2015

(1) Specialist

Year	**2007**		**2008***		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	14327		16846		19400		24216		25590		27684		32861		36197		39624	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	1485	10.4	1144	6.8	1218	6.3	1248	5.2	1368	5.3	1323	4.8	1649	5.0	1758	4.9	1791	4.5
Type of complications:																		

PCR	546	3.8	538	3.2	610	3.1	649	2.7	706	2.8	642	2.3	803	2.4	864	2.4	864	2.2
Vitreous loss	405	2.8	417	2.5	474	2.4	473	2.0	438	1.7	382	1.4	513	1.6	504	1.4	590	1.5
Zonular dehiscense	204	1.4	232	1.4	293	1.5	300	1.2	285	1.1	282	1.0	337	1.0	391	1.1	510	1.3
Dropped nucleus	20	0.1	24	0.1	30	0.2	33	0.1	49	0.2	43	0.2	52	0.2	71	0.2	77	0.2
Suprachoroidal hemorrhage	5	0.0	3	0.0	10	0.1	6	0.0	7	0.0	7	0.0	6	0.0	4	0.0	3	0.0
Central corneal edema	50	0.4	19	0.1	13	0.1	19	0.1	33	0.1	23	0.1	20	0.1	29	0.1	14	0.0
Others	261	1.8	279	1.7	289	1.5	254	1.0	347	1.4	371	1.3	499	1.5	466	1.3	468	1.2

(2) Gazetting Specialist

Year	**2007**		**2008***		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	1276		1399		2053		1405		2487		2411		2014		2034		2251	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	175	13.7	167	11.9	171	8.3	98	7.0	182	7.3	190	7.9	147	7.3	208	10.2	206	9.2
Type of complications:																		
PCR	85	6.7	91	6.5	96	4.7	44	3.1	113	4.5	125	5.2	90	4.5	116	5.7	127	5.6
Vitreous loss	54	4.2	76	5.4	73	3.6	35	2.5	84	3.4	72	3.0	45	2.2	72	3.5	107	4.8
Zonular dehiscense	24	1.9	32	2.3	33	1.6	30	2.1	33	1.3	34	1.4	24	1.2	41	2.0	48	2.1
Dropped nucleus	0	0.0	3	0.2	3	0.1	2	0.1	4	0.2	8	0.3	6	0.3	5	0.2	9	0.4
Suprachoroidal hemorrhage	1	0.1	1	0.1	2	0.1	1	0.1	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0
Central corneal edema	5	0.4	5	0.4	7	0.3	3	0.2	0	0.0	2	0.1	2	0.1	5	0.2	1	0.0
Others	37	2.9	37	2.9	28	1.4	27	1.9	27	1.1	31	1.3	32	1.6	49	2.4	42	1.9

(3) Medical Officer

Year	**2007**		**2008***		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	2690		2697		2750		2871		2478		2354		2244		2249		2558	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	330	12.3	264	9.8	242	8.8	263	9.2	202	8.2	189	8.0	199	8.9	189	8.4	220	8.6
Type of complications:																		
PCR	126	4.7	148	5.5	139	5.1	147	5.1	116	4.7	103	4.4	124	5.5	117	5.2	150	5.9
Vitreous loss	105	3.9	105	3.9	92	3.3	131	4.6	89	3.6	75	3.2	86	3.8	82	3.6	92	3.6
Zonular dehiscense	43	1.6	46	1.7	45	1.6	47	1.6	43	1.7	43	1.8	30	1.3	35	1.6	41	1.6
Dropped nucleus	1	0.0	4	0.2	7	0.3	3	0.1	5	0.2	5	0.2	5	0.2	11	0.5	4	0.2
Suprachoroidal hemorrhage	3	0.1	4	0.2	1	0.0	2	0.1	1	0.0	1	0.0	1	0.0	0	0.0	1	0.0
Central corneal edema	2	0.1	3	0.1	2	0.1	4	0.1	3	0.1	5	0.2	1	0.0	2	0.1	0	0.0
Others	51	1.9	51	1.9	56	2.0	56	2.0	42	1.7	37	1.6	38	1.7	34	1.5	35	1.4

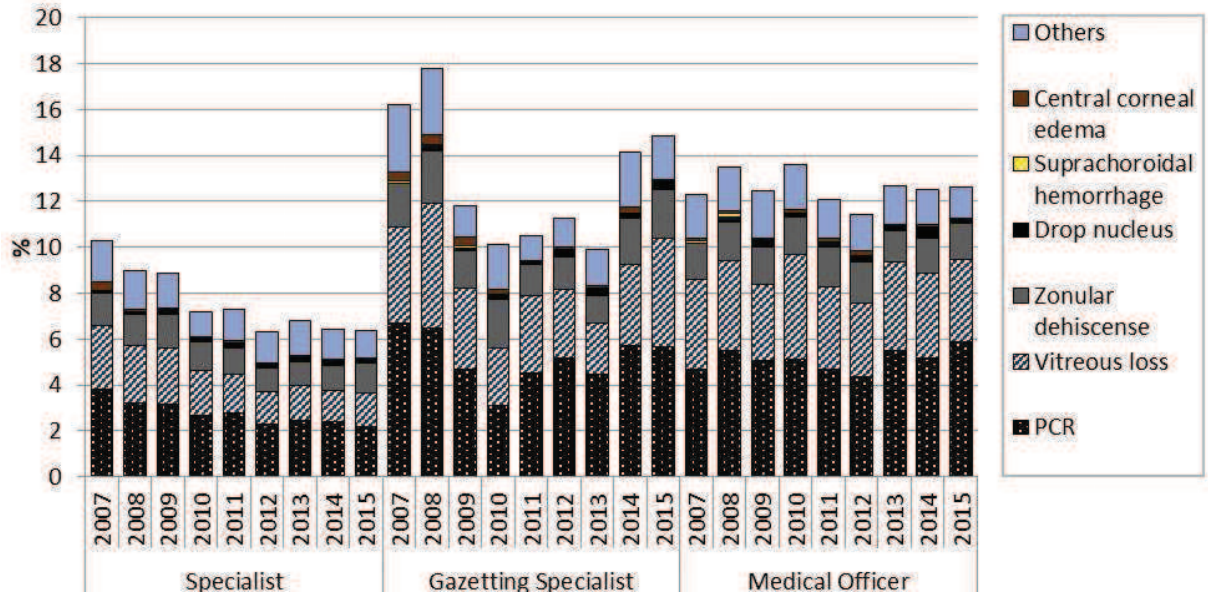


Figure 1.4.5-1: Percentage Distribution of Intra-operative Complications by Surgeon Status (All Surgery), CSR 2007-2015

Table 1.4.5-2: Intra-operative Complications by Surgeon Status (Phaco), CSR 2009-2015

Specialist

Year	**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	15206		19797		20963		23291		28774		32417		35766	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	627	4.1	680	3.4	780	3.7	755	3.2	977	3.4	1065	3.3	1021	2.9
Type of complications:														
PCR	354	2.3	408	2.1	453	2.2	413	1.8	534	1.9	575	1.8	560	1.6
Vitreous loss	201	1.3	211	1.1	202	1.0	168	0.7	230	0.8	223	0.7	243	0.7
Zonular dehiscense	118	0.8	113	0.6	116	0.6	121	0.5	160	0.6	179	0.6	216	0.6

Dropped nucleus	24	0.2	26	0.1	37	0.2	29	0.1	42	0.1	57	0.2	55	0.2
Suprachoroidal hemorrhage	3	0.0	3	0.0	1	0.0	4	0.0	2	0.0	0	0.0	0	0.0
Central corneal edema	10	0.1	13	0.1	24	0.1	14	0.1	8	0.0	18	0.1	11	0.0
Others	153	1.0	136	0.7	195	0.9	201	0.9	284	1.0	291	0.9	261	0.7

(2) Gazetting Specialist

Year	**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	1422		929		1845		1850		1694		1776		1899	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	86	6.0	39	4.2	86	4.7	102	5.5	74	4.4	132	7.4	96	5.1
Type of complications:														
PCR	60	4.2	23	2.5	67	3.6	72	3.9	54	3.2	89	5.0	70	3.7
Vitreous loss	36	2.5	10	1.1	35	1.9	31	1.7	21	1.2	41	2.3	40	2.1
Zonular dehiscense	12	0.8	8	0.9	10	0.5	10	0.5	4	0.2	14	0.8	8	0.4
Dropped nucleus	2	0.1	2	0.2	1	0.1	7	0.4	4	0.2	4	0.2	7	0.4
Suprachoroidal hemorrhage	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Central corneal edema	3	0.2	2	0.2	0	0.0	2	0.1	1	0.1	3	0.2	1	0.1
Others	12	0.8	9	1.0	9	0.5	17	0.9	17	1.0	28	1.6	20	1.1

(3) Medical Officer

Year	**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
N	923		1078		1050		1182		1132		1189		1372	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Any intra-operative complication	64	6.9	79	7.3	61	5.8	73	6.2	61	5.4	83	7.0	75	5.5

Type of complications:														
PCR	47	5.1	58	5.4	48	4.6	53	4.5	45	4.0	65	5.5	59	4.3
Vitreous loss	27	2.9	41	3.8	33	3.1	27	2.3	28	2.5	35	2.9	22	1.6
Zonular dehiscense	7	0.8	12	1.1	4	0.4	13	1.1	9	0.8	10	0.8	9	0.7
Dropped nucleus	2	0.2	3	0.3	4	0.4	3	0.3	5	0.4	11	0.9	2	0.1
Suprachoroidal hemorrhage	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Central corneal edema	2	0.2	4	0.4	0	0.0	3	0.3	0	0.0	0	0.0	0	0.0
Others	12	1.3	8	0.7	9	0.9	5	0.4	4	0.4	7	0.6	8	0.6

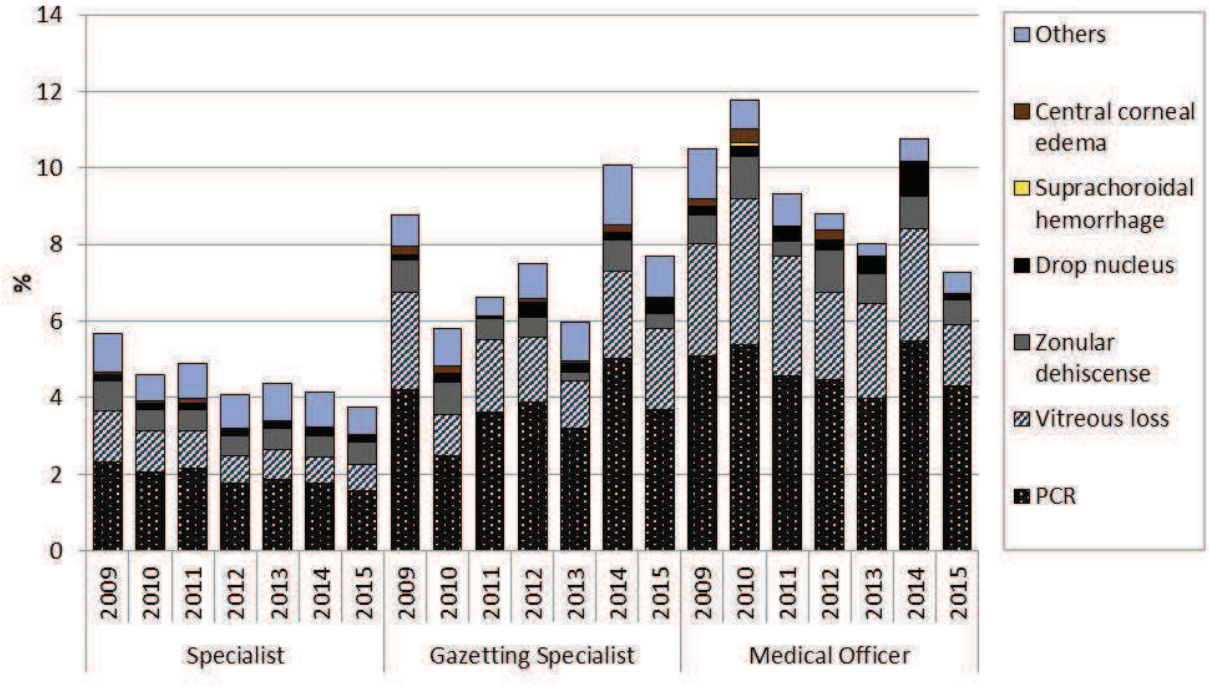


Figure 1.4.5-2: Percentage Distribution of Intra-operative Complications by Surgeon Status (Phaco), CSR 2007-2015

1.4.6 Posterior Capsular Rupture (PCR)

Table 1.4.6-1: PCR by SDP, CSR 2007-2015

Hospital	2007			2008			2009			2010			2011			2012			2013			2014			2015		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
Alor Setar	652	10	1.5	986	29	3	1110	22	2.0	1527	25	1.6	1939	46	2.4	1835	46	2.5	1758	48	2.7	2106	53	2.5	2336	50	2.1
Ampang	33	0	0	208	3	1	433	14	3.2	627	32	5.1	708	27	3.8	896	40	4.5	983	31	3.2	946	37	3.9	880	45	5.1
Batu Pahat	550	20	3.6	573	14	2	602	26	4.3	411	15	3.6	554	30	5.4	608	42	6.9	433	22	5.1	467	22	4.7	561	15	2.7
Bintulu	0	0	0	30	1	3	124	10	8.1	258	7	2.7	332	8	2.4	391	7	1.8	383	1	0.3	374	0	0.0	350	5	1.4
Bukit Mertajam	697	18	2.6	487	8	2	743	16	2.2	804	22	2.7	803	26	3.2	928	31	3.3	909	21	2.3	998	24	2.4	1265	14	1.1
Ipoh	1556	77	4.9	1723	59	3	2137	48	2.2	2199	32	1.5	1826	56	3.1	2932	65	2.2	3032	88	2.9	2759	62	2.2	2547	87	3.4
Kangar	318	8	2.5	400	3	1	399	11	2.8	400	13	3.3	403	15	3.7	454	13	2.9	466	22	4.7	426	24	5.6	576	31	5.4
Kemaman	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	0	0.0	72	0	0.0	3	0	0.0
Keningau	0	0	0	34	1	3	31	1	3.2	76	1	1.3	52	0	0.0	17	0	0.0	15	1	6.7	133	7	5.3	82	0	0.0
Klang	1040	40	3.8	1217	34	3	904	27	3.0	1007	26	2.6	1061	20	1.9	1411	6	0.4	1612	12	0.7	1461	13	0.9	1978	39	2.0
Kota Bharu	807	38	4.7	739	33	5	911	33	3.6	960	31	3.2	946	40	4.2	545	13	2.4	682	16	2.3	285	1	0.4	921	40	4.3
Kuala Krai	125	2	1.6	170	7	4	175	4	2.3	217	3	1.4	240	11	4.6	247	12	4.9	397	14	3.5	365	27	7.4	389	16	4.1
Kuala Lumpur	0	0	0	40	3	8	1405	35	2.5	1648	46	2.8	1622	19	1.2	1516	24	1.6	1150	15	1.3	1932	39	2.0	1609	18	1.1
Kuala Pilah	201	4	2	282	11	4	290	7	2.4	322	8	2.5	483	10	2.1	429	8	1.9	492	6	1.2	493	5	1.0	452	15	3.3
Kuala Terengganu	525	34	6.5	726	35	5	743	35	4.7	714	28	3.9	770	34	4.4	765	20	2.6	1014	39	3.8	900	36	4.0	987	42	4.3
Kuantan	25	1	4	395	20	5	293	5	1.7	615	5	0.8	680	20	2.9	684	7	1.0	619	11	1.8	576	21	3.6	1079	44	4.1
Kulim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265	3	1.1	418	8	1.9
Langkawi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	0	0.0
Likas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	0	0.0
Melaka	1518	87	5.7	1681	106	6	1387	84	6.1	1659	76	4.6	1642	61	3.7	1488	52	3.5	1719	83	4.8	2139	86	4.0	2389	72	3.0

Hospital	2007			2008			2009			2010			2011			2012			2013			2014			2015		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
Miri	18	2	11	396	7	2	404	5	1.2	577	8	1.4	657	4	0.6	901	1	0.1	915	1	0.1	949	5	0.5	903	10	1.1
Muar	349	4	1.1	338	14	4	542	29	5.4	617	15	2.4	692	20	2.9	665	26	3.9	717	42	5.9	729	48	6.6	928	26	2.8
Pulau Pinang	1102	92	8.3	1357	77	6	1374	46	3.3	1876	62	3.3	2186	42	1.9	1330	26	2.0	1696	46	2.7	1791	27	1.5	2240	35	1.6
Putrajaya	199	8	4	256	8	3	251	9	3.6	282	8	2.8	329	11	3.3	355	4	1.1	391	10	2.6	367	9	2.5	463	17	3.7
Queen Elizabeth KK	565	20	3.5	351	3	1	433	16	3.7	624	24	3.8	686	46	6.7	763	38	5.0	978	66	6.7	1040	56	5.4	1133	44	3.9
Sandakan	0	0	0	137	3	2	158	3	1.9	208	13	6.3	271	8	3.0	265	4	1.5	411	15	3.6	237	4	1.7	499	5	1.0
Sarikei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286	7	2.4	555	9	1.6	647	4	0.6
Selayang	1400	47	3.4	1429	56	4	1418	42	3.0	1699	71	4.2	1859	100	5.4	1829	83	4.5	1337	51	3.8	899	38	4.2	1353	35	2.6
Serdang	697	43	6.2	696	36	5	598	32	5.4	520	17	3.3	666	28	4.2	709	20	2.8	1023	43	4.2	1265	51	4.0	982	17	1.7
Seremban	954	40	4.2	898	40	5	1229	79	6.4	1519	48	3.2	1605	34	2.1	1559	67	4.3	1520	46	3.0	1585	41	2.6	1726	39	2.3
Sibu	380	10	2.6	263	9	3	387	6	1.6	455	12	2.6	505	10	2.0	745	11	1.5	900	17	1.9	866	9	1.0	581	23	4.0
Sri Manjung	152	10	6.6	350	11	3	327	7	2.1	387	6	1.6	420	10	2.4	466	9	1.9	832	17	2.0	625	17	2.7	666	13	2.0
Sultan Ismail	100	3	3	180	9	5	185	2	1.1	258	10	3.9	283	7	2.5	279	8	2.9	374	5	1.3	609	16	2.6	827	26	3.1
Sultanah Aminah JB	1520	28	1.8	1376	28	2	1318	57	4.3	1377	30	2.2	1127	29	2.6	1195	32	2.7	1350	42	3.1	1381	47	3.4	1643	47	2.9
Sungai Buloh	165	9	5.5	319	14	4	387	19	4.9	468	22	4.7	450	13	2.9	514	14	2.7	580	22	3.8	693	11	1.6	774	12	1.6
Sungei Petani	497	23	4.6	633	14	2	684	9	1.3	558	8	1.4	811	35	4.3	845	19	2.2	930	23	2.5	1022	29	2.8	1006	27	2.7
Taiping	278	7	2.5	379	10	3	612	22	3.6	889	19	2.1	953	24	2.5	1118	32	2.9	1284	18	1.4	1233	16	1.3	1320	19	1.4
Tanah Merah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	0	0.0
Tawau	189	5	2.6	317	10	3	298	9	3.0	401	15	3.7	575	16	2.8	648	9	1.4	503	45	8.9	540	38	7.0	607	22	3.6
Teluk Intan	668	19	2.8	588	16	3	612	22	3.6	690	27	3.9	663	10	1.5	616	15	2.4	1102	20	1.8	1013	10	1.0	932	30	3.2
Temerloh	443	27	6.1	531	28	5	640	28	4.4	450	10	2.2	681	31	4.6	868	21	2.4	866	15	1.7	1047	18	1.7	851	15	1.8
Sarawak	998	33	3.3	1011	38	4	893	38	4.3	1207	45	3.7	1131	35	3.1	1657	45	2.7	1721	32	1.9	2068	84	4.1	2019	63	3.1
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	2	1.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	0.0

Hospital	2007			2008			2009			2010			2011			2012			2013			2014			2015		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
KK1M Kelantan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	186	8	4.3	2	0	0.0
KK1M Pahang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	2	3.1	-	-	-	187	7	3.7
KK1M Terengganu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	0	0.0	40	0	0.0
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131	2	1.5
KK1M Sarawak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	0	0.0	831	20	2.4	1131	36	3.2
MAIWP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1583	2	0.1	2266	29	1.3	1824	28	1.5

Table 1.4.6 2: PCR by Surgeon Status and SDP (Phaco), CSR 2015

(N=total no. of cases of phaco; n=no. of cases of PCR in phaco)

Hospital	2015 Phaco			By surgeon status:								
				Specialist			Gazetting Specialist			Medical Officer		
	N	n	%	N	n	%	N	n	%	N	n	%
Alor Setar	1953	32	1.6	1943	31	1.6	1	0	0.0	9	1	11.1
Ampang	693	26	3.8	506	11	2.2	47	1	2.1	140	14	10.0
Batu Pahat	486	9	1.9	486	9	1.9	0	0	0.0	0	0	0.0
Bintulu	337	5	1.5	337	5	1.5	0	0	0.0	0	0	0.0
Bukit Mertajam	988	2	0.2	922	2	0.2	55	0	0.0	11	0	0.0
Ipoh	2258	58	2.6	1839	38	2.1	275	14	5.1	144	6	4.2
Kangar	423	13	3.1	413	12	2.9	0	0	0.0	10	1	10.0
Kemaman	2	0	0.0	2	0	0.0	0	0	0.0	0	0	0.0
Keningau	75	0	0.0	0	0	0.0	0	0	0.0	75	0	0.0

Klang	1801	20	1.1	1800	19	1.1	1	1	100.0	0	0	0.0
Kota Bharu	549	21	3.8	516	19	3.7	2	0	0.0	31	2	6.5
Kuala Krai	274	8	2.9	274	8	2.9	0	0	0.0	0	0	0.0
Kuala Lumpur	1393	8	0.6	1358	7	0.5	26	1	3.8	7	0	0.0
Kuala Pilah	399	6	1.5	335	5	1.5	63	1	1.6	1	0	0.0
Kuala Terengganu	773	25	3.2	698	14	2.0	61	9	14.8	14	2	14.3
Kuantan	824	17	2.1	600	7	1.2	170	4	2.4	54	6	11.1
Kulim	360	3	0.8	359	3	0.8	0	0	0.0	0	0	0.0
Langkawi	49	0	0.0	49	0	0.0	0	0	0.0	0	0	0.0
Likas	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
Melaka	2189	50	2.3	1988	40	2.0	68	3	4.4	133	7	5.3
Miri	837	5	0.6	549	2	0.4	282	3	1.1	6	0	0.0
Muar	855	20	2.3	852	20	2.3	3	0	0.0	0	0	0.0
Pulau Pinang	2139	27	1.3	1987	22	1.1	69	3	4.3	83	2	2.4
Putrajaya	395	8	2.0	395	8	2.0	0	0	0.0	0	0	0.0
Queen Elizabeth KK	932	32	3.4	780	25	3.2	146	7	4.8	6	0	0.0
Sandakan	420	1	0.2	349	1	0.3	0	0	0.0	71	0	0.0
Sarikei	633	3	0.5	632	3	0.5	0	0	0.0	1	0	0.0
Selayang	1166	20	1.7	963	15	1.6	81	1	1.2	122	4	3.3
Serdang	893	9	1.0	892	9	1.0	1	0	0.0	0	0	0.0
Seremban	1570	26	1.7	1147	18	1.6	103	3	2.9	320	5	1.6
Sibu	538	17	3.2	487	14	2.9	0	0	0.0	51	3	5.9
Sri Manjung	650	13	2.0	650	13	2.0	0	0	0.0	0	0	0.0
Sultan Ismail	712	11	1.5	712	11	1.5	0	0	0.0	0	0	0.0
Sultanah Aminah JB	1512	32	2.1	1479	31	2.1	6	0	0.0	27	1	3.7

Sungai Buloh	708	9	1.3	705	9	1.3	1	0	0.0	2	0	0.0
Sungei Petani	883	11	1.2	830	5	0.6	52	6	11.5	1	0	0.0
Taiping	1107	7	0.6	1107	7	0.6	0	0	0.0	0	0	0.0
Tanah Merah	5	0	0.0	5	0	0.0	0	0	0.0	0	0	0.0
Tawau	497	4	0.8	497	4	0.8	0	0	0.0	0	0	0.0
Teluk Intan	808	14	1.7	679	10	1.5	129	4	3.1	0	0	0.0
Temerloh	731	9	1.2	731	9	1.2	0	0	0.0	0	0	0.0
Sarawak	1929	56	2.9	1652	44	2.7	231	7	3.0	46	5	10.9
KK1M Kedah	209	2	1.0	209	2	1.0	0	0	0.0	0	0	0.0
KK1M Neg. Sembilan	3	0	0.0	3	0	0.0	0	0	0.0	0	0	0.0
KK1M Kelantan	2	0	0.0	2	0	0.0	0	0	0.0	0	0	0.0
KK1M Pahang	161	4	2.5	161	4	2.5	0	0	0.0	0	0	0.0
KK1M Terengganu	30	0	0.0	29	0	0.0	1	0	0.0	0	0	0.0
KK1M Sabah	107	1	0.9	107	1	0.9	0	0	0.0	0	0	0.0
KK1M Sarawak	1096	29	2.6	1077	27	2.5	19	2	10.5	0	0	0.0
MAIWP	1777	17	1.0	1673	16	1.0	6	0	0.0	7	0	0.0

**No. of total phaco (N) and total no. of phaco by surgeon status does not tally as surgeon status is missing in some CSR entries.*

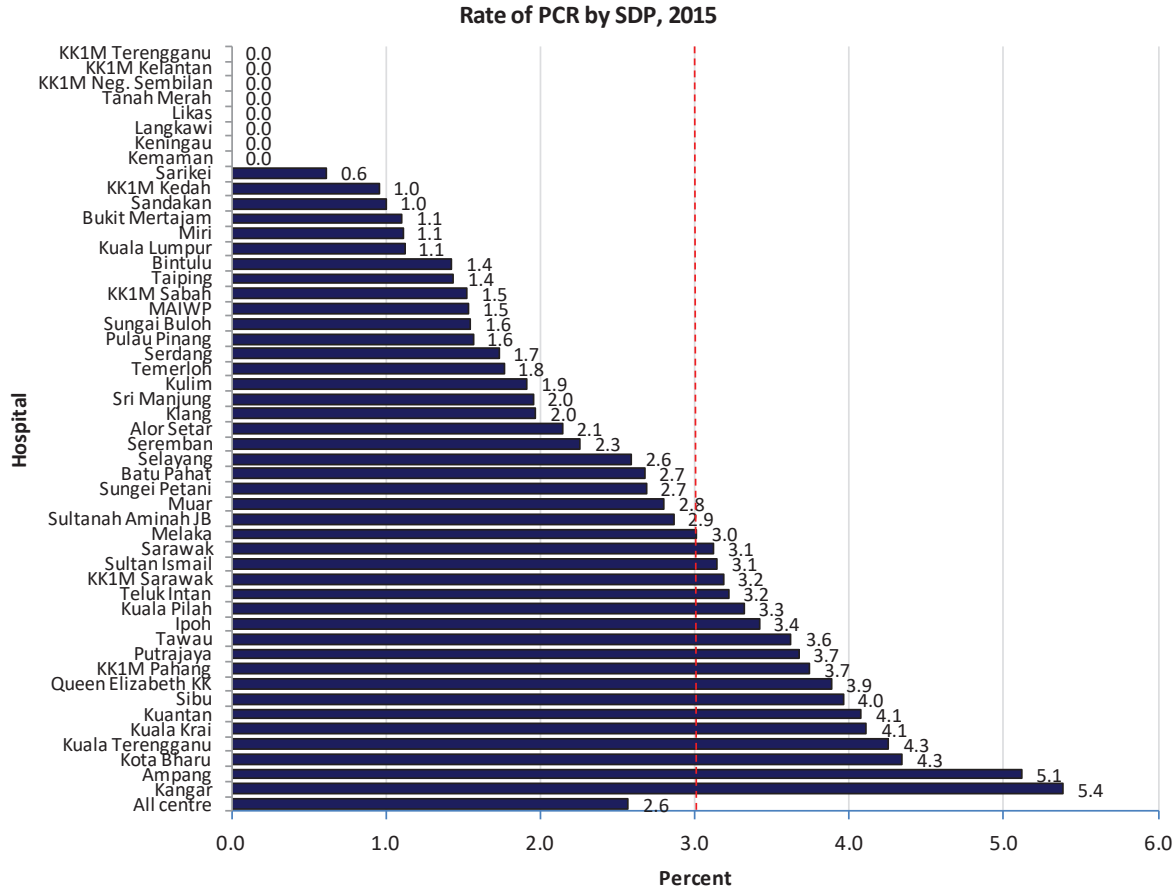
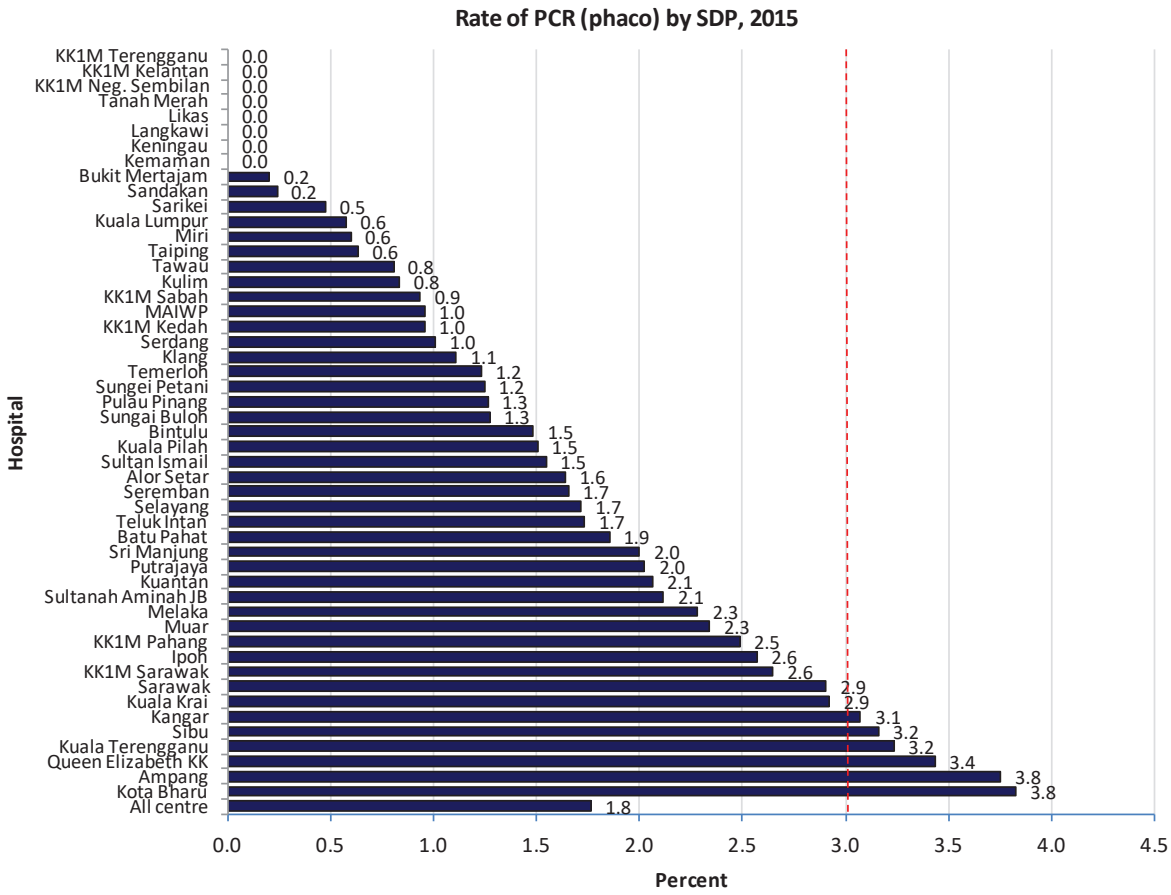


Figure 1.4.6-1: PCR by SDP, Bar Chart (All Surgery), CSR 2015


Rate of PCR (phaco) by SDP, 2015
Hospital
KK1M Terengganu 0.0
KK1M Kelantan 0.0
KK1M Neg. Sembilan 0.0
Tanah Merah 0.0
Likas 0.0
Langkawi 0.0
Keningau 0.0
Kemaman 0.0
Bukit Mertajam 0.2
Sandakan 0.2
Sarikei 0.5
Kuala Lumpur 0.6
Miri 0.6
Taiping 0.6
Tawau 0.8
Kulim 0.8
KK1M Sabah 0.9
MAIWP 1.0
KK1M Kedah 1.0
Serdang 1.0
Klang 1.1
Temerloh 1.2
Sungei Petani 1.2
Pulau Pinang 1.3
Sungai Buloh 1.3
Bintulu 1.5
Kuala Pilah 1.5
Sultan Ismail 1.5
Alor Setar 1.6
Seremban 1.7
Selayang 1.7
Teluk Intan 1.7
Batu Pahat 1.9
Sri Manjung 2.0
Putrajaya 2.0
Kuantan 2.1
Sultanah Aminah JB 2.1
Melaka 2.3
Muar 2.3
KK1M Pahang 2.5
Ipoh 2.6
KK1M Sarawak 2.6
Sarawak 2.9
Kuala Krai 2.9
Kangar 3.1
Sibu 3.2
Kuala Terengganu 3.2
Queen Elizabeth KK 3.4
Ampang 3.8
Kota Bharu 3.8
All centre 1.8
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5
Percent

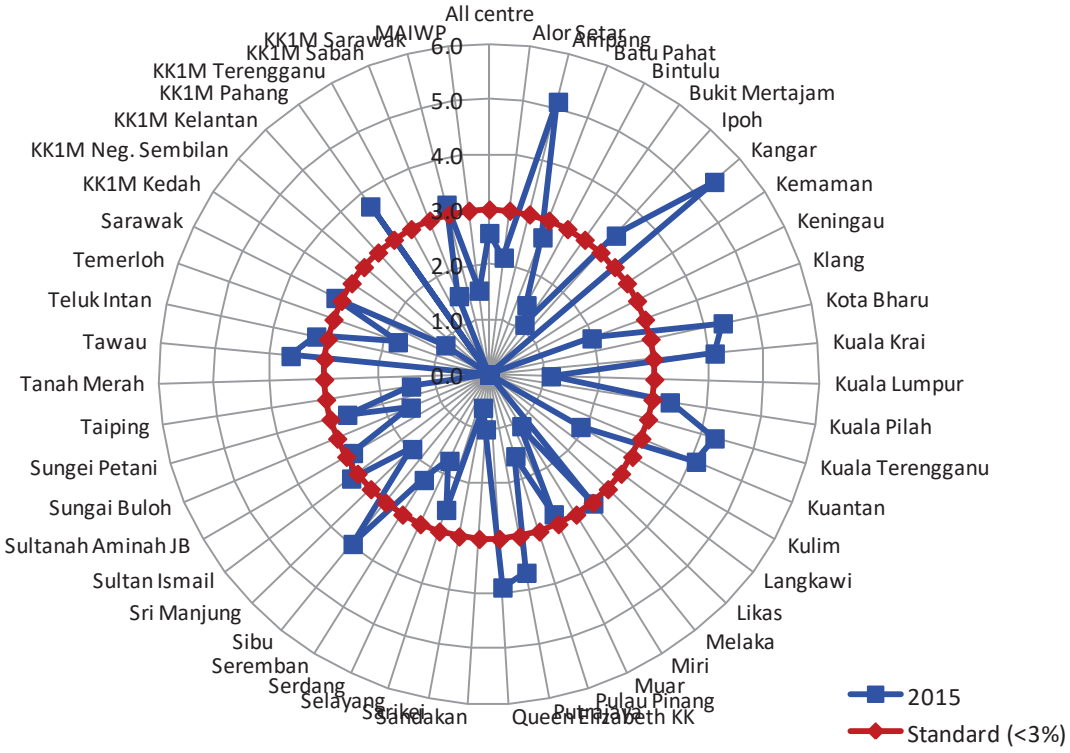


Figure 1.4.6-1: PCR by SDP, Radar Chart (All Surgery), CSR 2015

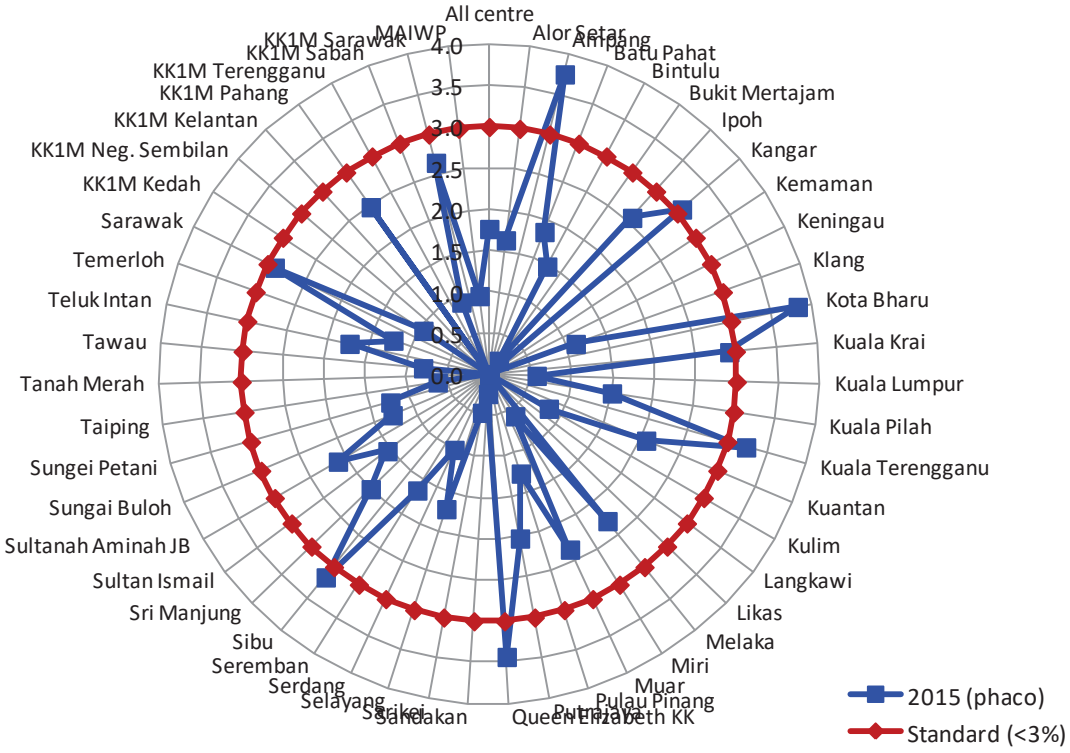


Figure 1.4.6-2: PCR by SDP, Radar Chart (Phaco), CSR 2015

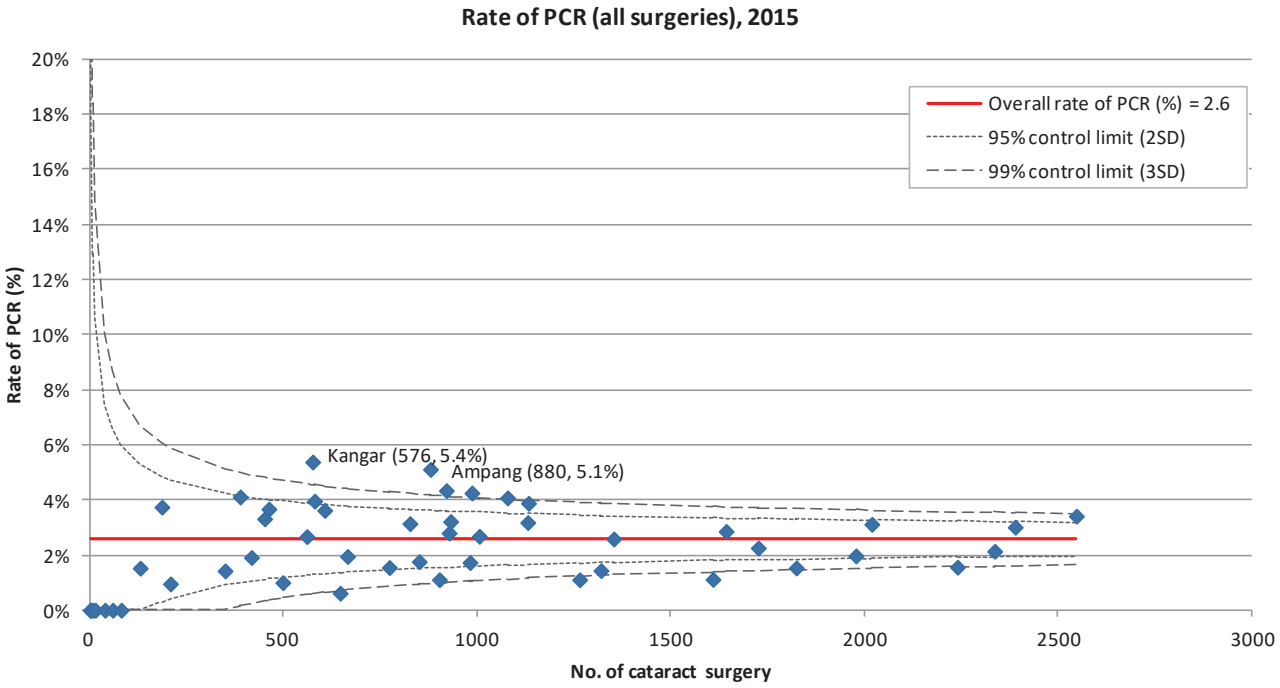


Figure 1.4.6-3: PCR by SDP, Funnel Plot (All Surgery), CSR 2015

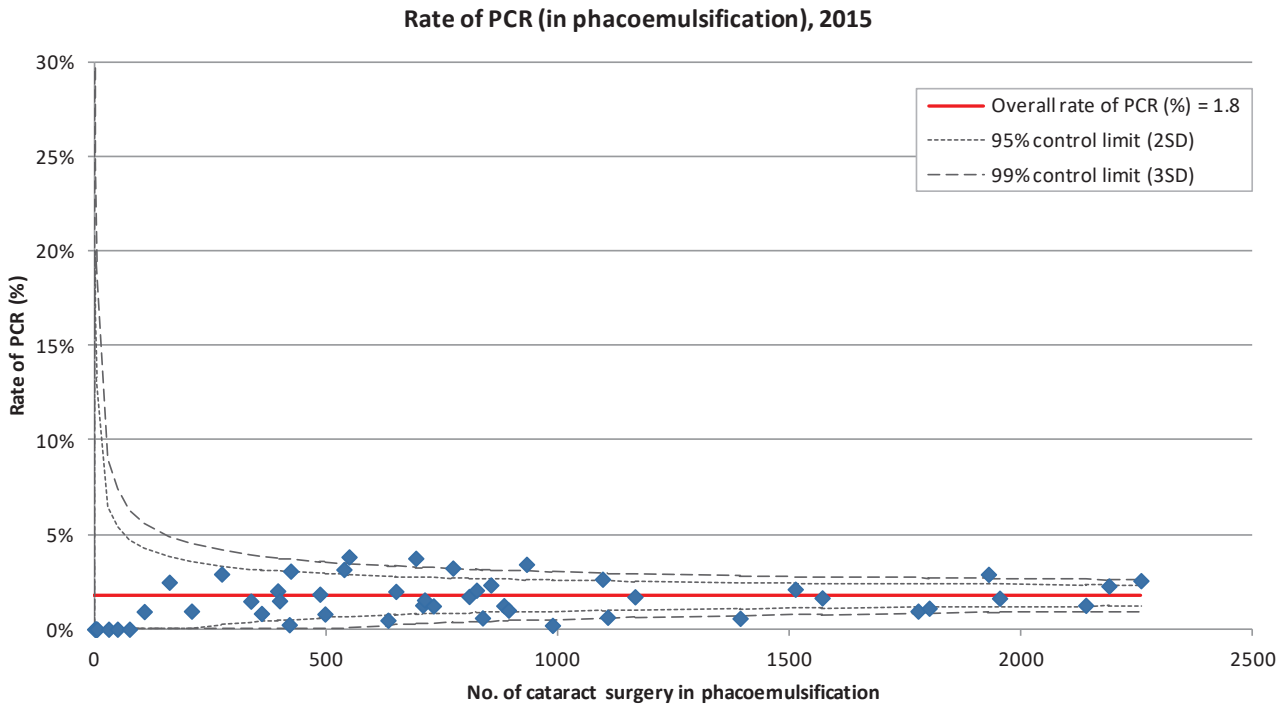


Figure 1.4.6-4: PCR by SDP, Funnel Plot (Phaco), CSR 2015

1.4.7 Posterior Capsular Rupture (PCR) by Type of Cataract Surgery

From the year 2002-2004, the percentage of PCR for phaco was higher than ECCE (figure not displayed). From 2007 onwards, the figures were reversed with ECCE having a higher percentage of PCR than phaco.

Table 1.4.7-1: PCR by Type of Cataract Surgery, CSR 2007-2015

Year	2007	2008	2009	2010	2011
No. of patients	18380	21496	24438	28506	30611
Total PCR	764	790	858	840	936

	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
Phaco	11960	393	3.3	14781	432	2.9	17717	471	2.7	21810	489	2.2	23872	568	2.4
ECCE	5524	239	4.3	5627	210	3.7	5457	216	4.0	5363	195	3.6	5291	181	3.4
Lens Aspiration	323	18	5.6	340	17	5.0	400	22	5.5	451	20	4.4	460	11	2.4
ICCE	141	15	10.6	129	7	5.4	134	8	6.0	143	9	6.3	123	6	4.9
Phaco converted to ECCE	432	99	22.9	524	124	23.7	573	135	23.6	586	119	20.3	652	162	24.8

Year	**2012**			**2013**			**2014**			**2015**		
No. of patients	32473			37150			40532			44564		
Total PCR	870			1017			1100			1145		
	N	**n**	**%**	**N**	**n**	**%**	**N**	**n**	**%**	**N**	**n**	**%**
Phaco	26345	538	2.0	31625	633	2.0	35429	731	2.1	39131	690	1.8
ECCE	4784	145	3.0	4086	160	3.9	3613	133	3.7	3677	173	4.7
Lens Aspiration	444	13	2.9	364	12	3.3	370	10	2.7	521	21	4.0
ICCE	136	6	4.4	173	8	4.6	176	9	5.1	223	21	9.4
Phaco converted to ECCE	621	161	25.9	769	196	25.5	805	205	25.5	833	228	27.4

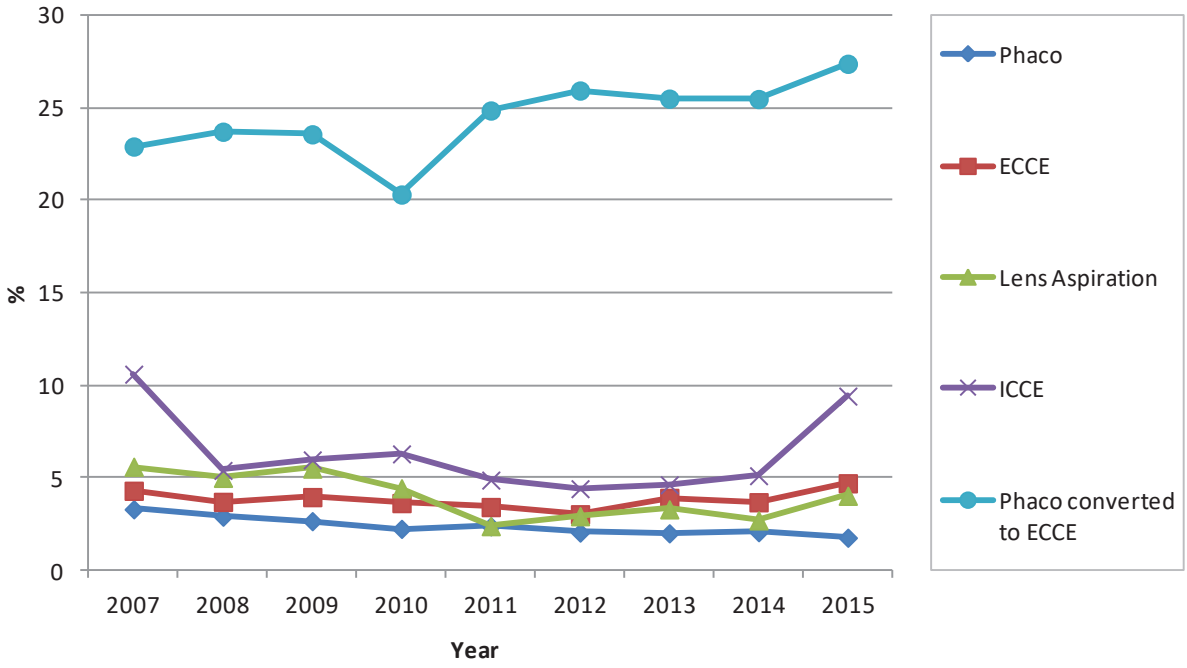


Figure 1.4.7-1: PCR by Type of Cataract Surgery, CSR 2007-2015

1.5 Cataract Surgery Outcome

1.5.1 Post-operative Complications Record and Ascertainment

In general, the ascertainment was above 80.0%.

Table 1.5.1-1: Distribution of Cataract Surgery with Post-operative Complication Record, CSR 2007-2015

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total number of cataract surgery registered to CSR	18426	21496	24438	28506	30611	32473	37150	40532	44534
Cataract surgery with post-operative complication record	17604	20521	21851	26014	28834	30011	34662	37945	41408
Ascertainment on post-operative complication (%)	95.5	95.5	89.4	91.3	94.2	92.4	93.3	93.6	93.0
Cataract surgery with visual outcome record	15786	19063	20590	24522	27219	28589	34318	37865	40540
Ascertainment on visual outcome (%)	85.7	88.7	84.3	86.0	88.9	88.0	92.4	93.4	91.0

1.5.2 Post-operative Infectious Endophthalmitis

The occurrence of post-operative infectious endophthalmitis appeared to be decreasing over the years. It was an improvement with only 5 cases in 10 000 cataract surgeries performed in MOH hospitals in 2014.

Table 1.5.2-1: Post-operative Infectious Endophthalmitis, CSR 2007-2015

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Eyes with post-operative complication records (N)	17604	20521	21851	26014	28834	30011	34662	37945	41408
Eyes with post-operative infectious endophthalmitis (n)	37	22	19	24	11	13	27	19	21
Percentage of eyes with post-operative endophthalmitis (%)	0.21	0.11	0.09	0.09	0.04	0.04	0.08	0.05	0.05

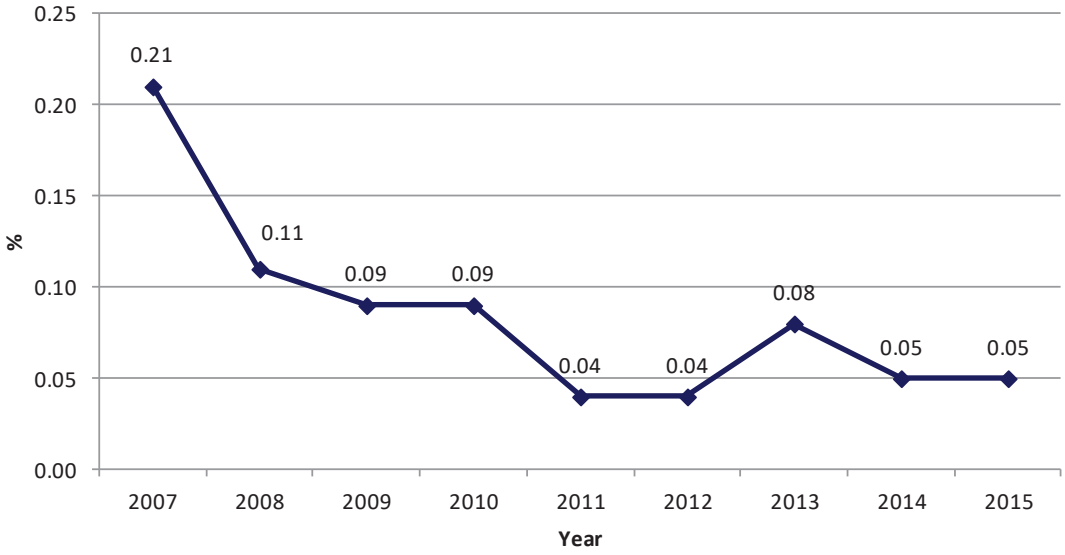


Figure 1.5.2-1: Percentage of Post-operative Infectious Endophthalmitis, CSR 2007-2015

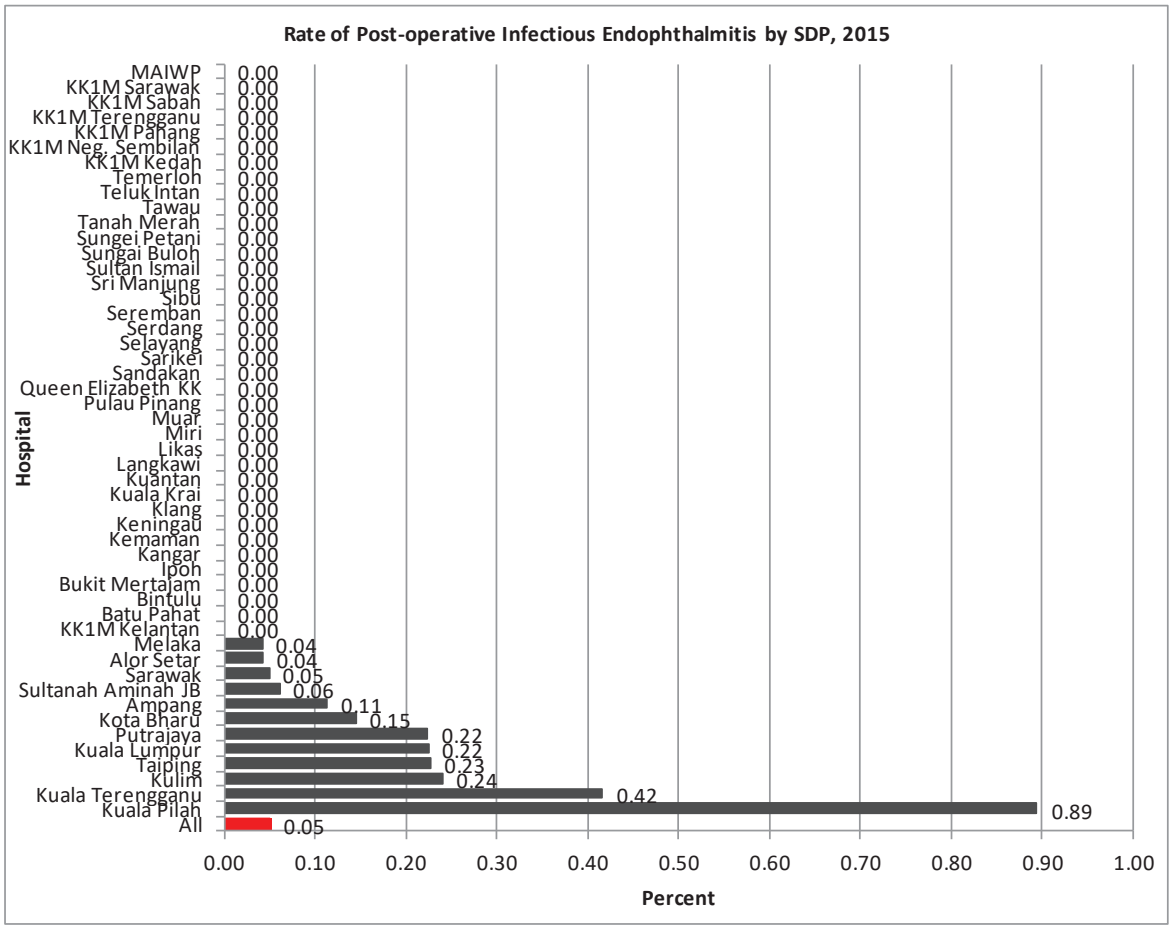


Figure 1.5.2-2: Percentage of Post-operative Infectious Endophthalmitis in Bar Chart, CSR 2015

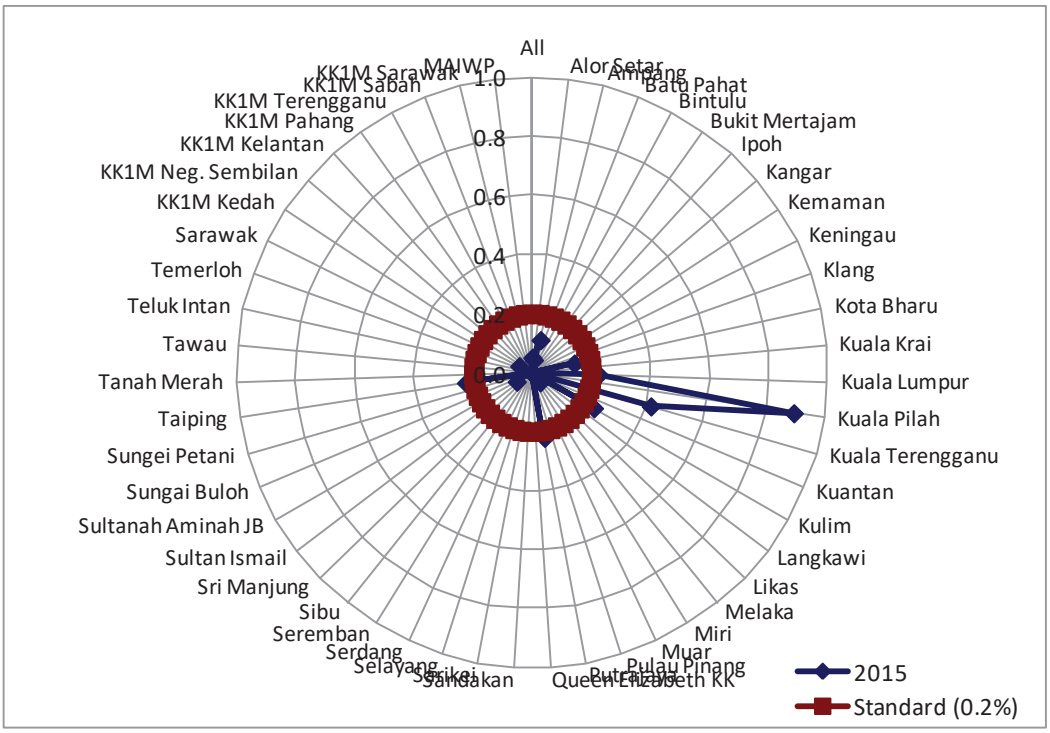


Figure 1.5.2-3: Percentage of Post-operative Infectious Endophthalmitis in Radar Chart, CSR 2015

Table 1.5.2-2: Time from Surgery to Diagnosis, CSR 2007-2015

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of patients with post-operative infective endophthalmitis	37	22	19	24	11	13	27	19	21
Time from surgery to diagnosis of infection (day)					Days				
Minimum	1	1	1	0	0	2	1	2	1
Maximum	92	76	103	141	391	59	162	90	367
Mean	21.6	20.6	20.4	22.7	43.7	19.9	24.0	18.9	31.5
Median					6	13	7	7	5
Distribution of patients					Number of Patients				
Less than 3 days	2	5	5	4	2	1	6	2	5
3-5 days	4	1	1	5	3	2	4	5	6
6-14 days	8	5	5	4	4	4	8	4	4
More than 14 days	12	9	7	10	2	5	8	8	6
Missing	11	2	1	1	0	1	1	0	0

1.5.3 Unplanned Return to Operating Theatre (OT)

Table 1.5.3-1: Unplanned Return to OT, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Patients with outcome records (N)	17604		20521		21851		26014		28834		30011		34662		37945		41408	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
	87	0.50	88	0.43	116	0.53	123	0.47	122	0.42	103	0.34	105	0.30	97	0.26	137	0.33

Table 1.5.3-2: Reasons for Unplanned Return to OT, CSR 2007-2015

Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Patients with unplanned return to OT	87		88		116		123		122		103		105		97		137	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Iris prolapse	20	23.0	12	13.6	18	15.5	20	16.3	24	19.7	11	10.7	10	9.5	7	7.2	13	9.5
Wound dehiscence	13	14.9	7	8.0	22	19.0	20	16.3	18	14.8	19	18.4	20	19.0	15	15.5	10	7.3
High IOP	5	5.7	2	2.3	9	7.8	3	2.4	4	3.3	6	5.8	2	1.9	3	3.1	8	5.8
IOL related	10	11.5	14	15.9	15	12.9	22	17.9	18	14.8	18	17.5	16	15.2	17	17.5	9	6.6
Infective endophthalmitis	12	13.8	6	6.8	6	5.2	9	7.3	2	1.6	5	4.8	7	6.7	9	9.3	10	7.3
Others	38	43.7	48	54.5	53	45.7	56	45.5	68	55.7	52	50.5	55	52.4	53	54.6	92	67.2

Total percentage may be more than 100% as patient might have multiple reasons for unplanned return to OT.

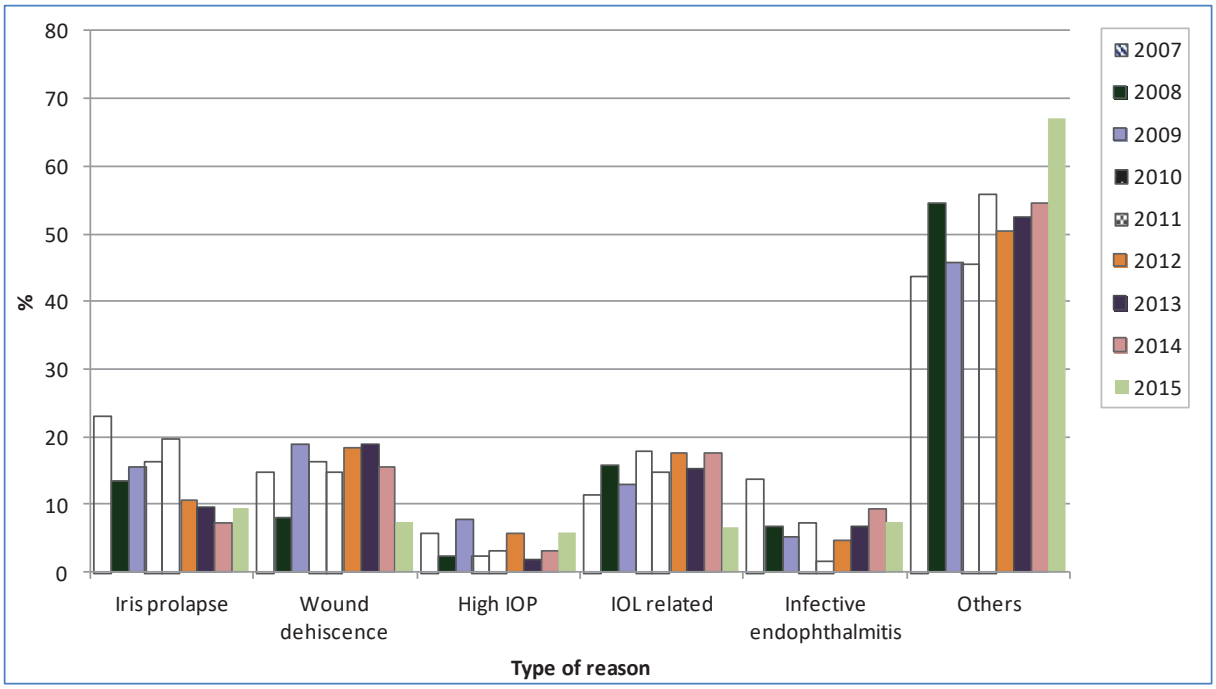


Figure 1.5.3-1: Reasons for Unplanned Return to Operating Theatre, CSR 2007-2015

Table 1.5.3-3: Time from Surgery to Unplanned Return to OT, CSR 2015

Post-operative period (day)	N	n	Median	Minimum	Maximum	Mean
Iris prolapse	13	13	5	0	64	13.7
Wound dehiscence	10	10	6.5	1	35	8.7
High IOP	8	8	6	0	50	13.8
IOL related	9	9	4	1	40	7.8
Infective endophthalmitis	10	10	9.5	5	367	48
Others	92	85	6	0	107	12.7

n = No. of available information.

1.5.4 Post-operative Follow-up Period

Most patients were followed up until 7 weeks post-operatively.

Table 1.5.4-1: Median Follow-up Period by Types of Cataract Surgery (Eyes with Unaided Vision in Weeks), CSR 2015

Types of surgery	N	n	Median	25th percentile	75th percentile
All surgeries	39077	39037	7	6	9
Phaco	34718	34685	7	6	8
ECCE	3000	2997	8	6	11

Phaco converted to ECCE	689	688	8	6	11
ICCE	178	178	7	5	11
Lens aspiration	370	370	6	5	9

n = No. of available information.

Table 1.5.4-1: Median Follow-up Period by Types of Cataract Surgery (Eyes with Refracted Vision) in Weeks, CSR 2015

Types of surgery	N	n	Median	25th percentile	75th percentile
All surgeries	36348	36312	7	6	9
Phaco	32458	32429	7	6	8
ECCE	2722	2719	8	7	11
Phaco converted to ECCE	619	618	9	6	11
ICCE	154	154	8	6	11
Lens aspiration	308	308	7	5	9

n = No. of available information.

1.5.5 Post-operative Visual Acuity (All Eyes)

The percentage of eye with vision unaided VA 6/12 or better i.e. good VA outcome appear to be increasing over the years (from 40.6% in 2007 to 53.4% in 2015).

Table 1.5.5-1: Post-operative Visual Acuity (All Eyes), CSR 2007-2015

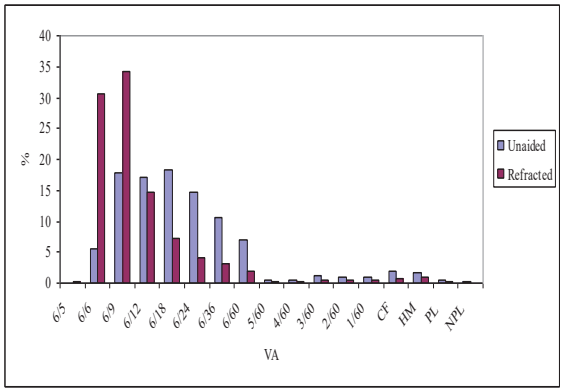
Year	2007 (N=18426)				2008 (N=21496)				2009 (N=24438)				2010 (N=28506)				2011 (N=30611)			
	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
VA	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
6/5	3	0.0	35	0.2	9	0.0	51	0.3	10	0.0	46	0.2	12	0.0	119	0.5	15	0.1	124	0.5
6/6	878	5.6	4409	30.5	1126	5.9	6072	35.2	1100	5.3	6555	34.7	1568	6.4	8362	37.0	1776	6.5	9239	37.4
6/9	2806	17.8	4961	34.3	3040	15.9	5714	33.1	3649	17.7	6550	34.7	4523	18.4	7369	32.6	5040	18.5	8162	33.0
6/12	2717	17.2	2100	14.6	3351	17.6	2577	14.9	3837	18.6	2762	14.6	5054	20.6	3332	14.8	5499	20.2	3585	14.5
6/12 and better	6404	40.6	11505	79.6	7526	39.4	14414	83.5	8596	41.7	15913	84.3	11157	45.5	19182	85.0	12330	45.3	21110	85.4
6/18	2893	18.3	1055	7.3	3792	19.9	1012	5.9	4052	19.7	1050	5.6	4727	19.3	1131	5.0	5209	19.1	1218	4.9
<6/12–6/18	2893	18.3	1055	7.3	3792	19.9	1012	5.9	4052	19.7	1050	5.6	4727	19.3	1131	5.0	5209	19.1	1218	4.9
6/24	2315	14.7	573	4.0	2978	15.6	607	3.5	2958	14.4	616	3.3	3232	13.2	666	2.9	3689	13.6	738	3.0
6/36	1687	10.7	444	3.1	2018	10.6	421	2.4	2095	10.2	416	2.2	2211	9.0	497	2.2	2528	9.3	503	2.0
6/60	1126	7.1	266	1.9	1300	6.8	261	1.5	1323	6.4	276	1.5	1456	5.9	350	1.6	1558	5.7	388	1.6
<6/18–6/60	5128	32.5	1283	9.0	6296	33.0	1289	7.4	6376	31.0	1308	7.0	6899	28.1	1513	6.7	7775	28.6	1629	6.6
5/60	92	0.6	23	0.2	116	0.6	37	0.2	93	0.5	27	0.1	119	0.5	37	0.2	111	0.4	28	0.1
4/60	87	0.6	35	0.2	97	0.5	30	0.2	103	0.5	31	0.2	112	0.5	31	0.1	109	0.4	32	0.1
3/60	207	1.3	80	0.6	266	1.4	112	0.6	331	1.6	118	0.6	378	1.5	151	0.7	435	1.6	155	0.6
<6/60–	386	2.5	138	1.0	479	2.5	179	1.0	527	2.6	176	0.9	609	2.5	219	1.0	655	2.4	215	0.9

3/60																		
2/60	158	1.0	73	0.5	186	1.0	70	0.4	199	1.0	77	0.4	227	0.9	97	0.4	249	0.9	113	0.5
1/60	155	1.0	76	0.5	159	0.8	60	0.3	168	0.8	66	0.3	196	0.8	93	0.4	213	0.8	99	0.4
CF	300	1.9	121	0.8	295	1.5	85	0.5	315	1.5	127	0.7	345	1.4	147	0.7	400	1.5	135	0.5
HM	253	1.6	149	1.0	230	1.2	84	0.5	269	1.3	126	0.7	280	1.1	155	0.7	294	1.1	150	0.6
PL	75	0.5	46	0.3	53	0.3	22	0.1	58	0.3	31	0.2	47	0.2	24	0.1	52	0.2	20	0.1
NPL	34	0.2	0	0.0	32	0.2	0	0.0	30	0.1	12	0.1	35	0.1	18	0.1	42	0.2	18	0.1
<3/60	975	6.2	465	3.1	955	5.0	321	1.8	1039	5.0	439	2.3	1130	4.6	534	2.4	1250	4.6	535	2.2
TOTAL	15786	100.0	14446	100.0	19048	100.0	17215	100.0	20590	100.0	18886	100.0	24522	100.0	22579	100.0	27219	100.0	24707	100.0

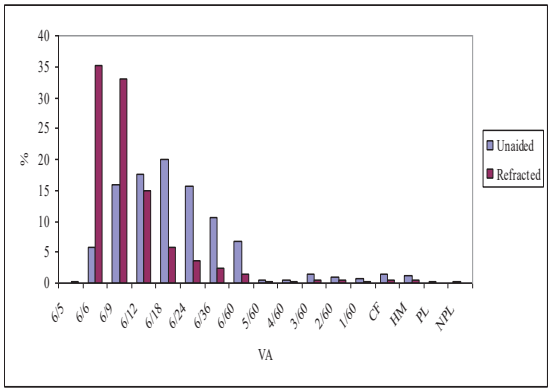
Year	2012 (N=32473)				2013 (N=37150)				2014 (N=40532)				2015 (N=44534)			
	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
VA	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
6/5	14	0.0	102	0.4	20	0.1	104	0.3	25	0.1	123	0.4	23	0.1	87	0.2
6/6	2011	7.0	9732	38.2	2664	8.1	11743	39.2	3165	8.7	13487	40.2	3585	9.2	15244	41.9
6/9	5498	19.2	8254	32.4	7101	21.5	9901	33.0	7765	21.4	10961	32.7	8771	22.4	11757	32.3
6/12	5925	20.7	3723	14.6	7122	21.5	4272	14.3	7870	21.7	4700	14.0	8478	21.7	4736	13.0
6/12 and better	13448	47.0	21811	85.5	16907	51.1	26020	86.8	18825	51.9	29271	87.3	20857	53.4	31824	87.6
6/18	5285	18.5	1327	5.2	5923	17.9	1381	4.6	6638	18.3	1475	4.4	7314	18.7	1627	4.5
<6/12–6/18	5285	18.5	1327	5.2	5923	17.9	1381	4.6	6638	18.3	1475	4.4	7314	18.7	1627	4.5
6/24	3728	13.0	746	2.9	4062	12.3	820	2.7	4421	12.2	938	2.8	4297	11.0	877	2.4
6/36	2713	9.5	531	2.1	2592	7.8	552	1.8	2724	7.5	617	1.8	2577	6.6	625	1.7
6/60	1468	5.1	361	1.4	1606	4.9	390	1.3	1701	4.7	425	1.3	1750	4.5	473	1.3
<6/18–6/60	7909	27.7	1638	6.4	8260	25.0	1762	5.9	8846	24.4	1980	5.9	8624	22.1	1975	5.4
5/60	130	0.5	38	0.1	135	0.4	33	0.1	122	0.3	33	0.1	135	0.3	31	0.1
4/60	119	0.4	26	0.1	103	0.3	43	0.1	104	0.3	35	0.1	94	0.2	38	0.1
3/60	469	1.6	168	0.7	479	1.4	167	0.6	447	1.2	199	0.6	505	1.3	198	0.5
<6/60–3/60	718	2.5	232	0.9	717	2.2	243	0.8	673	1.9	267	0.8	734	1.9	267	0.7
2/60	257	0.9	94	0.4	291	0.9	124	0.4	303	0.8	131	0.4	330	0.8	118	0.3
1/60	211	0.7	79	0.3	239	0.7	111	0.4	237	0.7	86	0.3	312	0.8	141	0.4
CF	371	1.3	125	0.5	352	1.1	138	0.5	353	1.0	128	0.4	390	1.0	138	0.4
HM	291	1.0	154	0.6	279	0.8	138	0.5	291	0.8	158	0.5	362	0.9	186	0.5
PL	61	0.2	28	0.1	64	0.2	34	0.1	59	0.2	24	0.1	90	0.2	48	0.1
NPL	38	0.1	17	0.1	35	0.1	17	0.1	32	0.1	12	0.0	64	0.2	24	0.1
<3/60	1229	4.3	497	1.9	1260	3.8	562	1.9	1275	3.5	539	1.6	1548	4.0	655	1.8
TOTAL	28589	100.0	25505	100.0	33067	100.0	29968	100.0	36257	100.0	33532	100.0	39077	100.0	36348	100.0

Number and percentage (%) are based on available information.

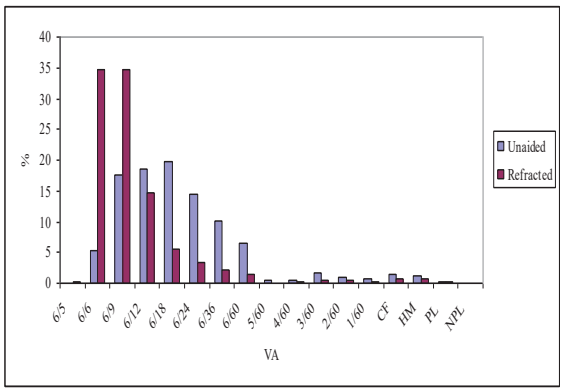
2007



2008



2009



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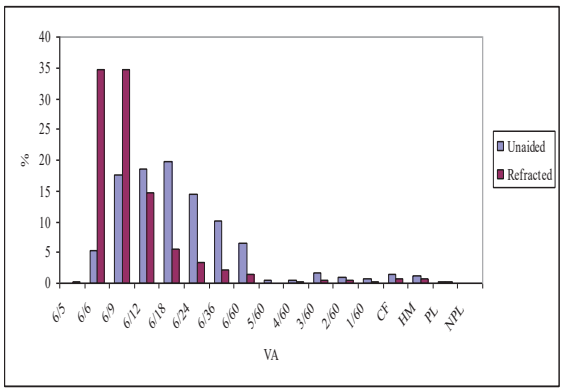
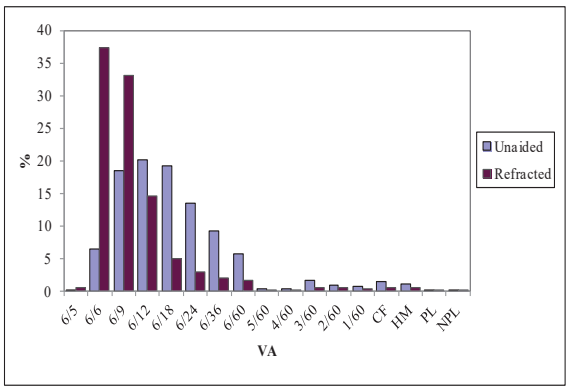
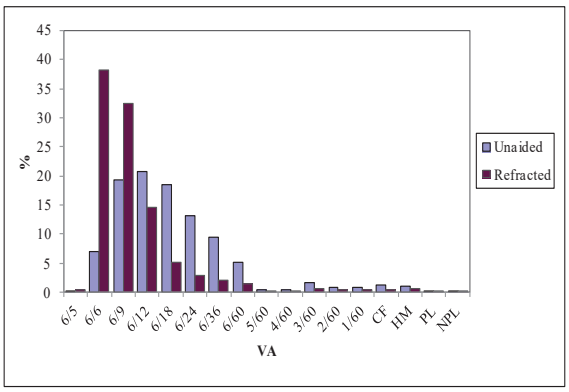


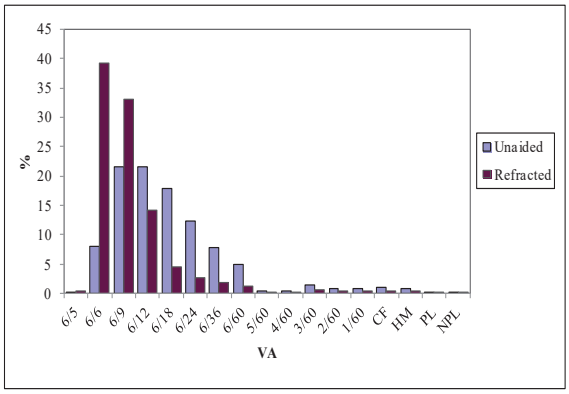
2011



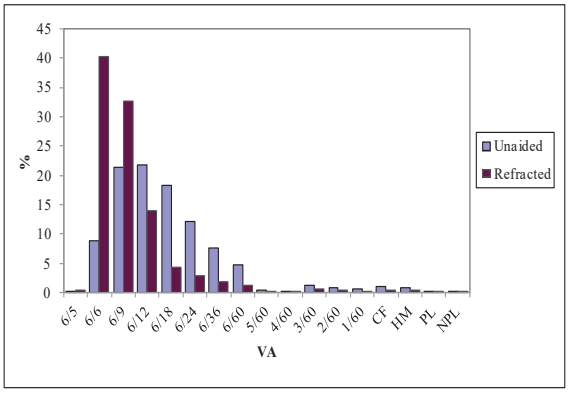
2012



2013



2014



2015

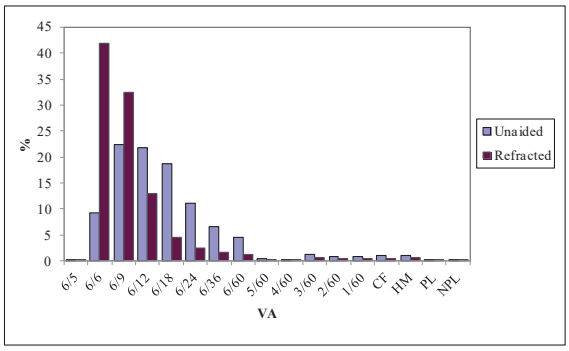


Figure 1.5.5-1: Percentage Distribution of Post-operative Unaided and Refracted Visual Acuity, CSR 2007-2015

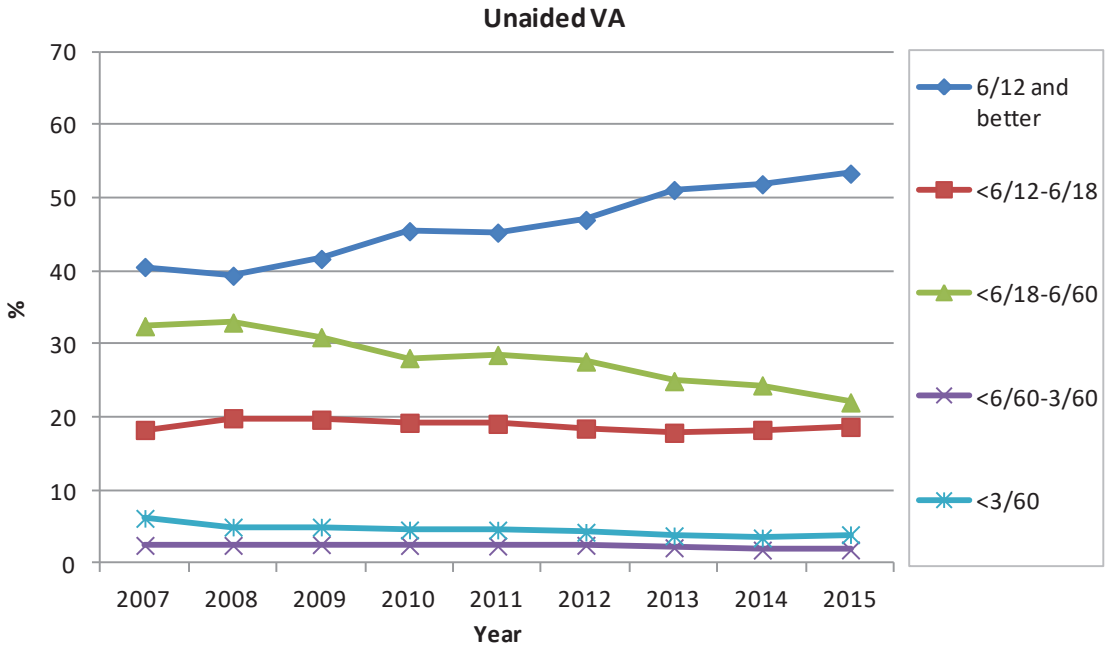


Figure 1.5.5-2: Post-operative Unaided Visual Acuity by Visual Category (All Eyes), CSR 2007-2015

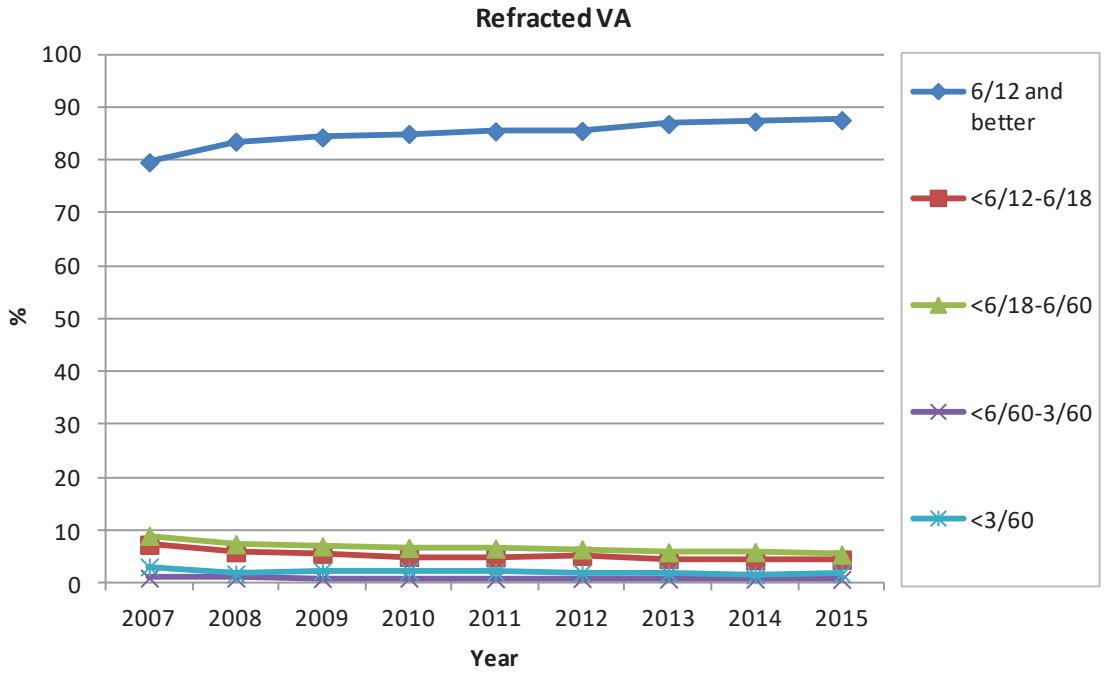


Figure 1.5.5-3: Post-operative Refracted Visual Acuity by Visual Category (All Eyes), CSR 2007-2015

1.5.6 Post-operative Visual Acuity (Eyes without Ocular Co-morbidity)

The percentage of eyes with unaided VA 6/12 or better slightly increased but similar to eyes with ocular co-morbidity; this percentage increased double folds following refraction. This trend remained unchanged throughout the years.

Table 1.5.6-1: Post-operative Visual Acuity (Eyes without Ocular Co-morbidity), CSR 2007-2015

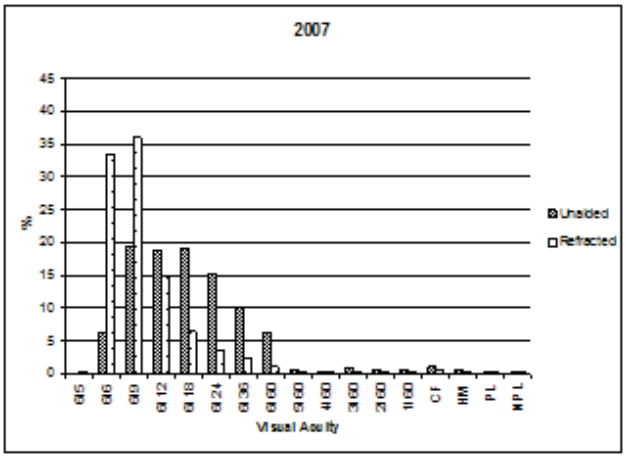
Year	2007				2008				2009				2010				2011			
	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
VA	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
6/5	3	0.0	25	0.3	2	0.0	23	0.3	8	0.1	37	0.3	7	0.0	83	0.6	14	0.1	105	0.7
6/6	667	6.2	3326	33.5	561	6.2	3061	36.4	802	6.4	4717	40.0	1127	8.0	5640	42.8	1249	7.9	6314	43.3
6/9	2061	19.3	3574	36.0	1477	16.4	2939	35.0	2595	20.6	4348	36.9	2989	21.1	4550	34.5	3447	21.8	5167	35.4
6/12	2021	18.9	1473	14.8	1683	18.7	1377	16.4	2585	20.5	1602	13.6	3311	23.4	1842	14.0	3587	22.6	1882	12.9
6/12 and better	4752	44.4	8398	84.6	3723	41.3	7400	88.1	5990	47.6	10704	90.8	7434	52.6	12115	92.0	8297	52.4	13468	92.4
6/18	2037	19.1	634	6.4	1882	20.9	411	4.9	2599	20.6	479	4.1	2777	19.6	445	3.4	3061	19.3	480	3.3
<6/12–6/18	2037	19.1	634	6.4	1882	20.9	411	4.9	2599	20.6	479	4.1	2777	19.6	445	3.4	3061	19.3	480	3.3
6/24	1619	15.1	351	3.5	1518	16.9	254	3.0	1772	14.0	251	2.1	1805	12.8	242	1.8	2098	13.2	267	1.8
6/36	1087	10.2	234	2.4	975	10.8	151	1.8	1170	9.3	152	1.3	1113	7.9	139	1.1	1253	7.9	132	0.9
6/60	650	6.1	113	1.1	536	6.0	71	0.8	651	5.2	61	0.5	586	4.1	83	0.6	651	4.1	107	0.7
<6/18–6/60	3356	31.4	698	7.0	3029	33.7	476	5.6	3593	28.5	464	3.9	3504	24.8	464	3.5	4002	25.3	506	3.5
5/60	52	0.5	8	0.1	52	0.6	10	0.1	38	0.3	8	0.1	50	0.4	11	0.1	40	0.3	5	0.0
4/60	48	0.4	13	0.1	25	0.3	7	0.1	33	0.3	5	0.0	31	0.2	6	0.0	39	0.2	8	0.1
3/60	94	0.9	26	0.3	79	0.9	29	0.3	114	0.9	37	0.3	105	0.7	33	0.3	131	0.8	26	0.2
<6/60–3/60	194	1.8	47	0.5	156	1.8	46	0.5	185	1.5	50	0.4	186	1.3	50	0.4	210	1.3	39	0.3
2/60	62	0.6	25	0.3	54	0.6	16	0.2	60	0.5	15	0.1	56	0.4	16	0.1	71	0.4	22	0.2
1/60	68	0.6	23	0.2	33	0.4	8	0.1	46	0.4	16	0.1	40	0.3	18	0.1	51	0.3	15	0.1

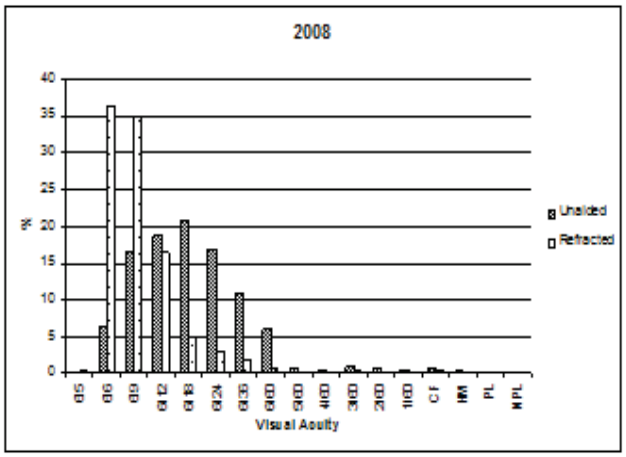
CF	120	1.1	47	0.5	73	0.8	23	0.3	87	0.7	27	0.2	87	0.6	31	0.2	93	0.6	19	0.1
HM	69	0.6	42	0.4	31	0.3	12	0.1	46	0.4	20	0.2	48	0.3	26	0.2	46	0.3	23	0.2
PL	23	0.2	13	0.1	7	0.1	4	0.0	9	0.1	6	0.1	7	0.0	5	0.0	9	0.1	3	0.0
NPL	8	0.1	7	0.1	7	0.1	0	0.0	3	0.0	1	0.0	3	0.0	1	0.0	6	0.0	1	0.0
<3/60	350	3.2	157	1.6	205	2.3	63	0.7	251	2.1	85	0.7	241	1.7	97	0.7	276	1.7	83	0.6
TOTAL	10689	100.0	9934	100.0	8995	100.0	8396	100.0	12618	100.0	11782	100.0	14142	100.0	13171	100.0	15846	100.0	14576	100.0

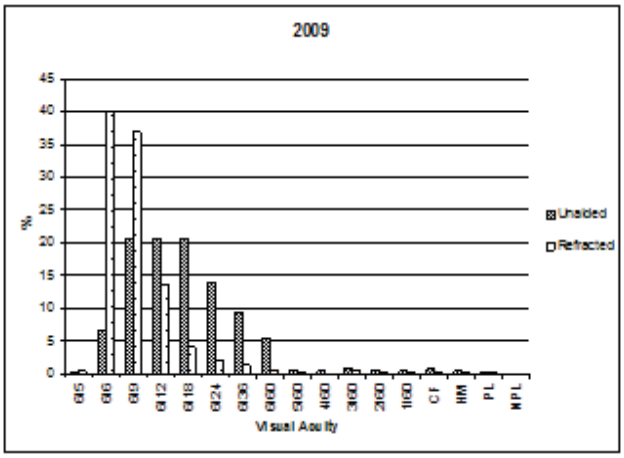
Year	**2012**				**2013**				**2014**				**2015**			
	Unaided		**Refracted**		**Unaided**		**Refracted**		**Unaided**		**Refracted**		**Unaided**		**Refracted**	
VA	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
6/5	11	0.1	82	0.5	15	0.1	80	0.4	14	0.1	87	0.4	15	0.1	63	0.3
6/6	1422	8.3	6779	44.0	1922	9.9	8110	45.2	2214	10.3	9296	45.5	2500	10.6	10794	47.9
6/9	3845	22.5	5358	34.8	4846	24.9	6281	35.0	5369	24.9	7111	34.8	6124	25.9	7734	34.3
6/12	3870	22.7	2060	13.4	4502	23.1	2273	12.7	5036	23.3	2677	13.1	5554	23.5	2634	11.7
6/12 and better	9148	53.6	14279	92.6	11285	58.0	16744	93.3	12633	58.5	19171	93.8	14193	59.9	21225	94.1
6/18	3212	18.8	501	3.3	3508	18.0	508	2.8	4004	18.5	548	2.7	4547	19.2	578	2.6
<6/12–6/18	3212	18.8	501	3.3	3508	18.0	508	2.8	4004	18.5	548	2.7	4547	19.2	578	2.6
6/24	2154	12.6	248	1.6	2235	11.5	288	1.6	2482	11.5	305	1.5	2459	10.4	275	1.2
6/36	1419	8.3	159	1.0	1268	6.5	160	0.9	1284	5.9	164	0.8	1213	5.1	179	0.8
6/60	640	3.7	100	0.6	683	3.5	90	0.5	685	3.2	98	0.5	704	3.0	132	0.6
<6/18–6/60	4213	24.7	507	3.3	4186	21.5	538	3.0	4451	20.6	567	2.8	4376	18.5	586	2.6
5/60	41	0.2	4	0.0	41	0.2	7	0.0	38	0.2	11	0.1	45	0.2	4	0.0
4/60	31	0.2	3	0.0	34	0.2	12	0.1	25	0.1	4	0.0	27	0.1	10	0.0
3/60	142	0.8	33	0.2	139	0.7	33	0.2	152	0.7	44	0.2	156	0.7	36	0.2
<6/60–3/60	214	1.3	40	0.3	214	1.1	52	0.3	215	1.0	59	0.3	228	1.0	50	0.2
2/60	78	0.5	18	0.1	72	0.4	23	0.1	83	0.4	20	0.1	94	0.4	20	0.1
1/60	60	0.4	22	0.1	55	0.3	21	0.1	75	0.3	19	0.1	88	0.4	24	0.1

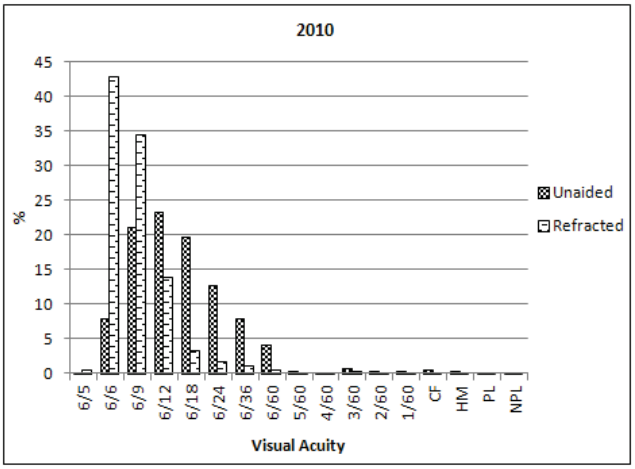
CF	102	0.6	26	0.2	93	0.5	30	0.2	84	0.4	27	0.1	73	0.3	22	0.1
HM	37	0.2	15	0.1	46	0.2	21	0.1	43	0.2	19	0.1	51	0.2	27	0.1
PL	11	0.1	3	0.0	6	0.0	2	0.0	8	0.0	6	0.0	14	0.1	10	0.0
NPL	3	0.0	2	0.0	7	0.0	5	0.0	3	0.0	1	0.0	12	0.1	4	0.0
<3/60	291	1.7	86	0.6	279	1.4	102	0.6	296	1.4	92	0.5	332	1.4	107	0.5
TOTAL	17078	100.0	15413	100.0	19472	100.0	17944	100.0	21599	100.0	20437	100.0	23676	100.0	22546	100.0

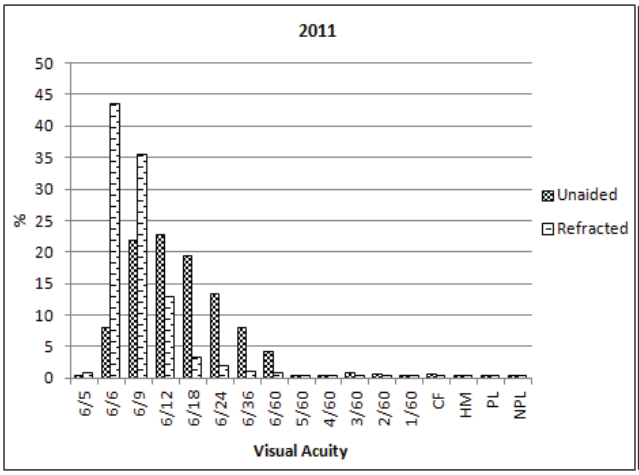
Number and percentage (%) are based on available information.

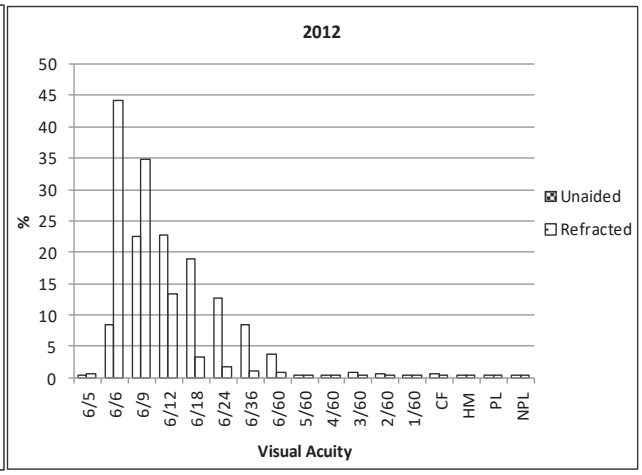


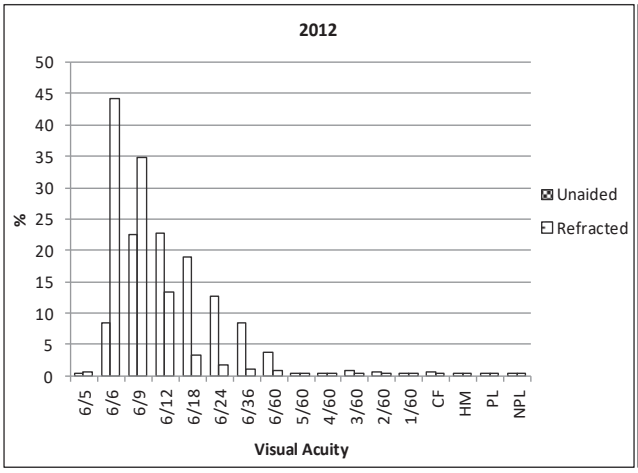







2011
%
Unaided
Refracted
6/5
6/6
6/9
6/12
6/18
6/24
6/36
6/60
5/60
4/60
3/60
2/60
1/60
CF
HM
PL
NPL
Visual Acuity


2012
%
Unaided
Refracted
6/5
6/6
6/9
6/12
6/18
6/24
6/36
6/60
5/60
4/60
3/60
2/60
1/60
CF
HM
PL
NPL
Visual Acuity


2012
%
Unaided
Refracted
6/5
6/6
6/9
6/12
6/18
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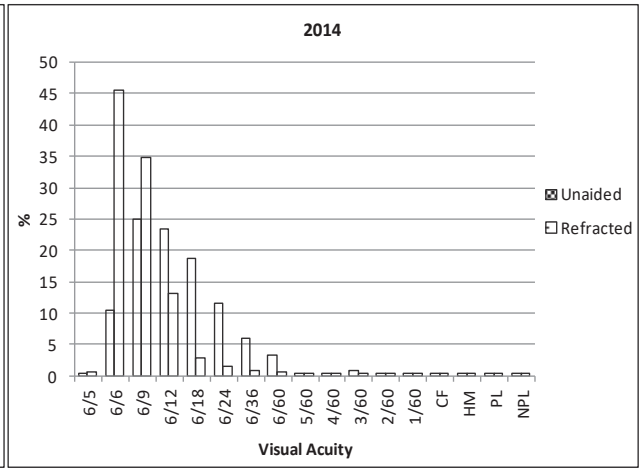
3/60
2/60
1/60
CF
HM
PL
NPL
Visual Acuity


2014
%
Unaided
Refracted
6/5
6/6
6/9
6/12
6/18
6/24
6/36
6/60
5/60
4/60
3/60
2/60
1/60
CF
HM
PL
NPL
Visual Acuity

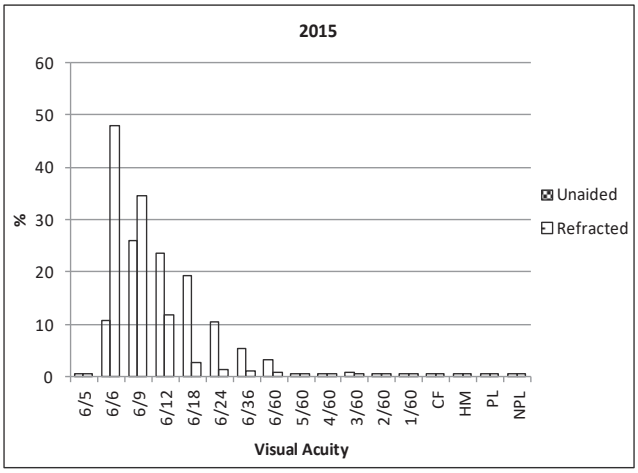


Figure 1.5.6-1: Post-operative Visual Acuity for Eyes Without Ocular Co-morbidity, CSR 2007-2015

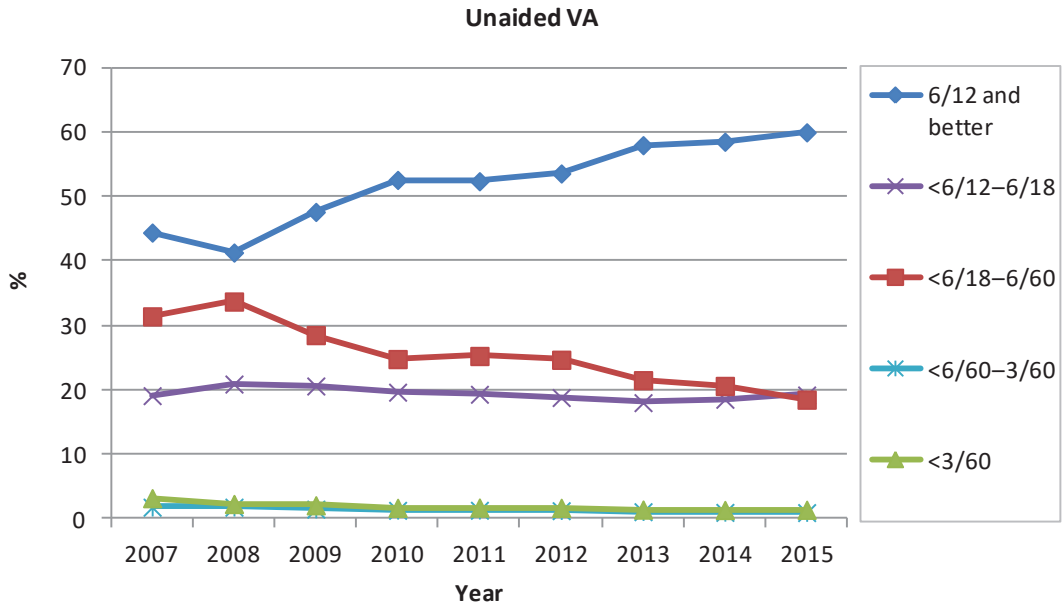


Figure 1.5.6-2: Post-operative Unaided Visual Acuity by Visual Category (No Ocular Co-morbidity), CSR 2007-2015

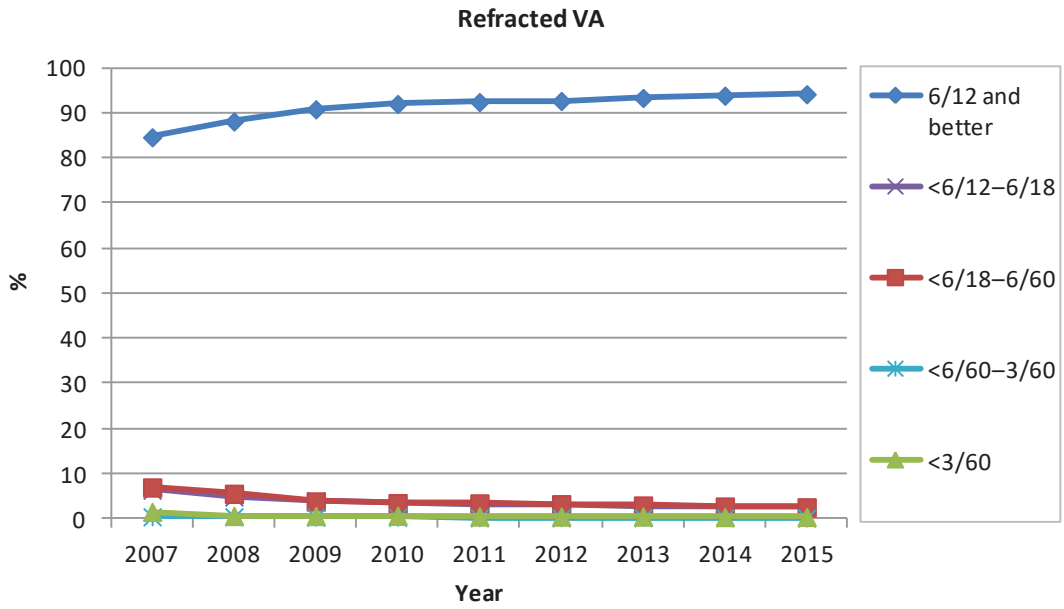


Figure 1.5.6-3: Post-operative Refracted Visual Acuity by Visual Category (No Ocular Co-morbidity), CSR 2007-2015

1.5.7 Post-operative Visual Acuity 6/12 or Better in Eyes without Ocular Co-morbidity

The patients who had undergone phacoemulsification showed the highest proportion of achieving good visual outcome when compared with other surgeries. The percentage demonstrated an increasing trend (from 86.0% in 2007 to 95.1% in 2015). When complication occurred in phacoemulsification which necessitated conversion to ECCE, the visual outcome became less favorable.

The proportion of eyes with unaided VA 6/12 or better appeared to be increasing possibly indicating improvement in biometry and surgical technique.

Table 1.5.7-1: Post-operative Visual Acuity in Eyes without Ocular Co-morbidity by Types of Surgery, CSR 2007-2015

Year	2007						2008						2009					
	Unaided			Refracted			Unaided			Refracted			Unaided			Refracted		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All Surgeries	7130	3080	43.0	6632	5551	84.0	8983	3719	41.0	8390	7392	88.0	12618	5990	47.5	11782	10704	90.9
Phaco	4868	2332	48.0	4508	3890	86.0	6419	3017	47.0	5958	5440	91.0	9511	5038	53.0	9001	8397	93.3
ECCE	2033	675	33.0	1910	1520	80.0	2263	629	28.0	2158	1744	81.0	2607	816	31.3	2329	1967	84.5
Phaco → ECCE	158	36	23.0	143	89	62.0	201	40	20.0	184	140	76.0	270	53	19.6	259	200	77.2
Lens Aspiration	62	33	53.0	59	46	78.0	74	29	39.0	66	54	82.0	160	57	35.6	128	89	69.5
ICCE	15	2	13.0	10	4	39.0	24	4	17.0	19	11	58.0	29	7	24.1	25	15	60.0

Year	2010						2011						2012					
	Unaided			Refracted			Unaided			Refracted			Unaided			Refracted		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All Surgeries	14142	7434	52.6	13171	12115	92.0	15846	8297	52.4	14576	13468	92.4	17078	9148	53.6	15413	14279	92.6
Phaco	11520	6589	57.2	10818	10151	93.8	13036	7454	57.2	12155	11465	94.3	14540	8439	58.0	13344	12564	94.2
ECCE	2089	672	32.2	1866	1596	85.5	2238	689	30.8	1901	1628	85.6	2044	570	27.9	1633	1373	84.1
Phaco → ECCE	268	67	25.0	253	198	78.3	311	59	19.0	291	210	72.2	261	41	15.7	239	176	73.6
Lens Aspiration	192	86	44.8	168	126	75.0	200	79	39.5	175	131	74.9	163	84	51.5	141	124	87.9
ICCE	28	4	14.3	25	13	52.0	20	3	15.0	19	10	52.6	24	2	8.3	20	13	65.0

Year	2013						2014						2015					
	Unaided			Refracted			Unaided			Refracted			Unaided			Refracted		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All Surgeries	19441	11264	57.9	17915	16716	93.3	21585	12624	58.5	20425	19160	93.8	23674	14191	59.9	22544	21223	94.1
Phaco	17505	10710	61.2	16159	15275	94.5	19937	12128	60.8	18914	17924	94.8	21804	13636	62.5	20818	19793	95.1
ECCE	1403	386	27.5	1269	1053	83.0	1139	335	29.4	1051	886	84.3	1271	382	30.1	1181	1018	86.2
Phaco → ECCE	306	69	22.5	281	219	77.9	301	81	26.9	283	211	74.6	353	71	20.1	323	231	71.5
Lens Aspiration	164	84	51.2	151	129	85.4	145	66	45.5	125	107	85.6	184	90	48.9	168	142	84.5
ICCE	38	8	21.1	35	28	80.0	30	8	26.7	28	16	57.1	32	5	15.6	29	19	65.5

Number and percentage (%) are based on available information.

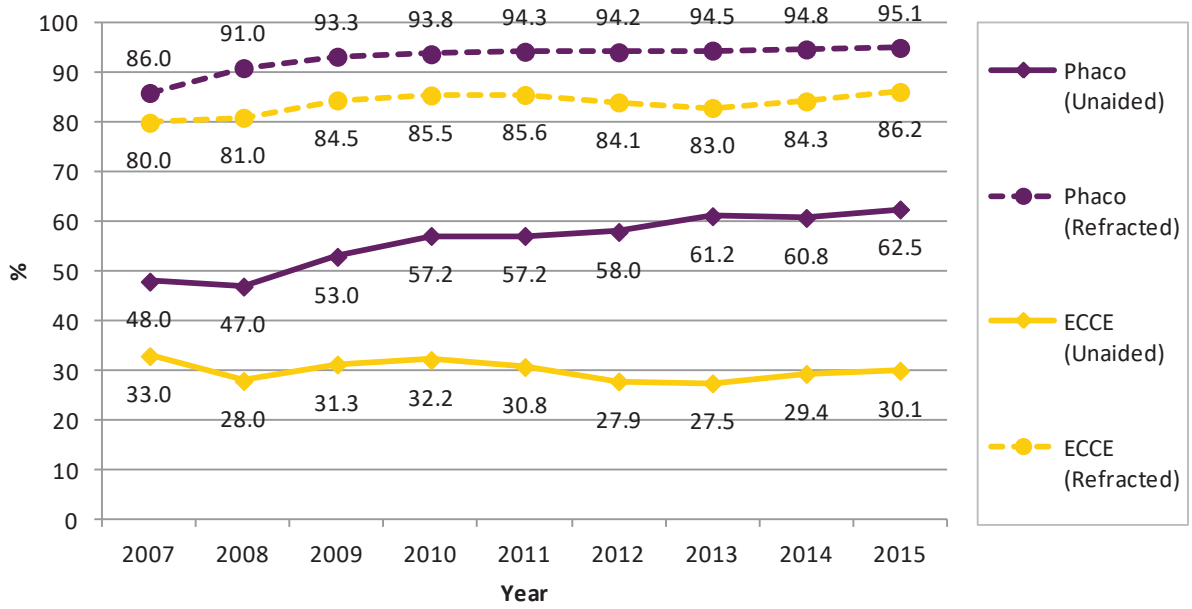


Figure 1.5.7-1: Post-operative Visual Acuity 6/12 or Better for Eyes Without Ocular Co-morbidity (ECCE and Phaco), CSR 2007-2015

Table 1.5.7-2: Post-operative Refracted Visual Acuity in Eyes without Ocular Co-morbidity by Intra-operative Complications and Types of Surgery, CSR 2015

	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
	22544	21223	94.1	168	142	84.5	1181	1018	86.2	20818	19793	95.1	323	231	71.5	29	19	65.5
With intra-op complications	875	686	78.4	8	6	75.0	122	85	69.7	536	457	85.3	180	116	64.4	18	13	72.2
No intra-op complications	21669	20537	94.8	160	136	85.0	1059	933	88.1	20282	19336	95.3	143	115	80.4	11	6	54.5

Number and percentage (%) are based on available information.

Table 1.5.7-3: Post-operative Refracted Visual Acuity in Eyes without Ocular Co-morbidity by Surgeon Status and Types of Surgery, CSR 2015

	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
	22544	21223	94.1	168	142	84.5	1181	1018	86.2	20818	19793	95.1	323	231	71.5	29	19	65.5
Specialist	20137	18998	94.3	158	132	83.5	770	668	86.8	18903	17980	95.1	262	187	71.4	21	13	61.9
Gazetting Specialist	1218	1124	92.3	9	9	100.0	79	65	82.3	1087	1019	93.7	39	28	71.8	3	2	66.7
Medical Officer	1110	1026	92.4	1	1	100.0	332	285	85.8	753	720	95.6	18	15	83.3	5	4	80.0

Number and percentage (%) are based on available information.

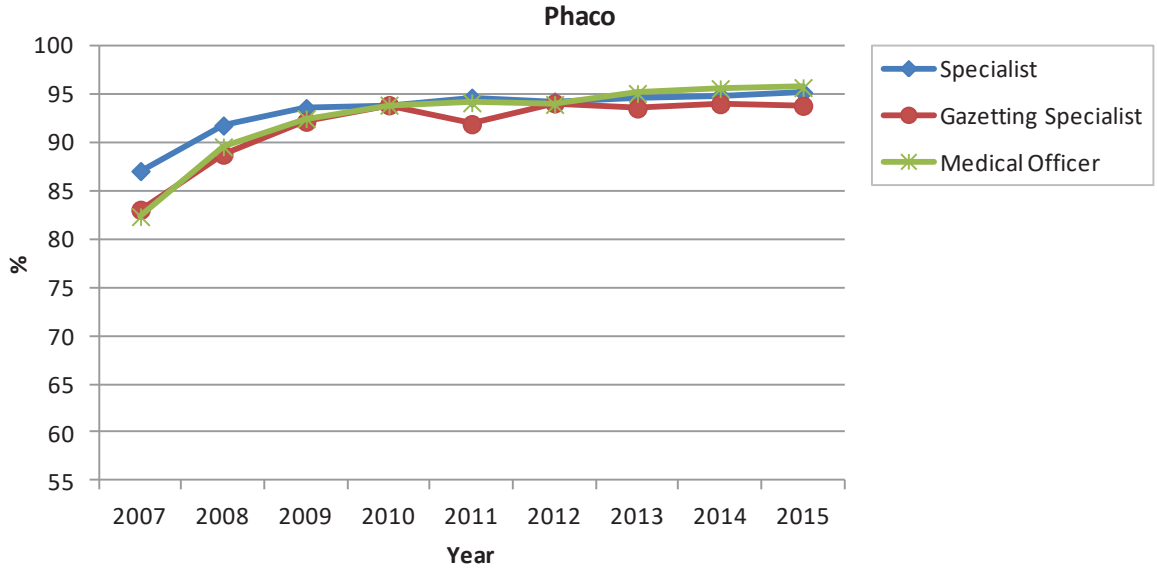


Figure 1.5.7-2: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by Surgeon Status in Phaco, CSR 2007-2015

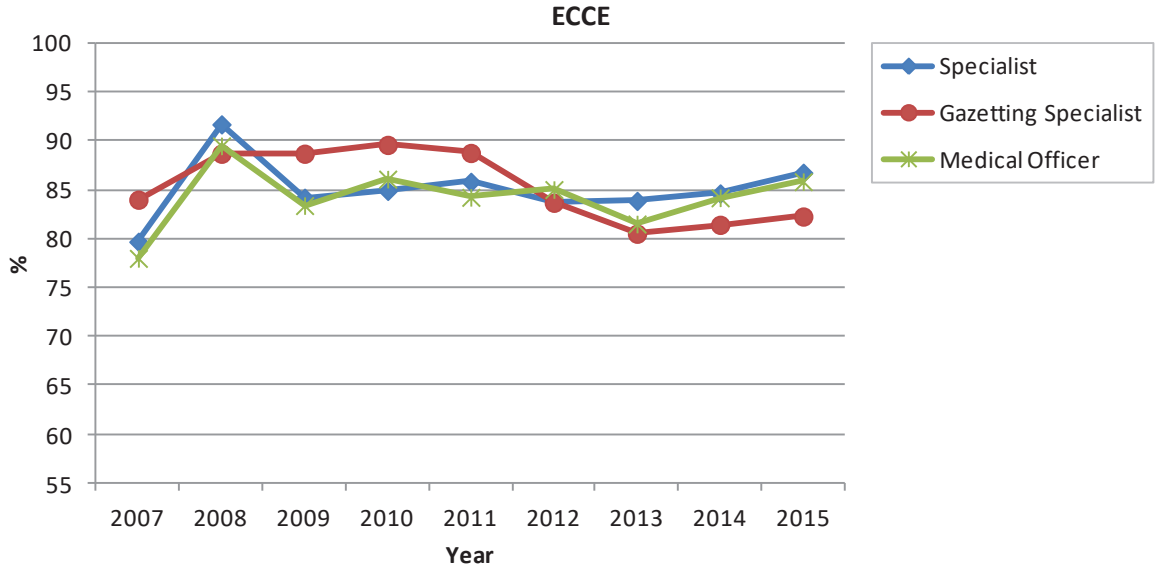


Figure 1.5.7-3: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by Surgeon Status in ECCE, CSR 2007-2015

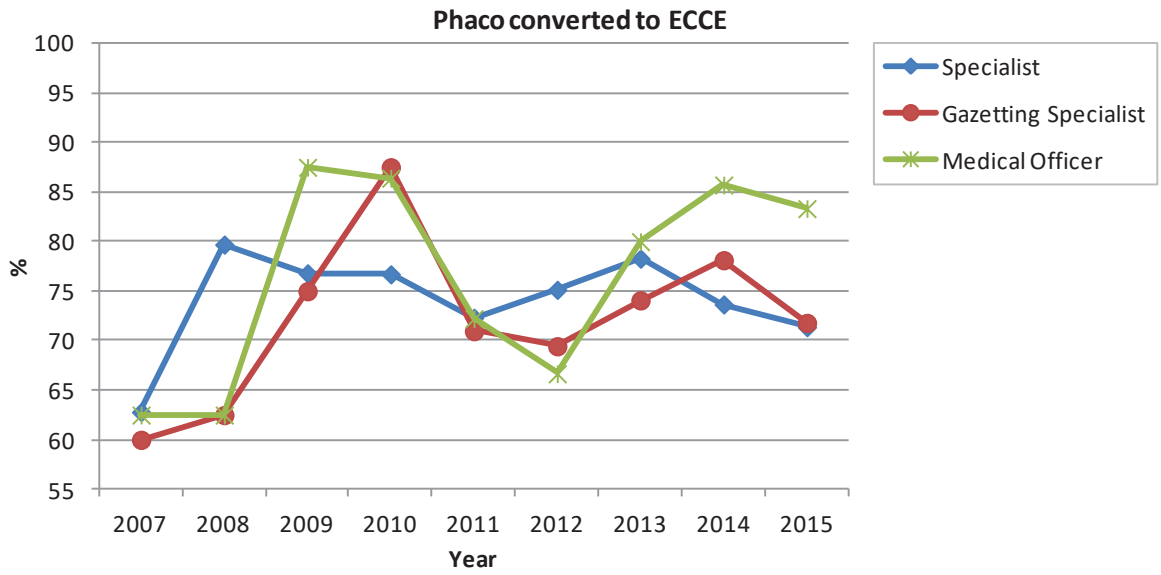


Figure 1.5.7-4: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by Surgeon Status in Phaco Converted to ECCE, CSR 2007-2015

Table 1.5.7-4: Post-operative Refracted Visual Acuity in Eyes without Ocular Co-morbidity by SDP and Types of Surgery, CSR 2015

Hospital	Type of Cataract Surgery																		
	All Patients	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All centre	22546	22544	21223	94.1	168	142	84.5	1181	1018	86.2	20818	19793	95.1	323	231	71.5	29	19	65.5
Alor Setar	978	978	924	94.5	6	5	83.3	79	65	82.3	887	850	95.8	4	2	50.0	0	0	0.0
Ampang	452	452	440	97.3	2	2	100.0	39	37	94.9	400	390	97.5	9	9	100.0	1	1	100.0
Batu Pahat	298	298	287	96.3	6	6	100.0	20	19	95.0	267	258	96.6	2	2	100.0	3	2	66.7
Bintulu	196	196	179	91.3	0	0	0.0	3	2	66.7	190	177	93.2	3	0	0.0	0	0	0.0
Bukit Mertajam	479	479	476	99.4	1	1	100.0	62	60	96.8	415	414	99.8	1	1	100.0	0	0	0.0
Ipoh	1308	1308	1202	91.9	6	5	83.3	45	31	68.9	1222	1140	93.3	31	23	74.2	2	2	100.0
Kangar	354	354	325	91.8	1	1	100.0	69	60	87.0	277	258	93.1	5	4	80.0	1	1	100.0
Kemaman	2	2	2	100.0	0	0	0.0	0	0	0.0	2	2	100.0	0	0	0.0	0	0	0.0
Keningau	26	26	26	100.0	0	0	0.0	0	0	0.0	26	26	100.0	0	0	0.0	0	0	0.0
Klang	1212	1212	1095	90.3	11	6	54.5	39	23	59.0	1143	1056	92.4	18	9	50.0	0	0	0.0
Kota Bharu	416	416	374	89.9	7	4	57.1	139	128	92.1	250	227	90.8	15	12	80.0	1	1	100.0
Kuala Krai	146	146	129	88.4	1	1	100.0	35	27	77.1	109	100	91.7	1	1	100.0	0	0	0.0
Kuala Lumpur	700	700	670	95.7	10	10	100.0	56	52	92.9	629	603	95.9	5	5	100.0	0	0	0.0
Kuala Pilah	285	285	261	91.6	1	1	100.0	16	13	81.3	254	239	94.1	10	5	50.0	1	1	100.0
Kuala Terengganu	573	573	523	91.3	8	8	100.0	87	68	78.2	463	436	94.2	11	8	72.7	2	1	50.0
Kuantan	430	430	415	96.5	3	3	100.0	40	38	95.0	371	360	97.0	14	12	85.7	1	1	100.0
Kulim	210	210	203	96.7	1	1	100.0	19	15	78.9	188	186	98.9	1	1	100.0	1	0	0.0
Langkawi	26	26	25	96.2	0	0	0.0	1	1	100.0	25	24	96.0	0	0	0.0	0	0	0.0
Likas	6	6	3	50.0	6	3	50.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
Melaka	1049	1049	1003	95.6	8	7	87.5	24	17	70.8	1002	968	96.6	15	11	73.3	0	0	0.0
Miri	579	579	552	95.3	1	1	100.0	21	18	85.7	554	531	95.8	3	2	66.7	0	0	0.0
Muar	394	394	385	97.7	1	1	100.0	9	7	77.8	379	373	98.4	5	4	80.0	0	0	0.0
Pulau Pinang	1457	1456	1364	93.7	2	2	100.0	23	20	87.0	1413	1331	94.2	14	7	50.0	2	2	100.0
Putrajaya	272	272	261	96.0	6	5	83.3	14	13	92.9	241	235	97.5	10	7	70.0	1	1	100.0
Queen Elizabeth KK	547	547	519	94.9	7	6	85.7	35	33	94.3	497	475	95.6	7	4	57.1	0	0	0.0
Sandakan	203	203	193	95.1	0	0	0.0	15	12	80.0	184	177	96.2	4	4	100.0	0	0	0.0
Sarikei	268	268	264	98.5	0	0	0.0	0	0	0.0	268	264	98.5	0	0	0.0	0	0	0.0
Selayang	503	503	470	93.4	15	10	66.7	25	20	80.0	454	431	94.9	6	6	100.0	2	2	100.0
Serdang	538	538	477	88.7	5	3	60.0	22	18	81.8	503	451	89.7	8	5	62.5	0	0	0.0
Seremban	777	777	724	93.2	4	3	75.0	21	20	95.2	745	696	93.4	7	5	71.4	0	0	0.0
Sibu	155	155	148	95.5	1	1	100.0	0	0	0.0	152	147	96.7	1	0	0.0	1	0	0.0
Sri Manjung	454	454	418	92.1	2	1	50.0	4	3	75.0	445	412	92.6	2	1	50.0	1	1	100.0
Sultan Ismail	534	534	519	97.2	13	13	100.0	28	26	92.9	474	463	97.7	19	17	89.5	0	0	0.0
Sultanah Aminah JB	532	532	487	91.5	6	6	100.0	5	2	40.0	515	475	92.2	4	2	50.0	1	1	100.0
Sungai Buloh	431	431	409	94.9	0	0	0.0	11	11	100.0	406	386	95.1	12	11	91.7	1	0	0.0
Sungei Petani	337	337	311	92.3	6	6	100.0	14	11	78.6	310	289	93.2	7	5	71.4	0	0	0.0
Taiping	601	601	601	100.0	3	3	100.0	71	71	100.0	527	527	100.0	0	0	0.0	0	0	0.0
Tanah Merah	1	1	1	100.0	0	0	0.0	1	1	100.0	0	0	0.0	0	0	0.0	0	0	0.0

Tawau	130	130	122	93.8	0	0	0.0	9	8	88.9	120	114	95.0	1	0	0.0	0	0	0.0
Teluk Intan	414	413	401	97.1	7	7	100.0	12	12	100.0	385	374	97.1	8	7	87.5	0	0	0.0
Temerloh	596	596	579	97.1	3	3	100.0	34	30	88.2	546	537	98.4	13	9	69.2	0	0	0.0
Sarawak	1157	1157	1056	91.3	7	6	85.7	3	2	66.7	1134	1042	91.9	10	6	60.0	2	0	0.0
KK1M Kedah	107	107	105	98.1	0	0	0.0	0	0	0.0	107	105	98.1	0	0	0.0	0	0	0.0
KK1M Neg. Sembilan	1	1	0	0.0	0	0	0.0	0	0	0.0	1	0	0.0	0	0	0.0	0	0	0.0
KK1M Kelantan	0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
KK1M Pahang	152	152	140	92.1	0	0	0.0	14	11	78.6	130	123	94.6	7	5	71.4	1	1	100.0
KK1M Terengganu	1	1	0	0.0	0	0	0.0	0	0	0.0	1	0	0.0	0	0	0.0	0	0	0.0
KK1M Sabah	78	78	74	94.9	0	0	0.0	8	6	75.0	65	63	96.9	5	5	100.0	0	0	0.0
KK1M Sarawak	867	867	792	91.3	0	0	0.0	6	4	66.7	846	781	92.3	13	6	46.2	2	1	50.0
MAIWP	1314	1314	1289	98.1	1	1	100.0	3	3	100.0	1296	1277	98.5	12	8	66.7	2	0	0.0

Number and percentage (%) are based on available information.

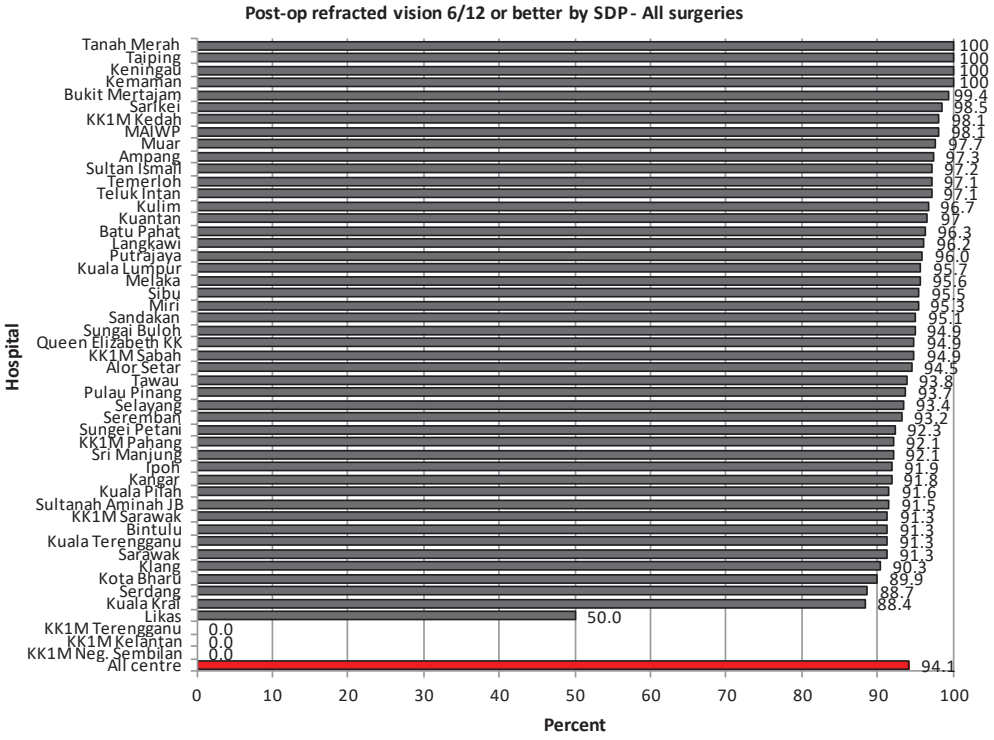


Figure 1.5.7-5: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by SDP (All Surgery), CSR 2015

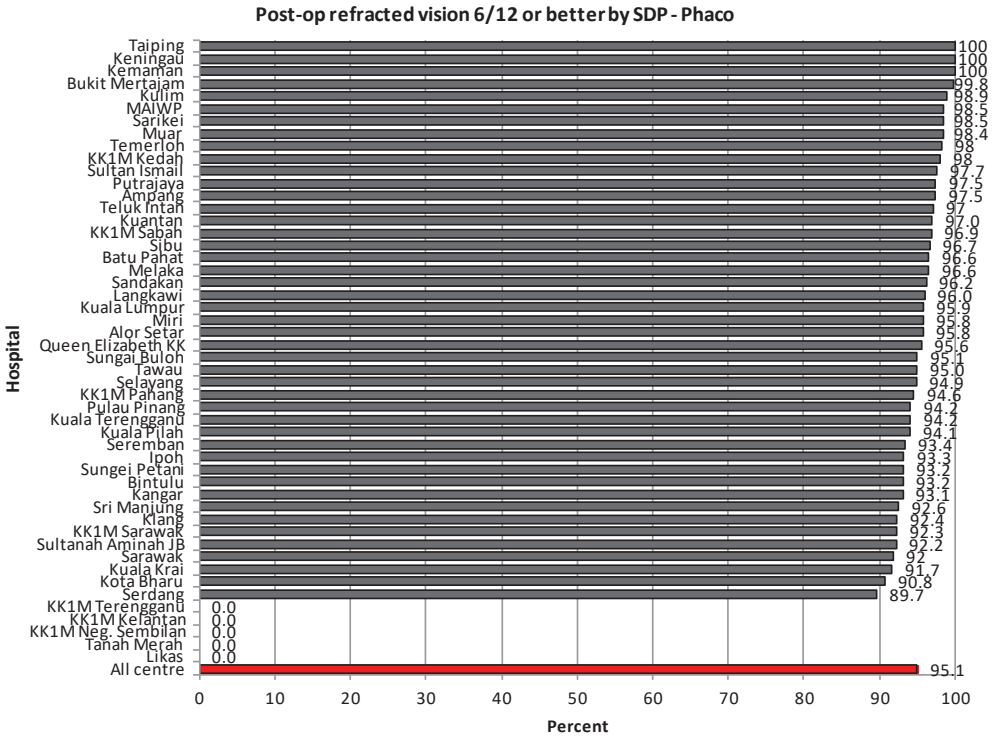


Figure 1.5.7-6: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by SDP (Phaco), CSR 2015

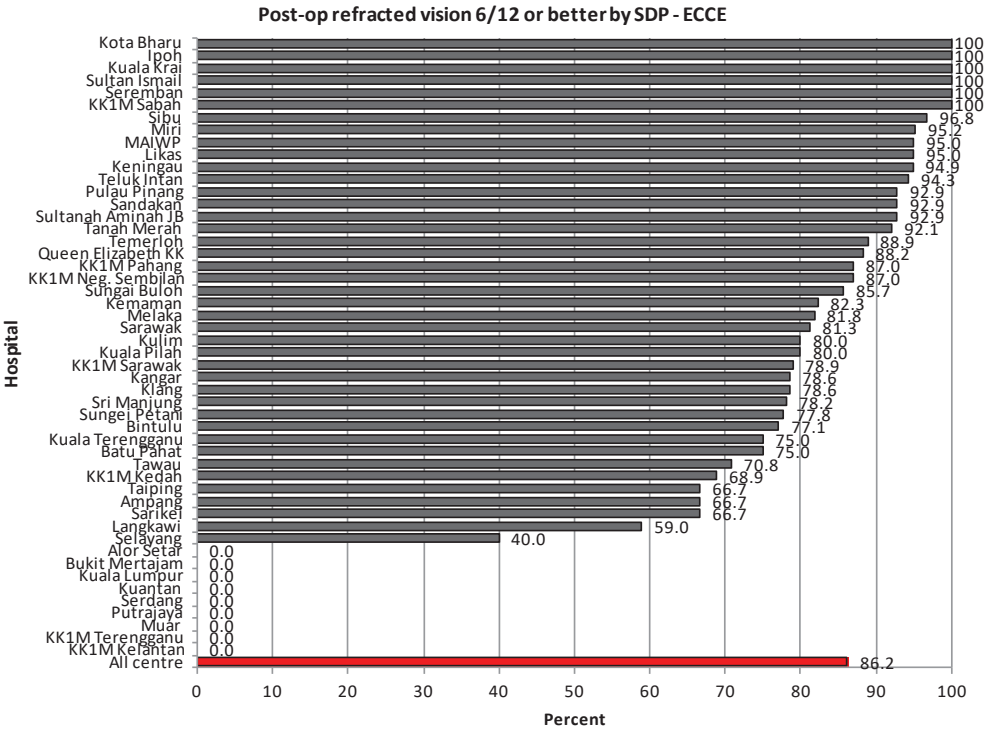


Figure 1.5.7-7: Post-operative Refracted Visual Acuity 6/12 or Better in Eyes Without Ocular Co-morbidity by SDP (ECCE), CSR 2015

1.5.8 Reasons for No Record of Visual Acuity

Table 1.5.8-1: Reasons for No Records of Visual Acuity, CSR 2007-2015

Reasons	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
All cases	1428	100.0	1535	100.0	1805	100.0	1659	100.0	2036	100.0	2022	100.0	2333	100.0	2247	100.0	2984	100.0
Loss to follow-up	1018	71.3	1230	80.1	1261	69.9	1078	65.0	1362	66.9	1451	71.8	1697	72.7	1698	75.6	2024	67.8
Discharged by doctor	31	2.2	13	0.8	44	2.4	38	2.3	32	1.6	22	1.1	36	1.5	21	0.9	32	1.1
Unable to take vision	47	3.3	26	1.7	30	1.7	33	2.0	27	1.3	33	1.6	26	1.1	15	0.7	24	0.8
Others	269	18.8	194	12.6	222	12.3	210	12.7	186	9.1	281	13.9	260	11.1	238	10.6	301	10.1

Number and percentage (%) are based on available information.

1.5.9 Factors Contributing to Post-operative Refracted Visual Acuity of Worse than 6/12

The main contributing factors for eyes with post-operative refracted VA worse than 6/12 were pre-existing ocular co-morbidity followed by high astigmatism. High astigmatism, PCO and CMO in particular showed a decreasing trend consistent with the shift towards phacoemulsification and improvement in other aspect of cataract surgery technique over the years. Percentages of eyes with preexisting ocular co-morbidity were in an increasing trend.

Table 1.5.9-1: Factors Contributing to Post-operative Refracted Visual Acuity of Worse than 6/12 (All Eyes), CSR 2007-2015

Factors	2007		2008		2009		2010		2011		2012		2013		2014		2015	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
N (total no. of post-op refracted vision worse than 6/12)					2973		3397		3597		3694		3948		4261		4524	
Preexisting ocular co-morbidity	904	28.8	802	28.4	1016	34.2	1364	40.2	1412	39.3	1544	41.8	1571	39.8	1715	40.2	1942	42.9
High astigmatism	478	15.2	460	16.3	395	13.3	378	11.1	397	11.0	438	11.9	435	11.0	364	8.5	366	8.1
Posterior capsular opacity	140	4.5	112	4.0	136	4.6	112	3.3	111	3.1	114	3.1	91	2.3	94	2.2	107	2.4
Cystoid macular oedema	101	3.2	64	2.3	82	2.8	94	2.8	96	2.7	88	2.4	80	2.0	110	2.6	84	1.9
Endophthalmitis	14	0.4	6	0.2	6	0.2	5	0.1	2	0.1	4	0.1	2	0.1	10	0.2	8	0.2
Corneal decompensation	28	0.9	31	1.1	61	2.1	33	1.0	36	1.0	42	1.1	50	1.3	84	2.0	125	2.8
Decentered IOL	4	0.1	6	0.2	5	0.2	5	0.1	8	0.2	9	0.2	15	0.4	7	0.2	17	0.4
Retinal detachment	67	2.1	50	1.8	56	1.9	44	1.3	35	1.0	69	1.9	29	0.7	36	0.8	23	0.5
Others	620	19.8	603	21.3	794	26.7	857	25.2	927	25.8	1072	29.0	1111	28.1	1098	25.8	1083	23.9

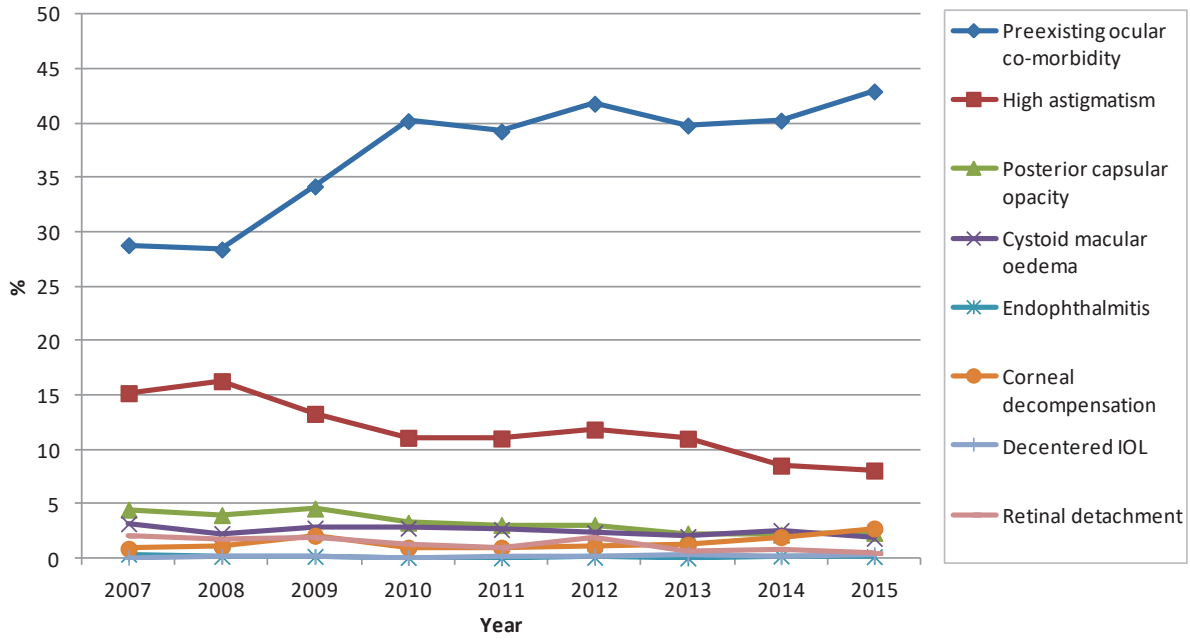


Figure 1.5.9-1: Factors Contributing to Post-operative Refracted Visual Acuity worse than 6/12 (All Eyes), CSR 2007-2015

Table 1.5.9-2: Factors Contributing to Post-operative Refracted Visual Acuity of Worse than 6/12 (Eyes without Ocular Co-morbidity), CSR 2007-2015

	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Factors	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
N					1078		1056		1108		1134		1200		1266		1321	
Preexisting ocular co-morbidity (not detected pre-operatively)	271	17.6	229	16.5	121	11.2	92	8.7	66	6.0	98	8.6	70	5.8	112	8.8	96	7.3
High astigmatism	303	19.7	286	20.6	178	16.5	180	17.0	175	15.8	193	17.0	167	13.9	162	12.8	178	13.5
Posterior capsular opacity	83	5.4	61	4.4	87	8.1	65	6.2	50	4.5	51	4.5	39	3.3	39	3.1	45	3.4
Cystoid macular oedema	52	3.4	26	1.9	32	3.0	42	4.0	38	3.4	38	3.4	29	2.4	45	3.6	29	2.2
Endophthalmitis	9	0.6	4	0.3	4	0.4	2	0.2	1	0.1	2	0.2	0	0.0	4	0.3	3	0.2
Corneal decompensation	15	1.0	13	0.9	36	3.3	21	2.0	18	1.6	18	1.6	18	1.5	36	2.8	75	5.7
Decentered IOL	4	0.3	2	0.1	1	0.1	0	0.0	4	0.4	5	0.4	6	0.5	1	0.1	5	0.4
Retinal detachment	18	1.2	11	0.8	11	1.0	6	0.6	1	0.1	6	0.5	3	0.3	3	0.2	4	0.3
Others	320	20.8	323	23.3	368	34.1	389	36.8	453	40.9	506	44.6	521	43.4	501	39.6	533	40.3
Missing/Unavailable	461	30.0	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-

1.5.10 Actual or Residual Refractive Power (Spherical Equivalent)

Target refractive power is the refractive power aimed by the surgeon for a patient while the actual or residual refractive power or spherical equivalent (SE) is the postoperative refraction results for the same eye. Myopic shift is the shift of the refraction status (actual refraction) towards more negative value as compared to the targeted refraction pre-operatively. It can be the results of surgery induced astigmatism or more anterior placement of IOL in the bag. It can also be due to indentation of eyeball during biometry resulting in shorter axial length.

Data from 2007 to 2009 demonstrated that ECCE produced more myopic shift as compared to phaco. The difference between the target and actual refraction remained a broad-based distribution curve indicating that a large percentage of eyes did not achieve the target refraction status post-operatively.

Table 1.5.10-1: Distribution of Target and Actual Refractive Power in ECCE and Phaco, CSR 2007-2015

	Target Refraction								
	All Patient								
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
N	11876	15083	20279	24528	25887	26061	28693	32260	36706
Mean	-0.5	-0.1	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
SD	+0.4	+0.4	+0.4	+0.4	+0.3	+0.4	+0.3	+0.3	0.3
Median	-0.5	-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Min	-9.0	-9.9	-9.9	-9.1	-9.1	-8.0	-8.5	-8.1	-9.9
Max	+5.0	+9.5	+5.9	+6.0	+4.8	+9.0	+9.0	+6.0	+6.1

	Actual Refraction																
	ECCE									Phaco							
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2007	2008	2009	2010	2011	2012	2013	2014	2015
N	3624	4400	4014	3853	3714	3153	2809	2429	2477	8343	12085	12891	15485	17197	17931	22173	25325	27467
Mean	-1.1	-0.2	-1.1	-1.0	-1.0	-0.9	-0.9	-0.9	-0.8	-0.8	0.0	-0.8	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6
SD	+1.4	+1.2	+1.3	+1.4	+1.3	+1.4	+1.4	+1.2	1.3	+1.1	1.03	+1.0	+0.9	+0.9	+0.9	+0.8	+0.8	+0.8
Median	-1.0	-0.2	-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9	-0.7	0.0	-0.7	-0.6	-0.6	-0.6	-0.5	-0.5	-0.5
Min	-10.0	-8.4	-10.0	-9.2	-7.3	-8.5	-10.0	-6.7	-8.3	-10.0	-10.0	-9.0	-10.0	-10.0	-9.9	-9.7	-10.0	-9.8
Max	+9.8	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0

Note: Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.

	Actual-Target Refraction								
	All Patient								
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
N	8738	12295	14670	17697	18813	17964	20457	23180	25888
Mean	-0.5	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2
SD	+1.1	+1.2	+1.1	+1.1	+1.0	+1.0	+0.9	+0.9	+0.9
Median	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
Min	-9.5	-9.9	-8.8	-9.8	-9.2	-9.9	-9.7	-9.4	-8.0
Max	+5.0	+9.0	+10.7	+10.7	+10.7	+10.6	+10.7	+10.6	+11.3

Note: Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis. Number and percentage (%) are based on available information.

Table 1.5.10-2: Distribution of Target and Actual Refractive Power in ECCE and Phaco by Diopter, CSR 2007-2015

	Target Refraction																	
	All Patients																	
Year	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Dioptre (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-10.0-<(-9.5)	0	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
-9.5-<(-9.0)	4	0.0	1	0.0	1	0.0	2	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
-9.0-<(-8.5)	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	1	0.0
-8.5-<(-8.0)	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0	2	0.0
-8.0-<(-7.5)	2	0.0	3	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	1	0.0	1	0.0
-7.5-<(-7.0)	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	2	0.0	0	0.0	0	0.0	1	0.0
-7.0-<(-6.5)	3	0.0	1	0.0	0	0.0	1	0.0	1	0.0	1	0.0	1	0.0	1	0.0	0	0.0
-6.5-<(-5.0)	1	0.0	2	0.0	7	0.0	4	0.0	10	0.0	10	0.0	9	0.0	10	0.0	4	0.0
-5.0-<(-4.5)	3	0.0	4	0.0	7	0.0	3	0.0	3	0.0	5	0.0	5	0.0	1	0.0	4	0.0
-4.5-<(-4.0)	2	0.0	3	0.0	5	0.0	10	0.0	3	0.0	5	0.0	3	0.0	4	0.0	3	0.0
-4.0-<(-3.5)	7	0.1	8	0.1	11	0.1	5	0.0	11	0.0	5	0.0	1	0.0	5	0.0	5	0.0
-3.5-<(-3.0)	6	0.0	7	0.0	11	0.1	15	0.1	12	0.0	6	0.0	8	0.0	5	0.0	10	0.0
-3.0-<(-2.5)	13	0.1	22	0.1	18	0.1	29	0.1	15	0.1	15	0.1	15	0.1	9	0.0	13	0.0
-2.5-<(-2.0)	29	0.2	21	0.1	29	0.1	33	0.1	26	0.1	38	0.1	35	0.1	27	0.1	31	0.1
-2.0-<(-1.5)	77	0.6	48	0.3	58	0.3	46	0.2	54	0.2	67	0.3	55	0.2	52	0.2	61	0.2
-1.5-<(-1.0)	429	3.5	373	2.5	260	1.3	292	1.2	201	0.8	226	0.9	174	0.6	209	0.6	236	0.6
-1.0-<(-0.5)	4670	37.7	6155	40.9	7972	39.3	7590	30.9	7507	29.0	7190	27.6	6241	21.8	6840	21.2	8908	24.3
-0.5-<0.0	6631	53.5	7481	49.7	10604	52.3	15220	62.1	16915	65.3	17421	66.8	21135	73.7	24210	75.0	26887	73.2
0.0-<0.5	406	3.3	719	4.8	977	4.8	921	3.8	849	3.3	631	2.4	705	2.5	793	2.5	463	1.3
0.5-<1.0	77	0.6	145	1.0	182	0.9	238	1.0	234	0.9	216	0.8	187	0.7	73	0.2	36	0.1
1.0-<1.5	12	0.1	28	0.2	17	0.1	23	0.1	20	0.1	32	0.1	8	0.0	4	0.0	13	0.0
1.5-<2.0	5	0.0	14	0.1	22	0.1	19	0.1	9	0.0	52	0.2	28	0.1	5	0.0	8	0.0
2.0-<2.5	15	0.1	10	0.1	85	0.4	69	0.3	12	0.0	123	0.5	69	0.2	6	0.0	3	0.0
2.5-<3.0	0	0.0	6	0.0	4	0.0	3	0.0	2	0.0	10	0.0	11	0.0	2	0.0	2	0.0
3.0-<3.5	1	0.0	2	0.0	2	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	1	0.0
3.5-<4.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	4	0.0
4.0-<4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	2	0.0
4.5-<5.0	1	0.0	1	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.0-<5.5	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0
5.5-<6.0	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
6.0-<6.5	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0	2	0.0
6.5-<7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.0-<7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.5-<8.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8.0-<8.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
8.5-<9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
9.0-<9.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0
9.5-<10.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Number and percentage (%) are based on available information.

Year	Actual Refraction – ECCE																	
	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Dioptre (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-10.0-<(-9.5)	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0
-9.5-<(-9.0)	0	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	2	0.1	0	0.0	0	0.0	1	0.0
-8.0-<(-7.5)	0	0.0	0	0.0	3	0.1	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0	1	0.0
-7.5-<(-7.0)	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0
-7.0-<(-6.5)	0	0.0	1	0.0	1	0.0	1	0.0	3	0.1	5	0.2	0	0.0	1	0.0	1	0.0
-6.5-<(-5.0)	0	0.0	3	0.1	10	0.2	10	0.3	16	0.4	4	0.1	2	0.1	6	0.2	7	0.3
-5.0-<(-4.5)	1	0.0	1	0.0	12	0.3	15	0.4	8	0.2	11	0.3	8	0.3	4	0.2	4	0.2
-4.5-<(-4.0)	3	0.1	5	0.1	16	0.4	16	0.4	20	0.5	20	0.6	5	0.2	8	0.3	1	0.0
-4.0-<(-3.5)	8	0.2	7	0.2	52	1.3	42	1.1	30	0.8	26	0.8	27	1.0	21	0.9	9	0.4
-3.5-<(-3.0)	19	0.5	15	0.3	75	1.9	71	1.8	63	1.7	51	1.6	45	1.6	29	1.2	39	1.6
-3.0-<(-2.5)	26	0.6	41	0.9	184	4.6	137	3.6	131	3.5	128	4.1	93	3.3	75	3.1	64	2.6
-2.5-<(-2.0)	65	1.6	76	1.7	323	8.0	256	6.6	236	6.4	204	6.5	164	5.8	152	6.3	136	5.5
-2.0-<(-1.5)	149	3.6	203	4.6	515	12.8	464	12.0	464	12.5	377	12.0	303	10.8	260	10.7	257	10.4
-1.5-<(-1.0)	360	8.7	431	9.7	723	18.0	721	18.7	665	17.9	530	16.8	492	17.5	424	17.5	445	18.0
-1.0-<(-0.5)	722	17.5	763	17.2	771	19.2	817	21.2	776	20.9	667	21.2	636	22.6	547	22.5	525	21.2
-0.5-<0.0	956	23.2	956	21.6	657	16.4	616	16.0	640	17.2	544	17.3	485	17.3	443	18.2	499	20.1
0.0-<0.5	860	20.8	983	22.2	391	9.7	375	9.7	372	10.0	297	9.4	296	10.5	264	10.9	268	10.8
0.5-<1.0	444	10.8	460	10.4	147	3.7	157	4.1	146	3.9	144	4.6	136	4.8	110	4.5	114	4.6
1.0-<1.5	236	5.7	228	5.1	54	1.3	77	2.0	66	1.8	65	2.1	46	1.6	39	1.6	41	1.7
1.5-<2.0	129	3.1	98	2.2	31	0.8	26	0.7	30	0.8	33	1.0	21	0.7	20	0.8	25	1.0
2.0-<2.5	50	1.2	48	1.1	18	0.4	13	0.3	17	0.5	9	0.3	10	0.4	9	0.4	12	0.5
2.5-<3.0	24	0.6	22	0.5	5	0.1	6	0.2	3	0.1	6	0.2	4	0.1	2	0.1	6	0.2
3.0-<3.5	15	0.4	16	0.4	1	0.0	5	0.1	4	0.1	4	0.1	3	0.1	2	0.1	1	0.0
3.5-<4.0	10	0.2	8	0.2	2	0.0	1	0.0	0	0.0	3	0.1	2	0.1	2	0.1	2	0.1
4.0-<4.5	3	0.1	3	0.1	0	0.0	2	0.1	0	0.0	3	0.1	3	0.1	2	0.1	1	0.0
4.5-<5.0	3	0.1	2	0.0	1	0.0	1	0.0	1	0.0	2	0.1	0	0.0	0	0.0	2	0.1
5.0-<5.5	3	0.1	2	0.0	1	0.0	1	0.0	1	0.0	0	0.0	2	0.1	2	0.1	2	0.1
5.5-<6.0	2	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	2	0.1	1	0.0	0	0.0
6.0-<6.5	1	0.0	0	0.0	0	0.0	0	0.0	2	0.1	1	0.0	2	0.1	0	0.0	0	0.0
6.5-<7.0	2	0.0	1	0.0	0	0.0	2	0.1	2	0.1	1	0.0	0	0.0	0	0.0	1	0.0
7.0-<7.5	1	0.0	3	0.1	1	0.0	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	1	0.0
7.5-<8.0	2	0.0	1	0.0	2	0.0	1	0.0	1	0.0	1	0.0	1	0.0	0	0.0	1	0.0
8.0-<8.5	1	0.0	3	0.1	1	0.0	1	0.0	2	0.1	1	0.0	1	0.0	0	0.0	1	0.0
8.5-<9.0	5	0.1	1	0.0	0	0.0	1	0.0	3	0.1	0	0.0	1	0.0	2	0.1	5	0.2
9.0-<9.5	1	0.0	8	0.2	3	0.1	4	0.1	5	0.1	3	0.1	3	0.1	2	0.1	0	0.0
9.5-<10.0	5	0.1	2	0.0	10	0.2	11	0.3	6	0.2	7	0.2	13	0.5	2	0.1	5	0.2

Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.
Number and percentage (%) are based on available information.

Years	Actual Refraction – Phaco																	
	2007		2008		2009		2010		2011		2012		2013		2014		2015	
Dioptre (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-10.0-<(-9.5)	0	0.0	1	0.0	0	0.0	2	0.0	1	0.0	1	0.0	1	0.0	4	0.0	1	0.0
-9.5-<(-9.0)	0	0.0	7	0.1	0	0.0	1	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	2	0.0	0	0.0	0	0.0	1	0.0	1	0.0	2	0.0	2	0.0	1	0.0
-8.0-<(-7.5)	0	0.0	3	0.0	0	0.0	0	0.0	1	0.0	2	0.0	4	0.0	1	0.0	2	0.0
-7.5-<(-7.0)	1	0.0	11	0.1	0	0.0	3	0.0	1	0.0	2	0.0	1	0.0	3	0.0	1	0.0
-7.0-<(-6.5)	0	0.0	6	0.0	3	0.0	3	0.0	2	0.0	2	0.0	2	0.0	2	0.0	1	0.0
-6.5-<(-5.0)	1	0.0	16	0.1	24	0.2	22	0.1	11	0.1	21	0.1	27	0.1	21	0.1	17	0.1
-5.0-<(-4.5)	1	0.0	15	0.1	14	0.1	13	0.1	11	0.1	13	0.1	11	0.0	8	0.0	6	0.0
-4.5-<(-4.0)	3	0.0	15	0.1	14	0.1	17	0.1	19	0.1	21	0.1	15	0.1	16	0.1	18	0.1
-4.0-<(-3.5)	5	0.1	19	0.2	44	0.3	41	0.3	35	0.2	37	0.2	31	0.1	35	0.1	29	0.1
-3.5-<(-3.0)	2	0.0	29	0.2	80	0.6	81	0.5	74	0.4	74	0.4	69	0.3	74	0.3	50	0.2
-3.0-<(-2.5)	7	0.1	58	0.5	212	1.6	190	1.2	163	0.9	164	0.9	169	0.8	172	0.7	160	0.6
-2.5-<(-2.0)	27	0.3	80	0.7	448	3.5	436	2.8	450	2.6	451	2.5	383	1.7	451	1.8	372	1.4
-2.0-<(-1.5)	88	1.0	147	1.2	1067	8.3	1067	6.9	1138	6.6	1100	6.1	1079	4.9	1187	4.7	1211	4.4
-1.5-<(-1.0)	277	3.1	393	3.2	2115	16.4	2390	15.4	2701	15.7	2700	15.1	2993	13.5	3280	13.0	3474	12.6
-1.0-<(-0.5)	1022	11.4	1370	11.3	3232	25.1	3870	25.0	4461	25.9	4716	26.3	5735	25.9	6776	26.8	7640	27.8
-0.5-<0.0	2602	29.1	3152	26.0	3143	24.4	3941	25.5	4570	26.6	4753	26.5	6610	29.8	7865	31.1	8768	31.9
0.0-<0.5	2551	28.5	3568	29.5	1680	13.0	2177	14.1	2350	13.7	2562	14.3	3403	15.3	3761	14.9	3988	14.5
0.5-<1.0	1273	14.2	1738	14.3	513	4.0	772	5.0	762	4.4	844	4.7	1081	4.9	1130	4.5	1158	4.2
1.0-<1.5	546	6.1	780	6.4	168	1.3	265	1.7	249	1.4	277	1.5	317	1.4	320	1.3	338	1.2
1.5-<2.0	268	3.0	367	3.0	66	0.5	99	0.6	90	0.5	85	0.5	123	0.6	98	0.4	97	0.4
2.0-<2.5	117	1.3	160	1.3	21	0.2	38	0.2	42	0.2	44	0.2	44	0.2	47	0.2	40	0.1
2.5-<3.0	59	0.7	56	0.5	10	0.1	14	0.1	17	0.1	17	0.1	18	0.1	19	0.1	18	0.1
3.0-<3.5	28	0.3	32	0.3	8	0.1	10	0.1	13	0.1	11	0.1	11	0.0	9	0.0	17	0.1
3.5-<4.0	17	0.2	23	0.2	4	0.0	5	0.0	4	0.0	7	0.0	4	0.0	8	0.0	12	0.0
4.0-<4.5	12	0.1	12	0.1	3	0.0	5	0.0	2	0.0	6	0.0	11	0.0	7	0.0	10	0.0
4.5-<5.0	11	0.1	4	0.0	2	0.0	2	0.0	4	0.0	1	0.0	6	0.0	3	0.0	6	0.0
5.0-<5.5	3	0.0	1	0.0	2	0.0	4	0.0	4	0.0	1	0.0	3	0.0	2	0.0	9	0.0
5.5-<6.0	1	0.0	3	0.0	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0	1	0.0
6.0-<6.5	4	0.0	2	0.0	2	0.0	3	0.0	1	0.0	2	0.0	1	0.0	2	0.0	3	0.0
6.5-<7.0	4	0.0	1	0.0	2	0.0	2	0.0	1	0.0	1	0.0	4	0.0	2	0.0	0	0.0
7.0-<7.5	0	0.0	1	0.0	0	0.0	2	0.0	2	0.0	2	0.0	4	0.0	0	0.0	0	0.0
7.5-<8.0	2	0.0	3	0.0	0	0.0	0	0.0	1	0.0	2	0.0	3	0.0	0	0.0	5	0.0
8.0-<8.5	3	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0	2	0.0	3	0.0	2	0.0
8.5-<9.0	0	0.0	0	0.0	2	0.0	1	0.0	1	0.0	1	0.0	1	0.0	4	0.0	2	0.0
9.0-<9.5	0	0.0	0	0.0	2	0.0	0	0.0	6	0.0	1	0.0	2	0.0	5	0.0	3	0.0
9.5-<10.0	4	0.0	6	0.0	6	0.0	7	0.0	5	0.0	6	0.0	1	0.0	5	0.0	7	0.0

Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.
Number and percentage (%) are based on available information.

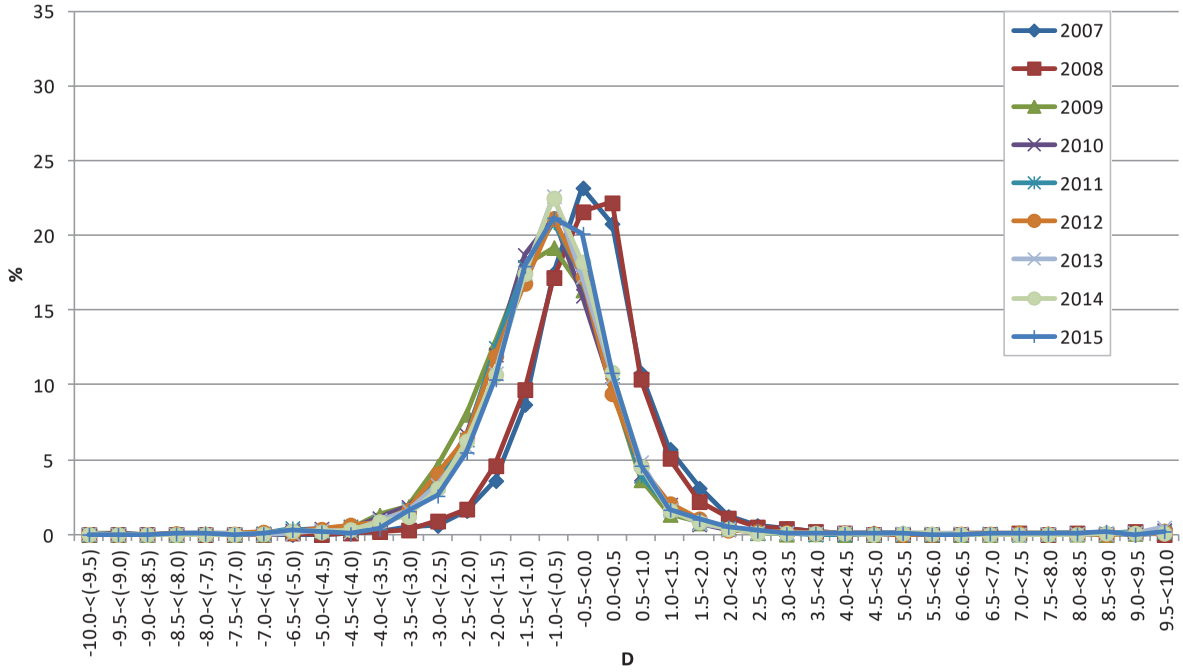


Figure 1.5.10-1: Percentage Distribution of Actual Refractive Power (ECCE), CSR 2007-2015

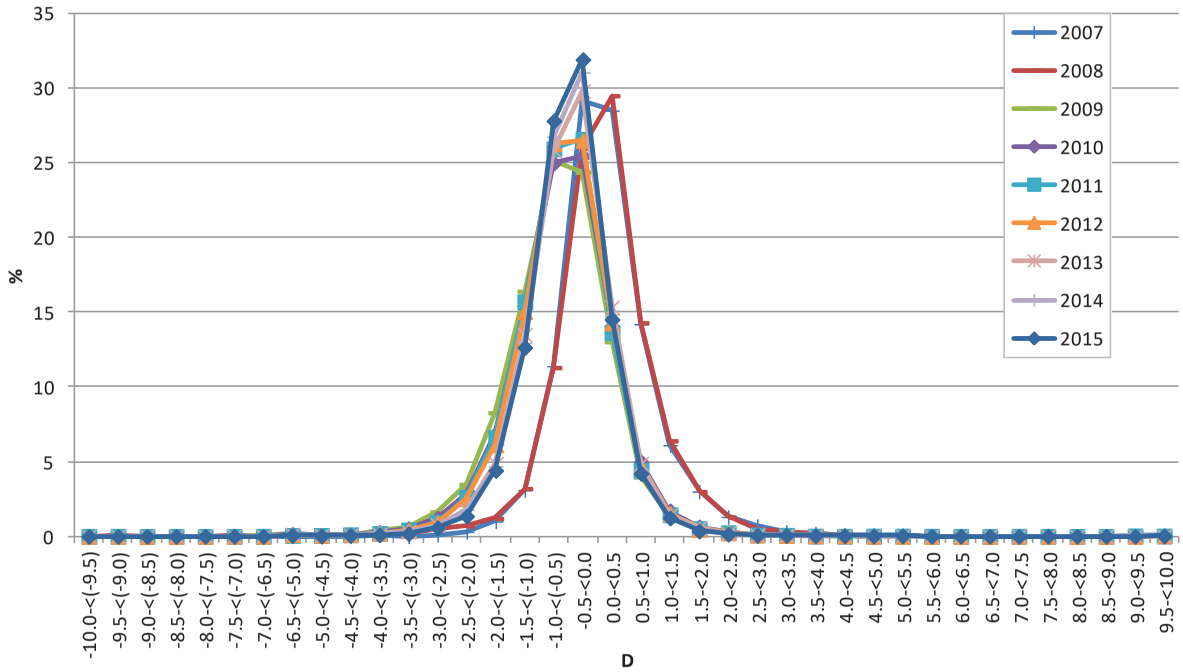


Figure 1.5.10-2: Percentage Distribution of Actual Refractive Power (Phaco), CSR 2007-2015

Table 1.5.10-2: Difference Between Target and Actual Refractive Power by Diopter in Phaco, CSR 2007-2015

	Target Refraction – Phaco																	
Year	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
Power (D)	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
N	7975	100.0	10660	100.0	14976	100.0	18938	100.0	20321	100.0	21328	100.0	24306	100.0	28256	100.0	32235	100.0
-5.0-<(-4.5)	2	0.0	4	0.0	7	0.0	2	0.0	2	0.0	5	0.0	4	0.0	1	0.0	3	0.0
-4.5-<(-4.0)	1	0.0	3	0.0	5	0.0	9	0.0	2	0.0	4	0.0	3	0.0	4	0.0	3	0.0
-4.0-<(-3.5)	5	0.1	7	0.1	7	0.0	5	0.0	8	0.0	5	0.0	1	0.0	4	0.0	4	0.0
-3.5-<(-3.0)	5	0.1	6	0.1	9	0.1	12	0.1	10	0.0	4	0.0	8	0.0	3	0.0	8	0.0
-3.0-<(-2.5)	10	0.1	20	0.2	14	0.1	23	0.1	12	0.1	13	0.1	14	0.1	8	0.0	12	0.0
-2.5-<(-2.0)	18	0.2	16	0.2	19	0.1	27	0.1	19	0.1	30	0.1	30	0.1	23	0.1	28	0.1
-2.0-<(-1.5)	51	0.6	35	0.3	44	0.3	32	0.2	38	0.2	49	0.2	43	0.2	44	0.2	49	0.2
-1.5-<(-1.0)	239	3.0	288	2.7	184	1.2	195	1.0	158	0.8	164	0.8	149	0.6	180	0.6	206	0.6
-1.0-<(-0.5)	2473	31.0	4065	38.1	5602	37.4	5672	30.0	5567	27.4	5709	26.8	5031	20.7	5642	20.0	7432	23.1
-0.5-<0.0	4512	56.6	5498	51.6	8201	54.8	12144	64.1	13864	68.2	14653	68.7	18302	75.3	21641	76.6	24058	74.6
0.0-<0.5	583	7.3	563	5.3	663	4.4	601	3.2	470	2.3	345	1.6	461	1.9	635	2.2	381	1.2
0.5-<1.0	45	0.6	107	1.0	129	0.9	147	0.8	143	0.7	160	0.8	144	0.6	52	0.2	28	0.1
1.0-<1.5	6	0.1	23	0.2	9	0.1	9	0.0	7	0.0	16	0.1	5	0.0	3	0.0	8	0.0
1.5-<2.0	2	0.0	7	0.1	11	0.1	7	0.0	1	0.0	43	0.2	23	0.1	2	0.0	3	0.0
2.0-<2.5	9	0.1	6	0.1	63	0.4	42	0.2	10	0.0	106	0.5	65	0.3	3	0.0	1	0.0
2.5-<3.0	1	0.0	4	0.0	2	0.0	1	0.0	2	0.0	6	0.0	10	0.0	0	0.0	1	0.0
3.0-<3.5	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
3.5-<4.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
4.0-<4.5	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4.5-<5.0	0	0.0	1	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.0-<5.5	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Number and percentage (%) are based on available information.

	Actual Refraction – Phaco																	
Year	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
Power (D)	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
N	8342	100.0	12154	100.0	12891	100.0	15485	100.0	17197	100.0	17931	100.0	22173	100.0	25325	100.0	27467	100.0
-5.0-<(-4.5)	15	0.2	13	0.1	14	0.1	13	0.1	11	0.1	13	0.1	11	0.0	8	0.0	6	0.0
-4.5-<(-4.0)	30	0.4	19	0.2	14	0.1	17	0.1	19	0.1	21	0.1	15	0.1	16	0.1	18	0.1
-4.0-<(-3.5)	49	0.6	17	0.1	44	0.3	41	0.3	35	0.2	37	0.2	31	0.1	35	0.1	29	0.1
-3.5-<(-3.0)	97	1.2	20	0.2	80	0.6	81	0.5	74	0.4	74	0.4	69	0.3	74	0.3	50	0.2
-3.0-<(-2.5)	200	2.4	55	0.5	212	1.6	190	1.2	163	0.9	164	0.9	169	0.8	172	0.7	160	0.6
-2.5-<(-2.0)	405	4.9	85	0.7	448	3.5	436	2.8	450	2.6	451	2.5	383	1.7	451	1.8	372	1.4
-2.0-<(-1.5)	746	8.9	164	1.3	1067	8.3	1067	6.9	1138	6.6	1100	6.1	1079	4.9	1187	4.7	1211	4.4
-1.5-<(-1.0)	1382	16.6	423	3.5	2115	16.4	2390	15.4	2701	15.7	2700	15.1	2993	13.5	3280	13.0	3474	12.6
-1.0-<(-0.5)	1771	21.2	1408	11.6	3232	25.1	3870	25.0	4461	25.9	4716	26.3	5735	25.9	6776	26.8	7640	27.8
-0.5-<0.0	1884	22.6	3167	26.1	3143	24.4	3941	25.5	4570	26.6	4753	26.5	6610	29.8	7865	31.1	8768	31.9
0.0-<0.5	1069	12.8	3534	29.1	1680	13.0	2177	14.1	2350	13.7	2562	14.3	3403	15.3	3761	14.9	3988	14.5
0.5-<1.0	399	4.8	1740	14.3	513	4.0	772	5.0	762	4.4	844	4.7	1081	4.9	1130	4.5	1158	4.2
1.0-<1.5	142	1.7	786	6.5	168	1.3	265	1.7	249	1.4	277	1.5	317	1.4	320	1.3	338	1.2

1.5-<2.0	55	0.7	365	3.0	66	0.5	99	0.6	90	0.5	85	0.5	123	0.6	98	0.4	97	0.4
2.0-<2.5	14	0.2	156	1.3	21	0.2	38	0.2	42	0.2	44	0.2	44	0.2	47	0.2	40	0.1
2.5-<3.0	15	0.2	55	0.5	10	0.1	14	0.1	17	0.1	17	0.1	18	0.1	19	0.1	18	0.1
3.0-<3.5	13	0.2	30	0.2	8	0.1	10	0.1	13	0.1	11	0.1	11	0.0	9	0.0	17	0.1
3.5-<4.0	4	0.0	22	0.2	4	0.0	5	0.0	4	0.0	7	0.0	4	0.0	8	0.0	12	0.0
4.0-<4.5	3	0.0	10	0.1	3	0.0	5	0.0	2	0.0	6	0.0	11	0.0	7	0.0	10	0.0
4.5-<5.0	4	0.0	4	0.0	2	0.0	2	0.0	4	0.0	1	0.0	6	0.0	3	0.0	6	0.0
5.0-<5.5	1	0.0	1	0.0	2	0.0	4	0.0	4	0.0	1	0.0	3	0.0	2	0.0	9	0.0

Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.
Number and percentage (%) are based on available information.

	Difference between Target and Actual Refraction – Phaco																	
Year	**2007**		**2008**		**2009**		**2010**		**2011**		**2012**		**2013**		**2014**		**2015**	
Power (D)	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
N	5782	100	8803	100	10842	100.0	13653	100.0	14906	100.0	14738	100.0	17438	100.0	20484	100.0	22948	100.0
-5.0-<(-4.5)	12	0.2	12	0.1	5	0.0	5	0.0	7	0.0	8	0.1	8	0.0	5	0.0	5	0.0
-4.5-<(-4.0)	14	0.2	19	0.2	8	0.1	7	0.1	10	0.1	9	0.1	12	0.1	10	0.0	6	0.0
-4.0-<(-3.5)	28	0.5	18	0.2	24	0.2	28	0.2	14	0.1	18	0.1	10	0.1	16	0.1	15	0.1
-3.5-<(-3.0)	43	0.7	51	0.6	52	0.5	37	0.3	32	0.2	38	0.3	37	0.2	35	0.2	24	0.1
-3.0-<(-2.5)	93	1.6	103	1.2	95	0.9	110	0.8	81	0.5	100	0.7	92	0.5	84	0.4	66	0.3
-2.5-<(-2.0)	176	3.0	245	2.8	243	2.2	198	1.5	192	1.3	204	1.4	184	1.1	223	1.1	167	0.7
-2.0-<(-1.5)	311	5.4	541	6.1	475	4.4	520	3.8	532	3.6	533	3.6	473	2.7	568	2.8	472	2.1
-1.5-<(-1.0)	595	10.3	1052	12.0	1149	10.6	1294	9.5	1391	9.3	1300	8.8	1366	7.8	1534	7.5	1511	6.6
-1.0-<(-0.5)	994	17.2	1984	22.5	2151	19.8	2685	19.7	3081	20.7	3005	20.4	3424	19.6	3847	18.8	4269	18.6
-0.5-<0.0	1367	23.6	2278	25.9	2877	26.5	3712	27.2	4411	29.6	4269	29.0	5382	30.9	6538	31.9	7435	32.4
0.0-<0.5	1179	20.4	1434	16.3	2246	20.7	3054	22.4	3276	22.0	3258	22.1	4129	23.7	4974	24.3	5819	25.4
0.5-<1.0	573	9.9	558	6.3	977	9.0	1312	9.6	1250	8.4	1341	9.1	1545	8.9	1813	8.9	2239	9.8
1.0-<1.5	225	3.9	214	2.4	310	2.9	398	2.9	399	2.7	401	2.7	484	2.8	506	2.5	581	2.5
1.5-<2.0	73	1.3	97	1.1	125	1.2	156	1.1	99	0.7	144	1.0	167	1.0	168	0.8	184	0.8
2.0-<2.5	32	0.6	46	0.5	43	0.4	56	0.4	61	0.4	45	0.3	46	0.3	58	0.3	51	0.2
2.5-<3.0	14	0.2	26	0.3	14	0.1	20	0.1	19	0.1	19	0.1	22	0.1	29	0.1	27	0.1
3.0-<3.5	13	0.2	15	0.2	5	0.0	10	0.1	12	0.1	10	0.1	6	0.0	12	0.1	15	0.1
3.5-<4.0	8	0.1	15	0.2	8	0.1	10	0.1	4	0.0	6	0.0	7	0.0	6	0.0	8	0.0
4.0-<4.5	3	0.0	12	0.1	3	0.0	4	0.0	3	0.0	2	0.0	4	0.0	6	0.0	7	0.0
4.5-<5.0	3	0.0	12	0.1	2	0.0	3	0.0	0	0.0	2	0.0	7	0.0	6	0.0	7	0.0
5.0-<5.5	9	0.2	9	0.1	1	0.0	2	0.0	1	0.0	0	0.0	2	0.0	3	0.0	8	0.0

NOTE: Formula of $SE = Sp + (\frac{Cy}{2})$

Number and percentage (%) are based on available information.
Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.

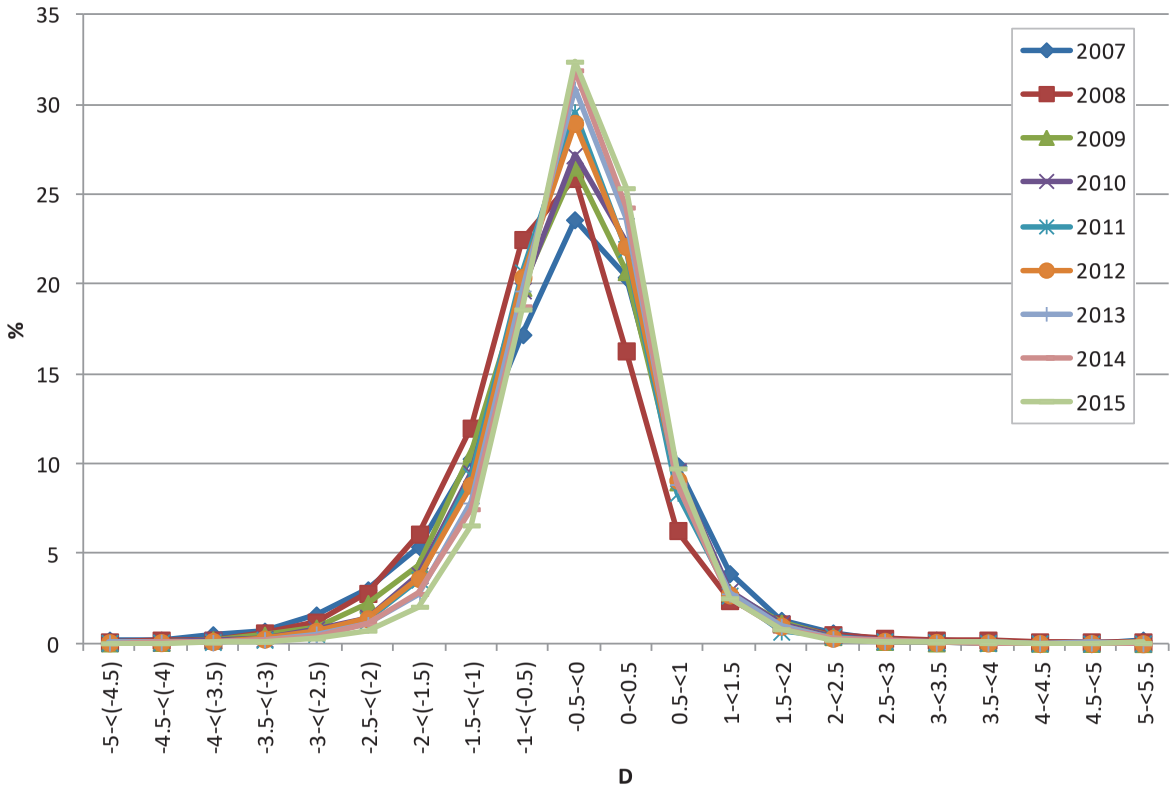


Figure 1.5.10-1: Difference in Target and Actual Refractive Power (Phaco), CSR 2007-2015

Table 1.5.10-3: Difference Between Target and Actual Refractive Power within ±1.0D by SDP in Phaco and ECCE, CSR 2015

Hospital	All			By Phacoemulsification			By ECCE		
	No. of patient with available difference	Difference between Target and Actual Refraction within ±1.0D		No. of patient with available difference	Difference between Target and Actual Refraction within ±1.0D		No. of patient with available difference	Difference between Target and Actual Refraction within ±1.0D	
	N	n	%	N	n	%	N	n	%
All centre	**25888**	**21723**	**83.9**	**22948**	**19762**	**86.1**	**2127**	**1433**	**67.4**
Alor Setar	1762	1446	82.1	1479	1265	85.5	247	156	63.2
Ampang	440	357	81.1	359	296	82.5	61	45	73.8
Batu Pahat	215	173	80.5	188	161	85.6	20	9	45.0
Bintulu	1	1	100.0	1	1	100.0	0	0	0.0
Bukit Mertajam	903	769	85.2	720	627	87.1	174	138	79.3
Ipoh	1760	1492	84.8	1554	1372	88.3	124	75	60.5
Kangar	480	383	79.8	354	292	82.5	114	80	70.2
Kemaman	3	3	100.0	2	2	100.0	1	1	100.0
Keningau	41	32	78.0	38	29	76.3	3	3	100.0
Klang	49	45	91.8	45	41	91.1	2	2	100.0
Kota Bharu	283	211	74.6	156	125	80.1	115	79	68.7
Kuala Krai	226	186	82.3	155	140	90.3	69	44	63.8
Kuala Lumpur	730	629	86.2	653	568	87.0	61	46	75.4
Kuala Pilah	284	232	81.7	247	206	83.4	15	11	73.3
Kuala Terengganu	675	559	82.8	553	478	86.4	96	62	64.6
Kuantan	597	518	86.8	485	428	88.2	82	67	81.7
Kulim	350	305	87.1	308	276	89.6	34	22	64.7
Langkawi	21	17	81.0	15	12	80.0	5	4	80.0
Likas	6	2	33.3	0	0	0.0	0	0	0.0
Melaka	1683	1501	89.2	1557	1431	91.9	82	48	58.5
Miri	506	463	91.5	470	437	93.0	27	22	81.5
Muar	688	555	80.7	654	540	82.6	19	8	42.1
Pulau Pinang	1814	1481	81.6	1744	1448	83.0	40	20	50.0
Putrajaya	376	327	87.0	332	290	87.3	22	17	77.3
Queen Elizabeth KK	552	435	78.8	477	386	80.9	52	37	71.2
Sandakan	79	58	73.4	65	49	75.4	13	8	61.5
Sarikei	148	133	89.9	144	131	91.0	3	1	33.3
Selayang	695	601	86.5	611	545	89.2	41	27	65.9
Serdang	722	587	81.3	663	547	82.5	35	25	71.4
Seremban	1120	850	75.9	1018	801	78.7	80	38	47.5
Sibu	454	407	89.6	423	387	91.5	11	7	63.6
Sri Manjung	485	420	86.6	477	413	86.6	3	3	100.0
Sultan Ismail	596	475	79.7	514	418	81.3	42	27	64.3
Sultanah Aminah JB	1219	1021	83.8	1130	968	85.7	33	17	51.5
Sungai Buloh	205	166	81.0	190	155	81.6	8	5	62.5
Sungei Petani	632	525	83.1	554	471	85.0	48	32	66.7
Taiping	1169	1075	92.0	985	924	93.8	176	145	82.4
Tanah Merah	2	2	100.0	0	0	0.0	2	2	100.0
Tawau	210	148	70.5	174	129	74.1	28	14	50.0
Teluk Intan	612	528	86.3	531	479	90.2	52	29	55.8
Temerloh	624	526	84.3	545	471	86.4	55	38	69.1
Sarawak	1242	1055	84.9	1209	1030	85.2	4	2	50.0

KK1M Kedah	134	123	91.8	134	123	91.8	0	0	0.0
KK1M Neg. Sembilan	3	2	66.7	2	1	50.0	0	0	0.0
KK1M Kelantan	0	0	0.0	0	0	0.0	0	0	0.0
KK1M Pahang	113	82	72.6	96	75	78.1	10	6	60.0
KK1M Terengganu	1	1	100.0	1	1	100.0	0	0	0.0
KK1M Sabah	53	39	73.6	40	34	85.0	9	5	55.6
KK1M Sarawak	735	598	81.4	712	586	82.3	7	4	57.1
MAIWP	190	179	94.2	184	173	94.0	2	2	100.0

NOTE: Formula of Actual Refraction, $SE = Sp + (\frac{Cy}{2})$

Result is based on available info of target and actual refraction.
Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis.

Table 1.5.10-4: Post-operative Visual Acuity and Week of Outcome Notification, CSR 2015

Post op week	Unaided VA*									
	6/12 and better		<6/12-6/18		<6/18-6/60		<6/60-3/60		<3/60	
	n	%	n	%	n	%	n	%	n	%
1 week	707	3.4	316	4.3	514	6.0	47	6.4	194	12.5
2–4 weeks	1007	4.8	438	6.0	564	6.5	59	8.0	145	9.4
5–12 weeks	18421	88.3	6284	85.9	7136	82.7	584	79.6	1141	73.7
13–20 weeks	638	3.1	233	3.2	340	3.9	41	5.6	51	3.3
21–30 weeks	47	0.2	25	0.3	47	0.5	3	0.4	6	0.4
31–60 weeks	19	0.1	11	0.2	13	0.2	0	0.0	4	0.3
>60 weeks	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
(Missing)	18	0.1	6	0.1	10	0.1	0	0.0	7	0.5
Total	**20857**		**7314**		**8624**		**734**		**1548**	

**Missing of unaided VA = 5457cases.*

Post op week	Refracted VA*									
	6/12 and better		<6/12-6/18		<6/18-6/60		<6/60-3/60		<3/60	
	n	%	n	%	n	%	n	%	n	%
1 week	333	1.0	13	0.8	31	1.6	3	1.1	44	6.7
2–4 weeks	1524	4.8	97	6.0	151	7.6	15	5.6	48	7.3
5–12 weeks	28718	90.2	1449	89.1	1685	85.3	235	88.0	532	81.2
13–20 weeks	1077	3.4	53	3.3	94	4.8	12	4.5	24	3.7
21–30 weeks	102	0.3	8	0.5	11	0.6	1	0.4	2	0.3
31–60 weeks	36	0.1	5	0.3	2	0.1	1	0.4	3	0.5
>60 weeks	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
(Missing)	33	0.1	2	0.1	1	0.1	0	0.0	2	0.3
Total	**31824**		**1627**		**1975**		**267**		**655**	

**Missing of refracted VA = 8186 cases.*

CHAPTER 2

KLINIK KATARAK 1MALAYSIA 2015

Contributing Editors

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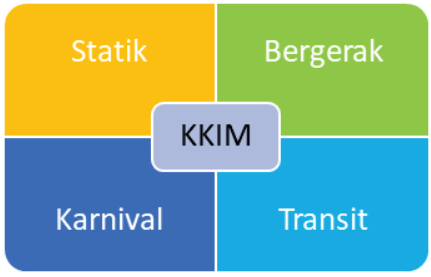
CHAPTER 2: KLINIK KATARAK 1MALAYSIA

Klinik Katarak 1Malaysia (KK1M) is the outreach arm of the MOH Cataract Surgical Services. The services include KK1M mobile, transit and static and carnival. All these services are catagorised under each state and named after the hospital where the surgery is performed. KK1M Static is specifically Pusat Pembedahan Katarak Majlis Agama Islam Wilayah Persekutuan-Hospital Selayang (PPKM-HS) and is also reported separately. For this report, calculation and analysis were done for KK1M mobile, transit and carnival.



Note:

KK1M Mobile = Surgery at hospitals without Ophthalmologists with involvement of a mobile unit to transport surgical equipment

KK1M Transit = Surgery at hospitals without Ophthalmologists without involvement of a mobile unit to transport surgical equipment

KK1M Carnival = Surgery at hospitals with Ophthalmologists (mass surgery during weekends)

2.1 Stock and Flow

The number of SDP varies depending on location and period of service. In general, the operational KK1M mobiles are KK1M Sarawak and KK1M Eastern Zone (consists of KK1M Kelantan, KK1M Terengganu and KK1M Pahang). KK1M transit which is not using the bus, can be organised in any hospital throughout the country

2.1.1 Stock and Flow

2.1.1-1: Stock and Flow, CSR 2013-2015

Year	2013		2014		2015	
No. of SDP*	6		18		25	
Total no. of cataract surgery registered to CSR	140		1055		1704	
	n	%	n	%	n	%
Cataract surgery with visual outcome records	98	70.0	863	81.8	1455	85.4

Excluding KK1M Static

2.2 Characteristics of Patients

2.2.2 Demography

2.2.2-1: Age Distribution, CSR 2013-2015

The mean age for patients presenting for cataract surgery in KK1M was older than those presenting in a hospital setting.

Year	2013		2014		2015	
Total number of cataract surgery	140		1055		1704	
Age						
Mean (years)	67.4		68.6		68.4	
Median (years)	69		69		69	
Minimum (years)	47		34		33	
Maximum (years)	89		95		97	
% Distribution						
Age group, years	n	%	n	%	n	%
0-4	0	0.0	0	0.0	0	0.0
5-9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0
25-29	0	0.0	0	0.0	0	0.0
30-34	0	0.0	1	0.1	2	0.1
35-39	0	0.0	1	0.1	1	0.1
40-44	0	0.0	10	1.0	6	0.4
45-49	5	3.6	19	1.8	23	1.4
50-54	10	7.1	31	2.9	54	3.2
55-59	10	7.1	92	8.7	166	9.7
60-64	22	15.7	164	15.6	308	18.1
65-69	28	20.0	241	22.8	350	20.5
70-74	35	25.0	217	20.6	371	21.8
75-79	22	15.7	159	15.1	255	15.0
≥80	8	5.7	120	11.4	168	9.9

Missing	0	0.0	0	0.0	0	0.0
Gender						
Male	59	42.1	495	46.9	832	48.8
Female	81	57.9	560	53.1	872	51.2
Missing	0	0	0	0	0	0

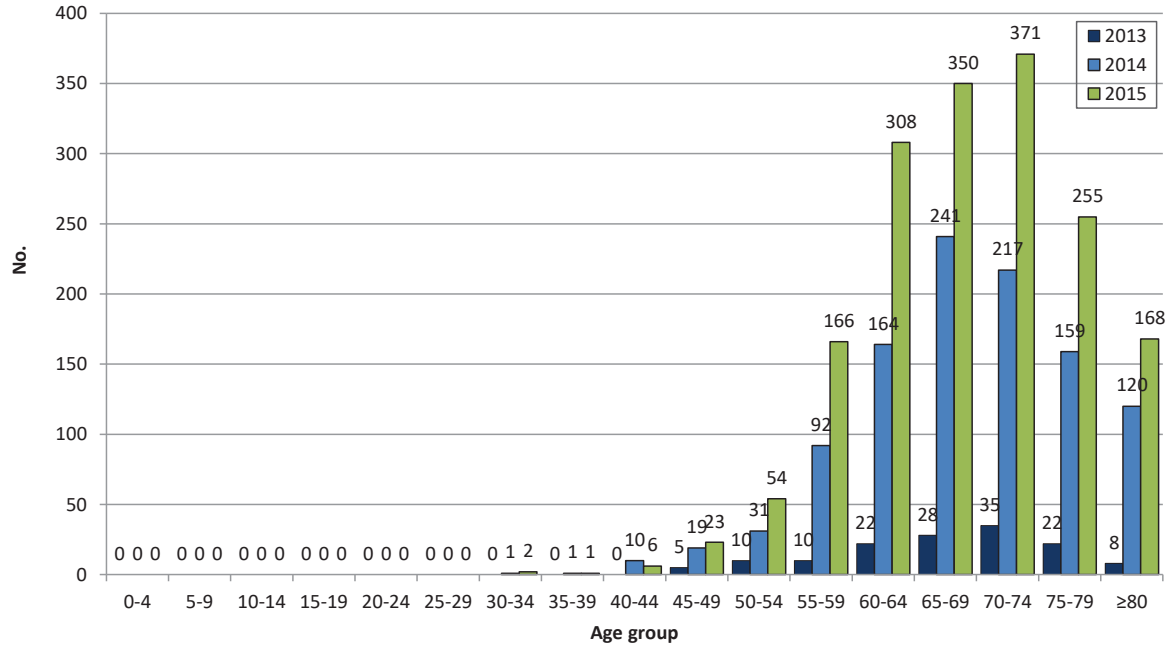


Figure 2.2.2 1: Age Distribution, CSR 2013-2015

2.2.1 Systemic Co-Morbidity

Table 2.2.1-1: Distribution of Systemic Co-morbidity, CSR 2013-2015

Year	2013	2014	2015
No of patients (N)	140	1055	1704
Percentage of patients with any systemic co-morbidity	65.7	57.3	65.6

Percentage of patients with specific systemic co-morbidity						
	n	%	n	%	n	%
1. Hypertension	72	51.4	500	47.4	980	57.5
2. Diabetes Mellitus	45	32.1	259	24.5	510	29.9
3. Ischaemic Heart Disease	2	1.4	11	1.0	43	2.5
4. Renal Failure	0	0.0	6	0.6	16	0.9
5. Cerebrovascular accident	1	0.7	3	0.3	7	0.4
6. COAD/Asthma	2	1.4	24	2.3	31	1.8
7. Others	12	8.6	55	5.2	112	6.6

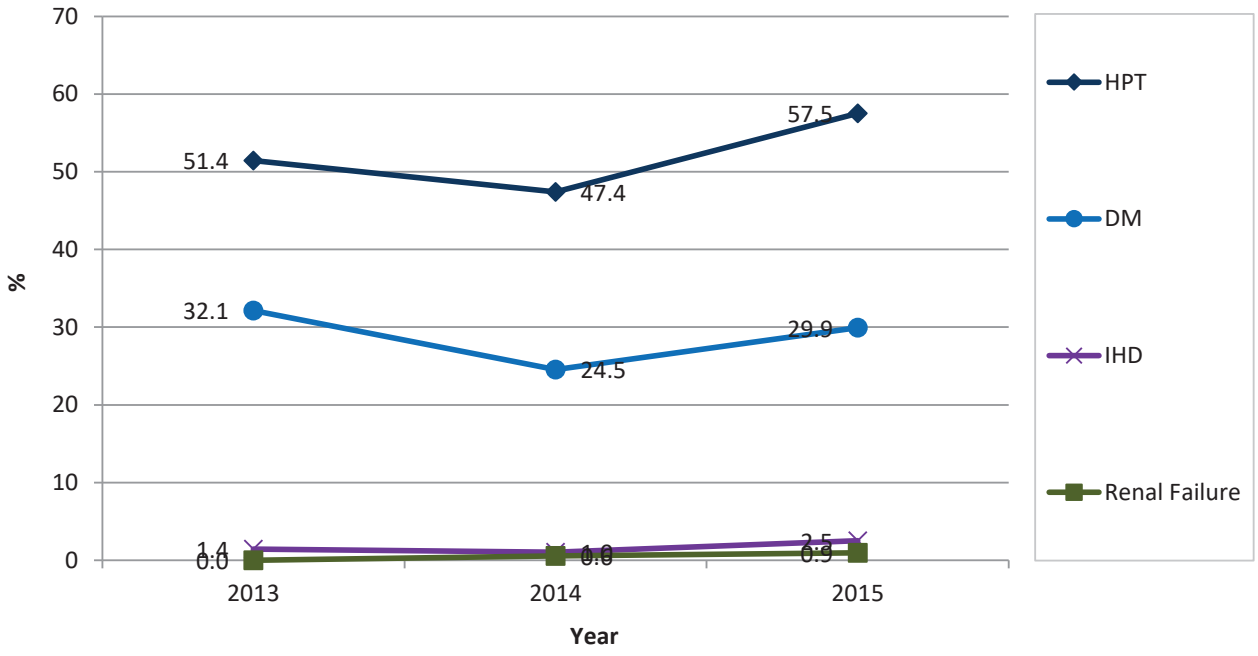


Figure 2.2.1-1: Percentage of Patients with Specific Systemic Co-morbidity, CSR 2013-2015

2.2.2 Causes of Cataract

Table 2.2.2-1: Causes of Cataract, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	140		1055		1704	
	n	%	n	%	n	%
Primary cataract	139	99.3	1043	98.9	1693	99.4
Secondary cataract	1	0.7	3	0.3	2	0.1
Missing value	0	0.0	9	0.9	9	0.5
Primary Cataract (N)	139		1043		1693	
	n	%	n	%	n	%
Senile/age related	136	97.8	1039	99.6	1672	98.8
Congenital	0	0.0	0	0.0	0	0.0
Development	0	0.0	0	0.0	0	0.0
Others	3	2.2	4	0.4	21	1.2
Secondary Cataract (N)	1		3		2	
	n	%	n	%	n	%
Trauma	1	100.0	3	100.0	2	100.0
Drug induced	0	0.0	0	0.0	0	0.0
Surgery induced	0	0.0	0	0.0	0	0.0
Others	0	0.0	0	0.0	0	0.0

2.2.3 First or Second Eye Surgery

The percentage of patients presented for the second eye surgeries was 23.4% (as compared to total MOH 35.2% in 2015). This is expected as KK1M is operational in rural setting

Table 2.2.3-1: First or Second Eye Surgery, CSR 2013-2015

Year	**2013**		**2014**		**2015**	
No of patients (N)	140		1055		1704	
	n	%	n	%	n	%
First eye surgery	132	94.3	850	80.6	1305	76.6
Second eye surgery	8	5.7	205	19.4	399	23.4
Missing	0	0.0	0	0.0	0	0.0
Patients who had second surgery in the same year	2	1.4	58	5.5	111	6.5

Period of time between first and second eye surgery (months)						
N	8		205		396	
Mean	36.7		75.9		48.1	
SD	21.8		68.6		64.1	
Median	43.0		50.1		12.0	
Patients who had cataract surgery before	620		205		399	
	n	%	n	%	n	%
Eyes with intra-operative complications during surgery in the first eye	0	0.0	2	1.0	4	1.0

2.2.4 Past Ocular Surgery of the Operated Eye

Table 2.2.4-1: Past Ocular Surgery of the Operated Eye, CSR 2013-2015

Year	2013		2014		2015	
No. of patients	140		1055		1704	
No. of eyes with past ocular surgery record (N)	129		1042		1649	
	n	%	n	%	n	%
Patients with no past ocular surgery	129	100.0	1037	99.5	1634	99.1
Vitreoretinal surgery	0	0.0	1	0.1	1	0.1
Pterygium excision	0	0.0	3	0.3	13	0.8
Filtering surgery	0	0.0	0	0.0	0	0.0
Penetrating keratoplasty	0	0.0	0	0.0	0	0.0
Others	0	0.0	1	0.1	1	0.1

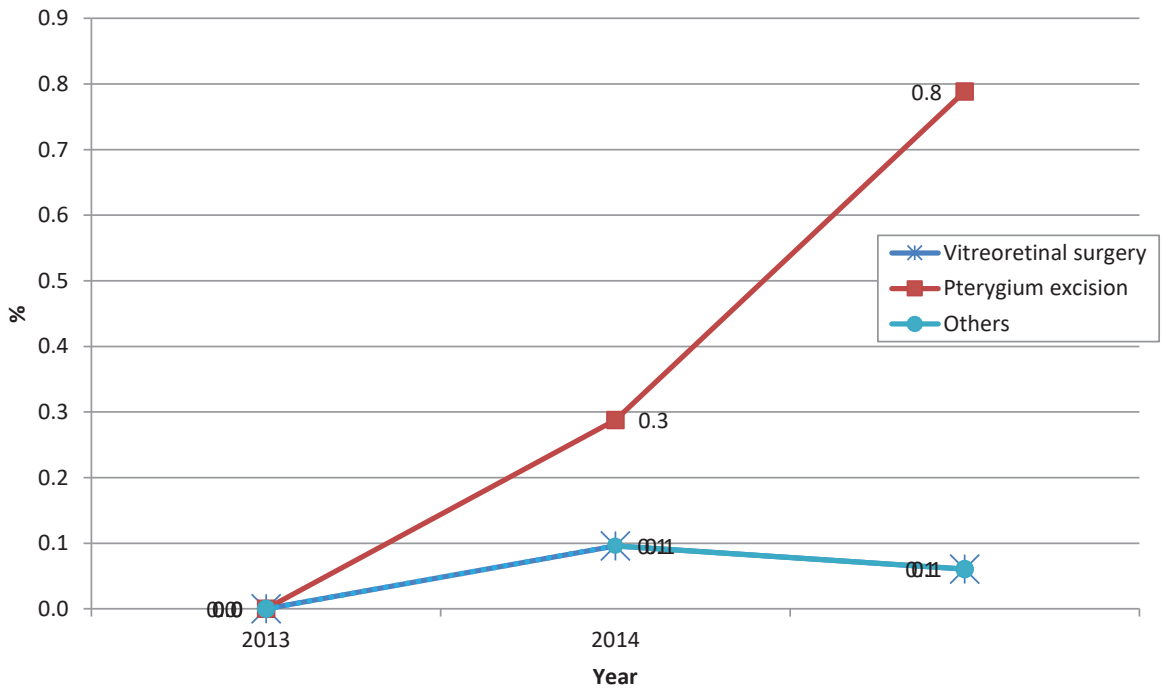


Figure 2.2.4-1:Distribition of Past Ocular Surgery of the Operated Eye, CSR 2013-2015

2.2.5 Pre-existing Ocular Co-morbidity

Table 2.2.5-1:Distribution of Pre-existing Ocular Co-morbidity, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	140		1055		1704	
	n	**%**	**n**	**%**	**n**	**%**
Patients with any ocular co-morbidity	47	33.6	256	24.3	239	14.0
Patients with specific ocular co-morbidity						
Anterior segment						
1. Glaucoma	2	1.4	9	0.9	32	3.0
2. Pterygium involving the cornea	4	2.9	17	1.6	5	0.5
3. Pseudoexfoliation	1	0.7	3	0.3	4	0.4
4. Corneal opacity	0	0.0	2	0.2	5	0.5
5. Chronic uveitis	0	0.0	0	0.0	0	0.0
Len related complication						
1. Phacomorphic	0	0.0	0	0.0	0	0.0
2. Phacolytic	0	0.0	0	0.0	0	0.0
3. Subluxated/Disclosed	0	0.0	0	0.0	0	0.0
Posterior segment						

1. Diabetic Retinopathy: Non Proliferative	1	0.7	9	0.9	45	4.3
2. Diabetic Retinopathy: Proliferative	0	0.0	0	0.0	7	0.7
3. Diabetic Retinopathy: CSME*	0	0.0	1	0.1	10	0.9
4. Diabetic Retinopathy: Vitreous haemorrhage	0	0.0	0	0.0	0	0.0
5. ARMD	3	2.1	4	0.4	8	0.8
6. Other macular disease (includes hole or scar)	0	0.0	2	0.2	5	0.5
7. Optic nerve disease, any type	0	0.0	0	0.0	5	0.5
8. Retinal detachment	0	0.0	0	0.0	0	0.0
9. Cannot be assessed	34	24.3	204	19.3	121	11.5
Miscellaneous						
1. Amblyopia	0	0.0	1	0.1	1	0.1
2. Significant previous eye trauma	0	0.0	1	0.1	0	0.0
3. Pre-existing non glaucoma field defect	0	0.0	0	0.0	0	0.0
4. Others	8	5.7	11	1.0	29	2.7

*CSME=Clinically Significant Macular Oedema

Number or percentage may be more than total or 100% as patients might have more than one ocular co-morbidity

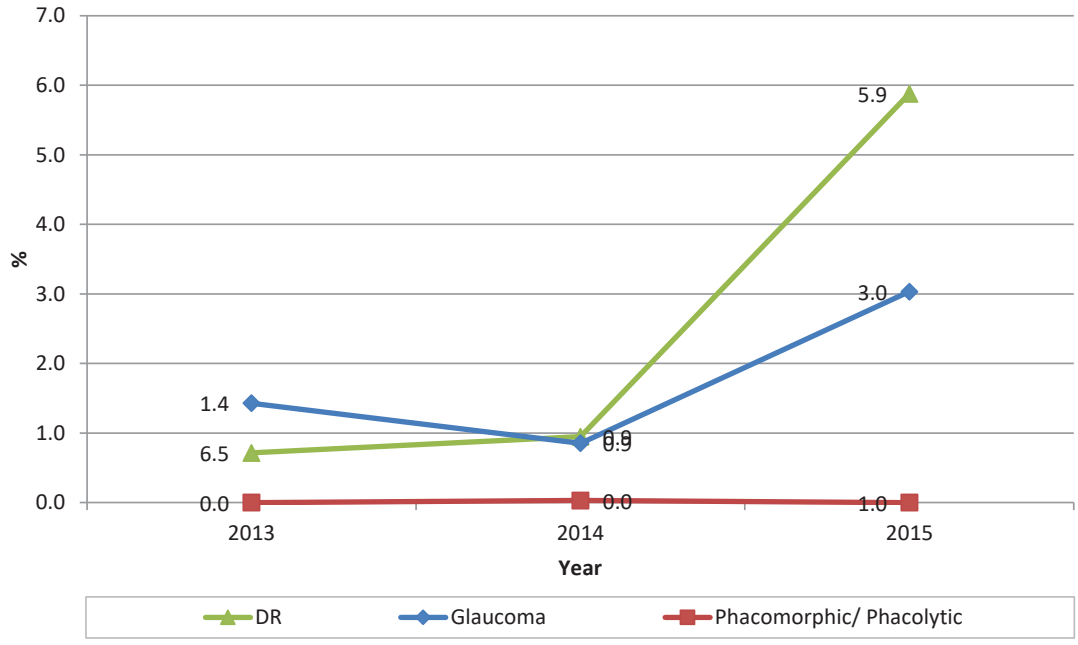


Figure 2.2.5-1:Distribution of Eyes with Specific Ocular Co-morbidity, CSR 2013-2015

2.2.6 Pre-operative Vision

Most patients presented with blindness, vision <3/60 (59.2% in 2014) as compared to total MOH (43.2% at same level of vision)

Table 2.2.6-1:Distribution of Pre-Operative Vision, CSR 2013-2015

Year	2013	2014	2015
No. of patients (N)	140	1055	1704

		n	%	n	%	n	%
Patients with unaided VA		136	97.1	1048	99.3	1669	97.9
Patients with refracted VA		29	20.7	56	5.3	262	15.4
Patients with no refraction		108	77.1	992	94.0	1410	82.7
6/12 and better	Unaided	3	2.2	16	1.5	39	2.3
	Refracted	1	3.4	6	10.7	52	19.8
<6/12 - 6/18	Unaided	1	0.7	42	4.0	106	6.4
	Refracted	5	17.2	12	21.4	55	21.0
<6/18 - 6/60	Unaided	46	33.8	325	31.0	589	35.3
	Refracted	13	44.8	16	28.6	85	32.4
<6/60 - 3/60	Unaided	5	3.7	45	4.3	112	6.7
	Refracted	3	10.3	1	1.8	13	5.0
<3/60	Unaided	81	59.6	620	59.2	823	49.3
	Refracted	7	24.1	21	37.5	57	21.8
Unaided VA for patient with no refraction							
n		108		992		1410	
6/12 and better		2	1.9	14	1.4	23	1.6
<6/12 - 6/18		0	0.0	35	3.5	75	5.3
<6/18 - 6/60		30	27.8	303	30.5	462	32.8
<6/60 - 3/60		3	2.8	44	4.4	99	7.0
<3/60		73	67.6	596	60.1	751	53.3

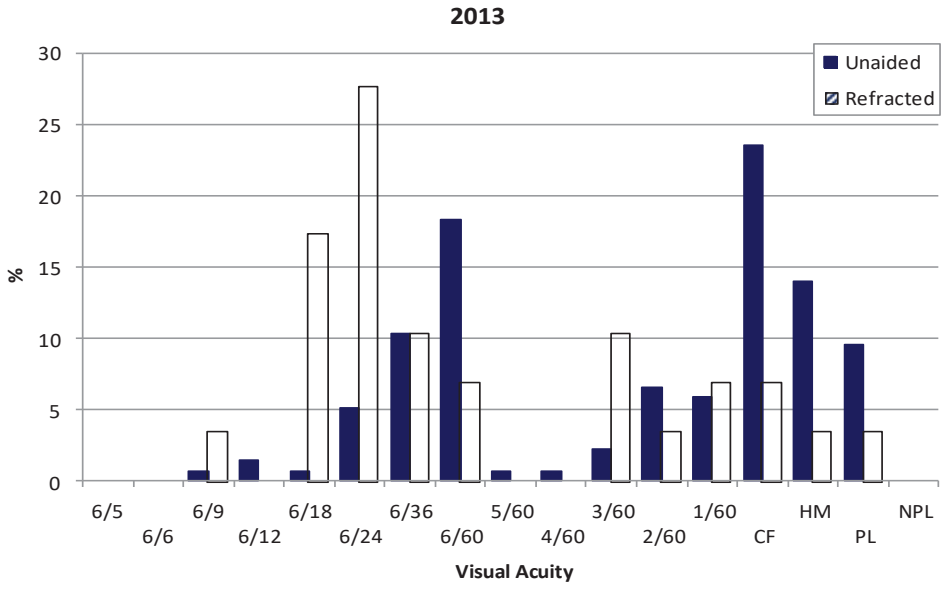


Figure 2.2.6-1:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2013

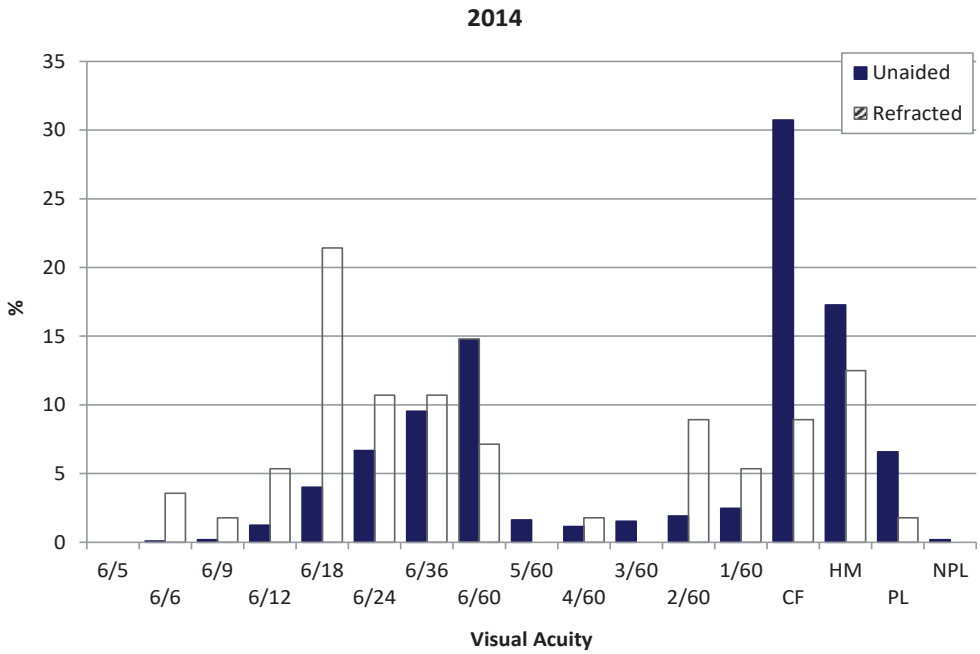


Figure 2.2.6-2:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2014

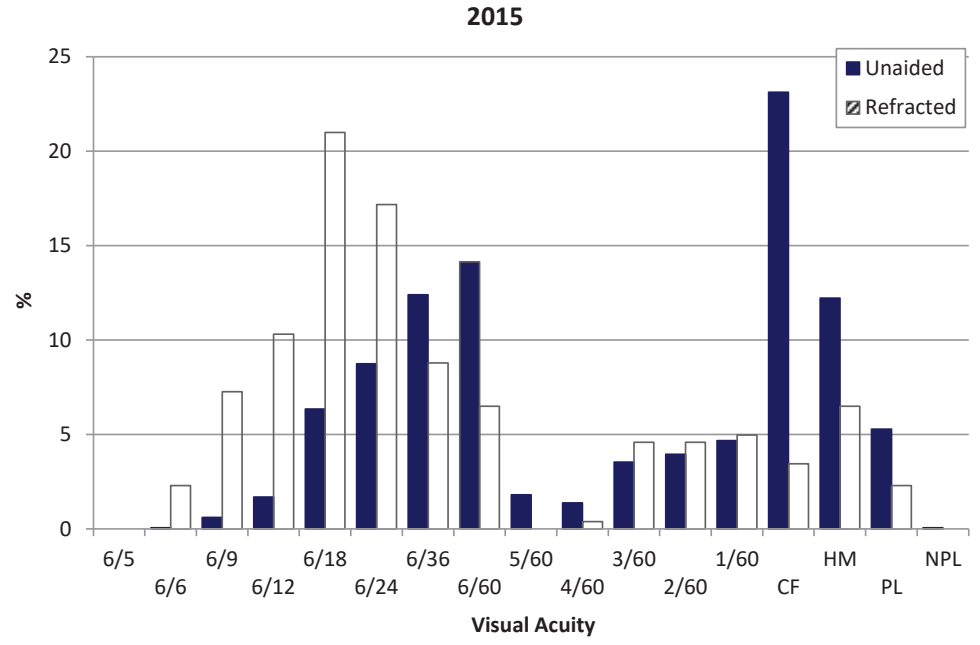


Figure 2.2.6-3:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2015

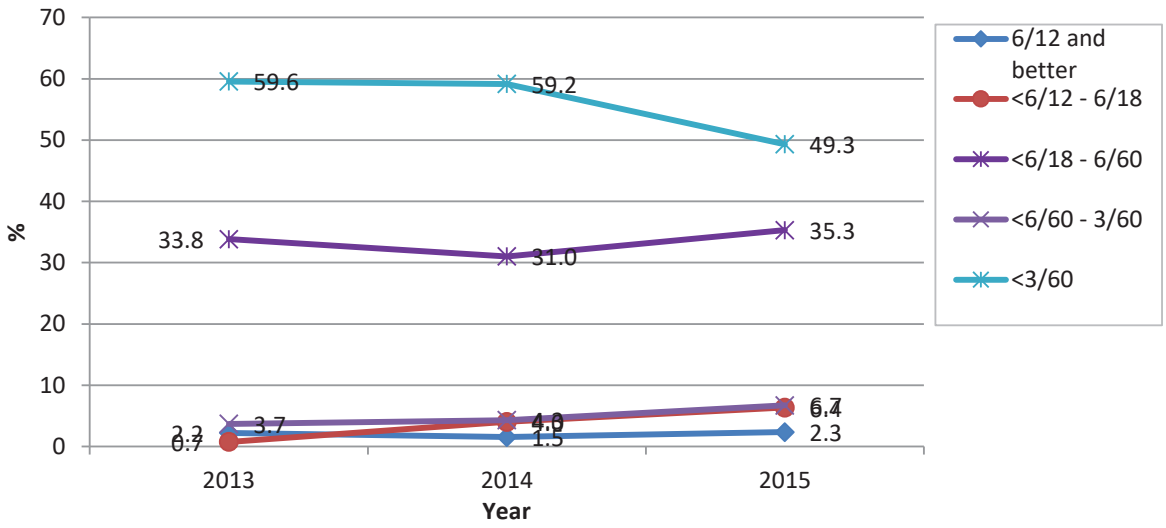


Figure 2.2.6-4:Distribution of Pre-Operative Vision (Unaided/presenting), CSR 2013-2015

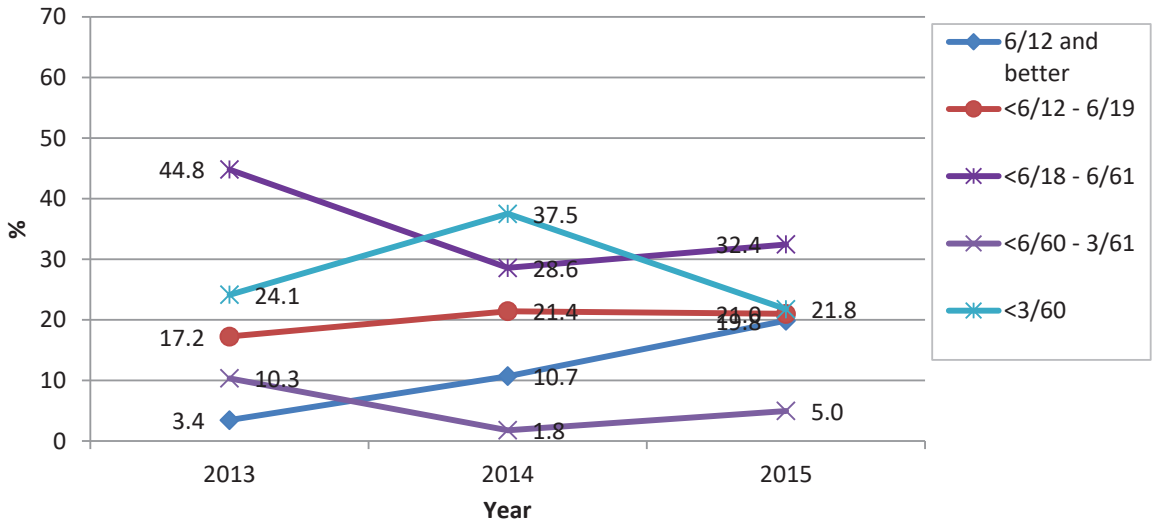


Figure 2.2.6-5:Distribution of Pre-Operative Vision (Refracted), CSR 2013-2015

2.2.7 Target Refractive Power

Table 2.2.7-1:Distribution of Target Refractive Power, CSR 2013-2015

Year	2013	2014	2015
Operated eye (N)	139	894	1598
Mean	-0.3	-0.3	-0.3
SD	0.2	0.2	0.2
Median	-0.3	-0.2	-0.3

Minimum	-0.8	-1.6	-2.1
Maximum	0.0	0.5	1.3

Table 2.2.7-2:Distribution of Target Refractive Power, CSR 2013-2015

Year	2013		2014		2015	
Target refractive power (Dioptres)	Operated eye N=139		Operated eye N=894		Operated eye N=1598	
	n	%	n	%	n	%
-10-<(-9.5)	0	0.0	0	0.0	0	0.0
-9.5-<(-9)	0	0.0	0	0.0	0	0.0
-9-<(-8.5)	0	0.0	0	0.0	0	0.0
-8.5-<(-8)	0	0.0	0	0.0	0	0.0
-8-<(-7.5)	0	0.0	0	0.0	0	0.0
-7.5-<(-7)	0	0.0	0	0.0	0	0.0
-7-<(-6.5)	0	0.0	0	0.0	0	0.0
-6.5-<(-5)	0	0.0	0	0.0	0	0.0
-5-<(-4.5)	0	0.0	0	0.0	0	0.0
-4.5-<(-4)	0	0.0	0	0.0	0	0.0
-4-<(-3.5)	0	0.0	0	0.0	0	0.0
-3.5-<(-3)	0	0.0	0	0.0	0	0.0
-3-<(-2.5)	0	0.0	0	0.0	0	0.0
-2.5-<(-2)	0	0.0	0	0.0	1	0.1
-2-<(-1.5)	0	0.0	1	0.1	1	0.1
-1.5-<(-1)	0	0.0	0	0.0	2	0.1
-1-<(-0.5)	18	13.0	67	7.5	130	8.1
-0.5-<0	120	86.3	822	92.0	1454	91.0
0-<0.5	1	0.7	3	0.3	5	0.3
0.5-<1	0	0.0	1	0.1	2	0.1
1-<1.5	0	0.0	0	0.0	3	0.2
1.5-<2	0	0.0	0	0.0	0	0.0
2-<2.5	0	0.0	0	0.0	0	0.0
2.5-<3	0	0.0	0	0.0	0	0.0
3-<3.5	0	0.0	0	0.0	0	0.0
3.5-<4	0	0.0	0	0.0	0	0.0
4-<4.5	0	0.0	0	0.0	0	0.0
4.5-<5	0	0.0	0	0.0	0	0.0
5-<5.5	0	0.0	0	0.0	0	0.0
5.5-<6	0	0.0	0	0.0	0	0.0
6-<6.5	0	0.0	0	0.0	0	0.0
6.5-<7	0	0.0	0	0.0	0	0.0
7-<7.5	0	0.0	0	0.0	0	0.0
7.5-<8	0	0.0	0	0.0	0	0.0
8-<8.5	0	0.0	0	0.0	0	0.0
8.5-<9	0	0.0	0	0.0	0	0.0

9-<9.5	0	0.0	0	0.0	0	0.0
9.5-10	0	0.0	0	0.0	0	0.0

Values outside the +10D and -10D were excluded from analysis as they would skew the mean.

2.3 Cataract Surgical Practices

2.3.1 Number of Cataract Surgery Registered to CSR by State

Table 2.3.1-1:Number of Cataract Surgery Registered to CSR by State, CSR 2013-2015

State	2013	2014	2015
Kedah	-	-	209
Kelantan	-	186	2
Negeri Sembilan	-	-	4
Pahang	64	-	187
Sabah	-	-	131
Sarawak	76	831	1131
Terengganu	-	38	40

2.3.2 Surgeon Status

Table 2.3.2-1:Surgeon Status, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	140		1055		1704	
	n	%	n	%	n	%
Specialist	135	96.43	1016	96.3	1670	98.0
Gazetting Specialist	5	3.57	35	3.32	26	1.5
Medical Officer	0	0	4	0.38	8	0.5
Missing/NA	0	0	0	0	0	0.0

2.3.3 Duration of Surgery

Table 2.3.3-1:Duration of Surgery by Types of Cataract Surgery in minutes, CSR 2013-2015

Year	2013*		2014*		2015*	
	Median	(25th percentile-75th percentile)	Median	(25th percentile-75th percentile)	Median	(25th percentile-75th percentile)
All eyes	25	(19-35)	20	(17-30)	20	(17-30)
Phaco	22	(18-30)	20	(16-25)	20	(17-26)
ECCE	55	(42-70)	35	(30-47)	45	(35-60)
Phaco → ECCE	50	(38-52)	41	(35-58)	50	(39-66)

ICCE	50	-	32	-	49.5	(46.5-62.5)
Lens Aspiration	-	-	-	-	-	-

Data entered with extreme values i.e. more than 3 hours and less than 15 minutes were not analyzed as it would skew the data

2.3.4 Distribution of Cataract Surgery Performed Under Day Care Setting

Table 2.3.4-1:Distribution of Cataract Surgery Performed Under Day Care Setting, CSR 2013-2015

Year	2013		2014		2015	
Number of SDPs	2		4		7	
Total number of cataract surgery registered to CSR	140		1055		1704	
Number of surgery excluding children and combined surgery	137		1051		1692	
	n	**%**	**n**	**%**	**n**	**%**
Number and % of day care surgery excluding children and combined surgery	76	55.5	1000	95.1	1536	90.8

2.3.5 Distribution of Types of Cataract Surgery

Table 2.3.5-1Distribution of Types of Cataract Surgery, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	140		1055		1704	
	n	**%**	**n**	**%**	**n**	**%**
Phacoemulsification	121	86.4	934	88.5	1608	94.4
ECCE	12	8.6	100	9.5	57	3.3
Lens Aspiration	0	0.0	0	0.0	0	0.0
Phaco converted to ECCE	6	4.3	18	1.7	35	2.1
ICCE	1	0.7	1	0.1	4	0.2

Table 2.3.5-2:Distribution of Types of Cataract Surgery by SDP, CSR 2013-2015

Type of Cataract Surgery												
2013	All Surgeries		Phaco		ECCE		Lens Aspiration		Phaco Converted to ECCE		ICCE	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	140	100.0	121	86.4	12	8.6	0	0.0	6	4.3	1	0.7
KK1M Pahang	64	100.0	47	73.4	11	17.2	0	0.0	5	7.8	1	1.6
KK1M Sarawak	76	100.0	74	97.4	1	1.3	0	0.0	1	1.3	0	0.0

Type of Cataract Surgery												
2014	All Surgeries		Phaco		ECCE		Lens Aspiration		Phaco Converted to ECCE		ICCE	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	1055	100.0	934	88.5	100	9.5	0	0.0	18	1.7	1	0.1

KK1M Terengganu	38	100.0	28	84.2	10	15.8	0	0.0	0	0.0	0	0.0
KK1M Kelantan	186	100.0	94	50.5	82	44.1	0	0.0	9	4.8	0	0.0
KK1M Sarawak	831	100.0	812	97.2	8	1.4	0	0.0	9	1.1	1	0.1

Type of Cataract Surgery												
2015	All Surgeries		Phaco		ECCE		Lens Aspiration		Phaco Converted to ECCE		ICCE	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Centres	1704	100.0	1608	94.4	57	3.3	0	0.0	35	2.1	4	0.2
KK1M Kedah	209	100.0	209	100.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Kelantan	2	100.0	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	100.0	3	75.0	0	0.0	0	0.0	1	25.0	0	0.0
KK1M Pahang	187	100.0	161	86.1	17	9.1	0	0.0	8	4.3	1	0.5
KK1M Sabah	131	100.0	107	81.7	18	13.7	0	0.0	6	4.6	0	0.0
KK1M Sarawak	1,131	100.0	1,096	96.9	13	1.1	0	0.0	19	1.7	3	0.3
KK1M Terengganu	40	100.0	30	75.0	9	22.5	0	0.0	1	2.5	0	0.0

Table 2.3.5-3:Distribution of Phacoemulsification by SDP, CSR 2013-2015

Years	**2013**		**2014**		**2015**	
	n	**%**	**n**	**%**	**n**	**%**
All Centres	121	86.4	934	94.2	1608	94.4
KK1M Kedah	-	-	-	-	209	100.0
KK1M Kelantan	-	-	94	50.5	2	100.0
KK1M Neg. Sembilan	-	-	-	-	3	75.0
KK1M Pahang	47	73.4	-	-	161	86.1
KK1M Sabah	-	-	-	-	107	81.7
KK1M Sarawak	74	97.4	812	97.2	1096	96.9
KK1M Terengganu	-	-	28	84.2	30	75.0

Table 2.3.5-4:Distribution of ECCE by SDP, CSR 2013-2015

Years	**2013**		**2014**		**2015**	
	n	**%**	**n**	**%**	**n**	**%**
All Centres	12	8.6	100	3.6	57	3.3
KK1M Kedah	-	-	-	-	0	0.0
KK1M Kelantan	-	-	82	44.1	0	0.0
KK1M Neg. Sembilan	-	-	-	-	0	0.0
KK1M Pahang	11	17.2	-	-	17	9.1
KK1M Sabah	-	-	-	-	18	13.7
KK1M Sarawak	1	1.3	8	1.4	13	1.1
KK1M Terengganu	-	-	10	15.8	9	22.5

2.3.6 Anaesthesia in Cataract Surgery

Table 2.3.6-1:Types of Anaesthesia, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	140		1055		1704	
	n	%	n	%	n	%
General Anesthesia	0	0.0	4	0.4	4	0.4
Local Anesthesia	139	99.3	1042	98.8	1689	99.1
Type of local anasthesia						
Subtenon	52	37.4	153	14.7	150	8.9
Topical	90	64.7	879	84.4	1549	91.7
Peribulbar	0	0.0	0	0.0	0	0.0
Retrobulbar	3	2.2	0	0.0	0	0.0
Intracameral	3	2.2	5	0.5	38	2.2
Subconjunctival	0	0.0	2	0.2	0	0.0
Facial block	0	0.0	0	0.0	0	0.0
Others	NA	NA	NA	NA	NA	NA
Combined local anaesthesia	13	9.4	6	0.6	99	5.9
Types of sedation for patients under local anaesthesia						
No sedation	39	28.1	582	55.9	924	54.7
Oral sedation alone	9	6.5	0	0.0	1	0.1
Intravenous alone	1	0.7	0	0.0	1	0.1
Intravenous plus oral	0	0.0	0	0.0	0	0.0
Intramuscular alone	17	12.2	0	0.0	0	0.0

Table 2.3.6-2:Types of Anaesthesia in Patients 50 years and above, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	135		1024		1672	
	n	%	n	%	n	%
General Anesthesia	0	0.0	4	0.4	4	0.2
Local Anesthesia	134	99.3	1011	98.7	1658	99.2
Type of local anasthesia						
Subtenon	49	36.6	148	14.6	148	8.9
Topical	89	66.4	855	84.6	1520	91.7
Peribulbar	0	0.0	0	0.0	0	0.0
Retrobulbar	2	1.5	0	0.0	0	0.0
Intracameral	3	2.2	5	0.5	36	2.2
Subconjunctival	0	0.0	2	0.2	0	0.0
Facial block	0	0.0	0	0.0	0	0.0
Others	NA	NA	NA	NA	NA	NA
Combined local anaesthesia	13	9.7	6	0.6	97	5.9
Types of sedation for patients under local anaesthesia						

No sedation	38	28.4	566	56.0	905	54.6
Oral sedation alone	9	6.7	0	0.0	1	0.1
Intravenous alone	1	0.7	0	0.0	1	0.1
Intravenous plus oral	0	0.0	0	0.0	0	0.0
Intramuscular alone	16	11.9	0	0.0	0	0.0

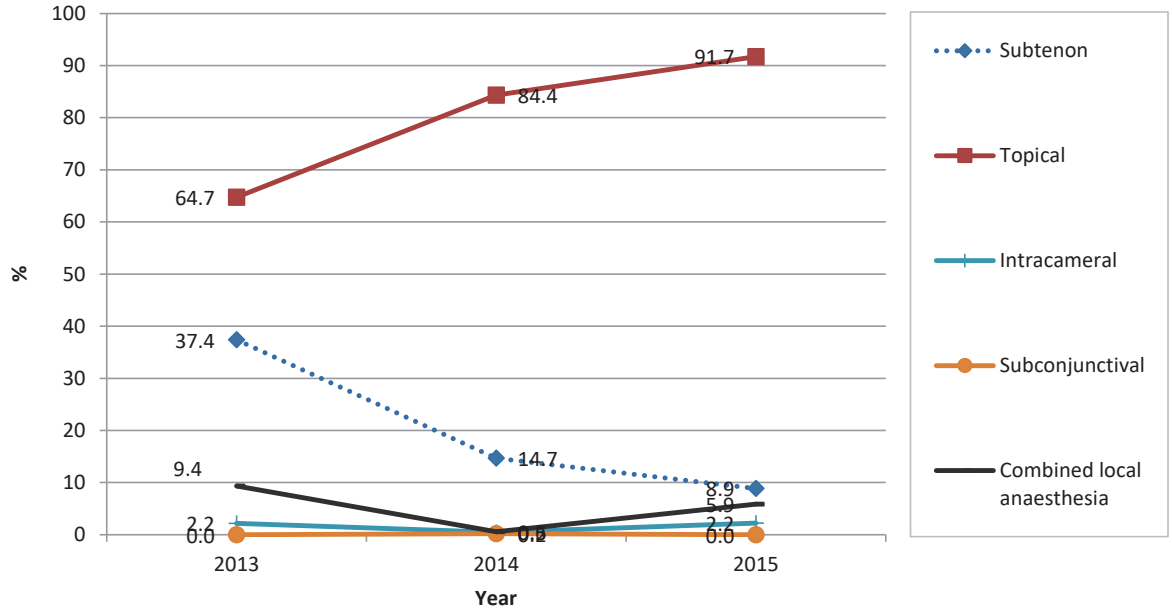


Figure 2.3.6-1:Types of Anaesthesia, CSR 2013-2015

2.3.7 Intraocular Lens Implantation

Table 2.3.7-1:Intraocular Lens Implantation, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	140		1055		1704	
	n	%	n	%	n	%
With IOL	139	99.3	1026	97.3	1678	98.5
Without IOL	1	0.7	29	2.7	26	1.5
Not Available	0	0.0	0	0.0	0	0.0
IOL Placement						
No of IOL	139		1026		1678	
PCIOL	131	94.2	974	94.9	1628	97.0
ACIOL	4	2.9	4	0.4	23	1.4
Scleral Fixated IOL	0	0.0	0	0.0	0	0.0
Others	0	0.0	3	0.3	0	0.0
Not Available /missing	4	2.9	45	4.4	27	1.6

Materials of IOL						
No of IOL	139		1026		1678	
1. Acrylic	123	88.5	987	96.2	1598	95.2
2. PMMA	16	11.5	23	2.2	63	3.8
3. Silicone	0	0.0	1	0.1	1	0.1
4. Others	0	0.0	0	0.0	0	0.0
Not Available/ missing	0	0.0	15	1.5	16	1.0
Types of IOL						
No of IOL	139		1026		1678	
1. Foldable	121	87.1	1008	98.2	1623	96.7
2. Non-foldable	18	12.9	14	1.4	50	3.0
Not Available/ missing	0	0.0	4	0.4	5	0.3

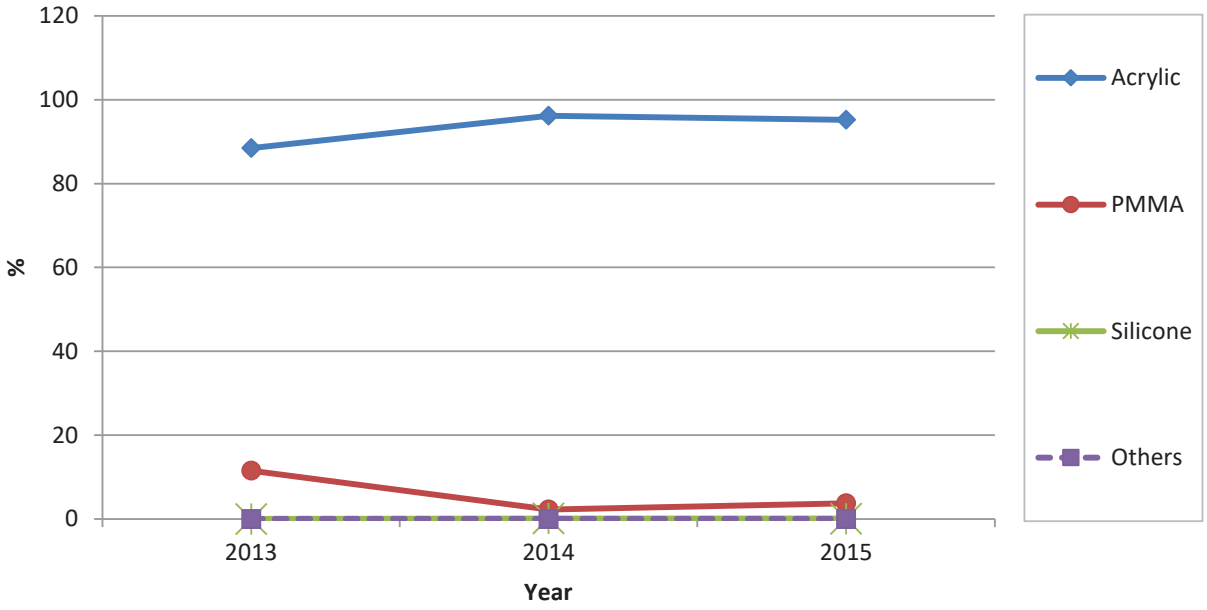


Figure 2.3.7-1:Intraocular Lens Implantation, CSR 2013-2015

Table 2.3.7-2:Distribution of IOL Placement, CSR 2013-2015

Cataract Surgery With IOL																					
	2013							2014							2015						
	N	Posterior Chamber IOL		Anterior Chamber IOL		Scleral Fixated IOL		N	Posterior Chamber IOL		Anterior Chamber IOL		Scleral Fixated IOL		N	Posterior Chamber IOL		Anterior Chamber IOL		Scleral Fixated IOL	
		n	%	n	%	n	%		n	%	n	%	n	%		n	%	n	%	n	%
All Centres	139	131	94.2	4	2.9	0	0.0	1026	974	94.9	4	0.4	0	0.0	1678	1628	97.0	23	1.4	0	0.0
KK1M Kedah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	206	98.6	1	0.5	0	0.0

KK1M Kelantan	-	-	-	-	-	-	-	185	174	94.1	4	2.2	0	0.0	2	2	100.0	0	0.0	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	100.0	0	0.0	0	0.0
KK1M Pahang	64	58	90.6	3	4.7	0	0.0	-	-	-	-	-	-	-	184	175	95.1	6	3.3	0	0.0
KK1M Sabah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	115	89.1	3	2.3	0	0.0
KK1M Sarawak	75	73	97.3	1	1.3	0	0.0	805	766	95.2	0	0.0	0	0.0	1110	1089	98.1	12	1.1	0	0.0
KK1M Terengganu	-	-	-	-	-	-	-	36	34	94.4	0	0.0	0	0.0	40	37	92.5	1	2.5	0	0.0

2.4 Intra-operative Complications

2.4.1 Intra-operative Complications

Table 2.4.1-1:Distribution of Type of Intra-operative Complications, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	140		1055		1704	
	n	%	n	%	n	%
Patient with intra-op complication	10	7.1	52	4.9	84	4.9
Types of complications						
PCR	2	1.4	28	2.7	47	2.8
Vitreous loss	3	2.1	11	1.0	17	1.0
Zonular dehiscence	2	1.4	7	0.7	15	0.9
Drop nucleus	0	0.0	4	0.4	3	0.2
Suprachoroidal haemorrhage	0	0.0	1	0.1	0	0.0
Central corneal oedema	0	0.0	0	0.0	2	0.1
Others	6	4.3	12	1.1	22	1.3

Table 2.4.1-2:Distribution of Type of Intra-operative Complications – Posterior Capsule Rupture, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	140		1055		1704	
	n	%	n	%	n	%
Patient with intra-op complication	10	7.1	52	4.9	84	4.9
Types of complications						
PCR and Others	1	0.7	7	0.7	12	0.7
PCR Only	1	0.7	21	2.0	35	2.1

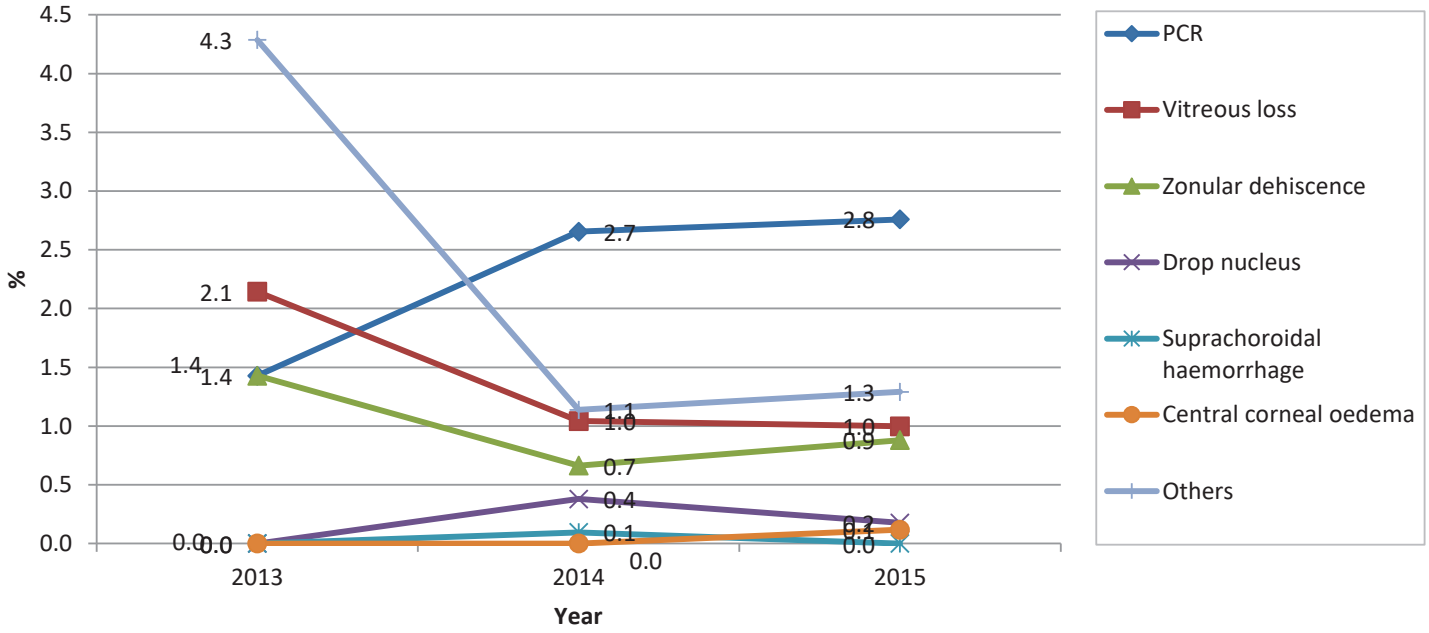


Figure 2.4.1-1:Distribution of Specific Type of Intra-operative Complications, CSR 2013-2015

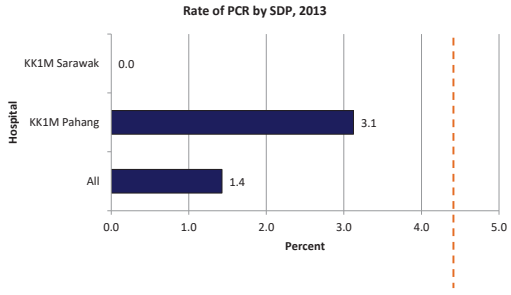
Table 2.4.1-3:Distribution of Types of Intra-operative Complications, CSR 2013-2015

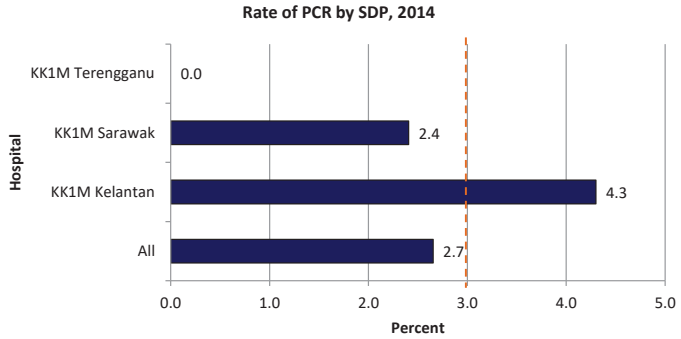
Year	No. of patients (N)	Any intra-op complication		PCR		Vitreous loss		Zonular Dehiscence		Nucleus drop (or dropped nucleus)		Suprachoroida Haemorrhage		Central Corneal Edema		Others	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2013																	
KK1M Pahang	64	10	15.6	2	3.1	3	4.7	2	3.1	0	0.0	0	0.0	0	0.0	6	9.4
KK1M Sarawak	76	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2014																	
KK1M Kelantan	186	13	7.0	8	4.3	6	3.2	1	0.5	0	0.0	0	0.0	0	0.0	4	2.2
KK1M Sarawak	831	35	4.2	20	2.4	5	0.6	5	0.6	4	0.5	1	0.1	0	0.0	5	0.6
KK1M Terengganu	38	4	10.5	0	0.0	0	0.0	1	2.6	0	0.0	0	0.0	0	0.0	3	7.9
205																	
KK1M Kedah	209	4	1.9	2	1.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	3	1.4
KK1M Kelantan	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Neg. Sembilan	4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KK1M Pahang	187	15	8.0	7	3.7	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	10	5.3
KK1M Sabah	131	12	9.2	2	1.5	5	3.8	6	4.6	1	0.8	0	0.0	2	1.5	3	2.3
KK1M Sarawak	1131	51	4.5	36	3.2	10	0.9	8	0.7	3	0.3	0	0.0	0	0.0	5	0.4
KK1M Terengganu	40	2	5.0	0	0.0	0	0.0	1	2.5	0	0.0	0	0.0	0	0.0	1	2.5

2.4.2 PCR

Table 2.4.2-1:PCR, CSR 2013-2015

Hospital	2013			2014			2015		
	N	n	%	N	n	%	N	n	%
KK1M Kedah	-	-	-	-	-	-	209	2	1.0
KK1M Kelantan	-	-	-	186	8	4.3	2	0	0.0
KK1M Neg. Sembilan	-	-	-	-	-	-	4	0	0.0
KK1M Pahang	64	2	3.1	-	-	-	187	7	3.7
KK1M Sabah	-	-	-	-	-	-	131	2	1.5
KK1M Sarawak	76	0	0.0	831	20	2.4	1131	36	3.2
KK1M Terengganu	-	-	-	38	0	0.0	40	0	0.0





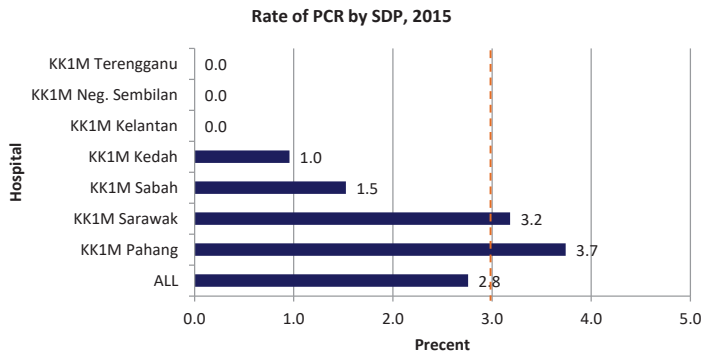
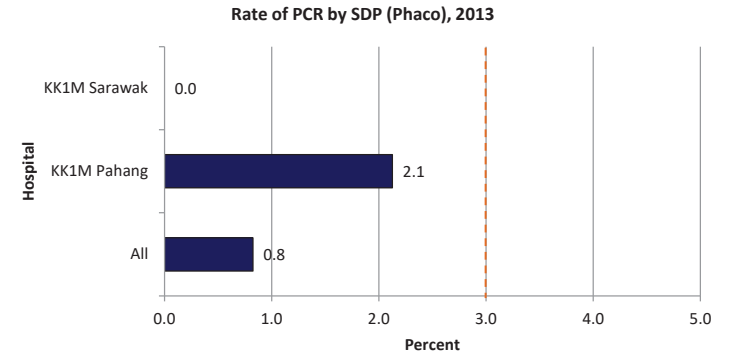
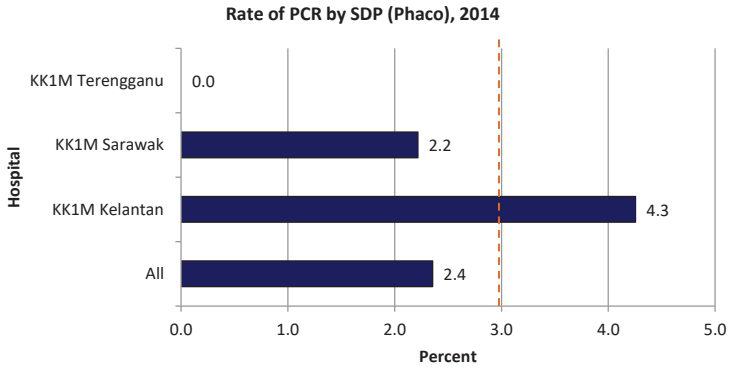


Figure 2.4.2-1:PCR (all surgeries) (National standard set at <3.0%), CSR 2013-2015





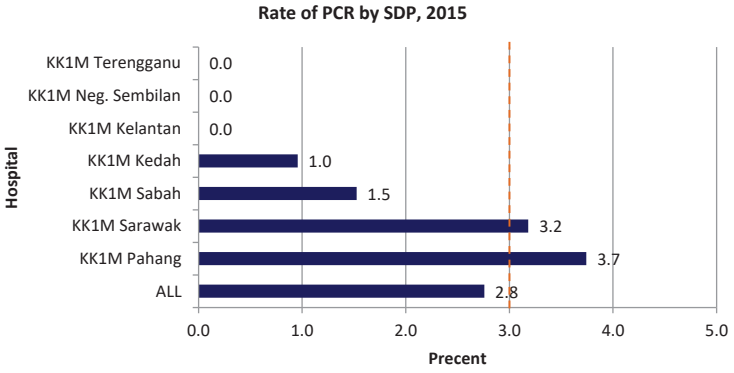


Figure 2.4.2-2:PCR (Phaco only) (National standard set at <3.0%), CSR 2013-2015

2.4.3 PCR by Type of Cataract Surgery

Table 2.4.3-1:PCR by Type of Cataract Surgery, CSR 2013-2015

Year	2013			2014			2015		
No. of patients	140			1055			1704		
Total PCR	2			28			47		
	N	n	%	N	n	%	N	n	%
Phaco	121	1	0.8	934	22	2.4	1608	36	2.2
ECCE	12	0	0.0	100	3	3.0	57	2	3.5
Lens Aspiration	0	0	0.0	0	0	0.0	0	0	0.0
ICCE	1	0	0.0	1	0	0.0	4	0	0.0
Phaco converted to ECCE	6	1	16.7	18	3	16.7	35	9	25.7

2.5 Cataract Surgery Outcome

2.5.1 Post-operative Complications Record and Ascertainment

Table 2.5.1-1:Distribution of Cataract Surgery with Post-operative Complication Record, CSR 2013-2015

Year	2013	2014	2015
Total number of cataract surgery registered to CSR	140	1055	1704
Cataract surgery with post-operative complication record	115	981	1650
Ascertainment on post-operative complication (%)	(82.1)	(93.0)	(96.8)
Cataract surgery with visual outcome record	98	863	1455
Ascertainment on visual outcome (%)	(70.0)	(81.8)	(85.4)

2.5.2 Post-operative Infectious Endophthalmitis

Table 2.5.2-1:Post-operative Infectious Endophthalmitis, CSR 2013-2015

Year	2013	2014	2015
Eyes with post-operative complication records (N)	115	981	1650
Eyes with post-operative infectious endophthalmitis (n)	0	0	0
Percentage of eyes with post-operative endophthalmitis (%)	0.0	0.0	0.0

2.5.3 Post-operative Follow-up Period

Table 2.5.3-1:Median Follow-up Period for Eyes with Unaided Vision (in weeks) by Types of Surgery, CSR 2013-2015

Types of surgery	2013					2014					2015				
	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile
All surgeries	98	98	5	5	6	863	861	5	5	6	1455	1453	6	5	7
Phaco	88	88	5	4	6	799	797	5	5	6	1383	1381	6	5	7
ECCE	4	4	6	5.5	6	55	55	8	6	13	38	38	9	6	12
Phaco → ECCE	6	6	6	6	7	8	8	8.5	6.5	12	30	30	6.5	5	12
ICCE	0	0	-	-	-	0	0	-	-	-	4	4	8	5	11.5
Lens aspiration	0	0	-	-	-	0	0	-	-	-	0	0	0	0	0

n = No. of available information

Table 2.5.3-2:Median Follow-up Period for Eyes with Refracted Vision (in weeks) by Types of Surgery, CSR 2013-2015

Types of surgery	2013					2014					2015				
	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile
All surgeries	99	99	6	5	6	843	841	5	5	6	1397	1395	6	5	7
Phaco	88	88	5	4	6	787	785	5	5	6	1330	1328	6	5	7
ECCE	4	4	6	5.5	6	48	48	9	6	13	35	35	9	6	12
Phaco → ECCE	6	6	6	6	7	7	7	9	6	12	28	28	6.5	5	12
ICCE	1	1	6	-	-	0	0	-	-	-	4	4	8	5	11.5
Lens aspiration	0	0	-	-	-	0	0	-	-	-	0	0	0	0	0

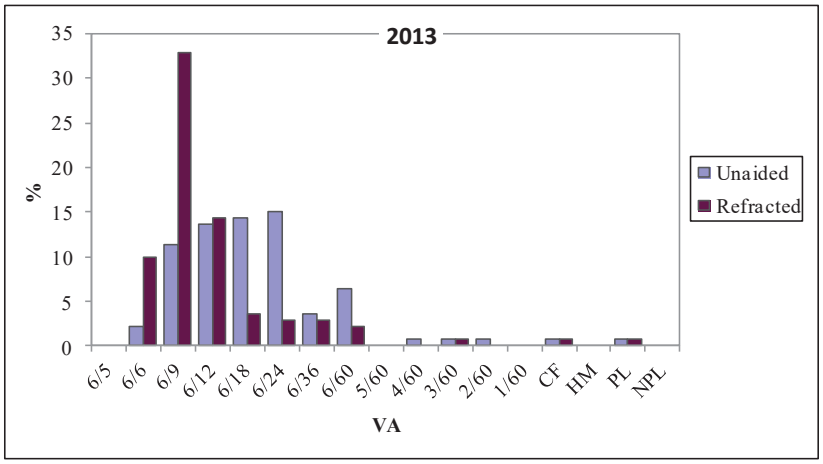
n = No. of available information

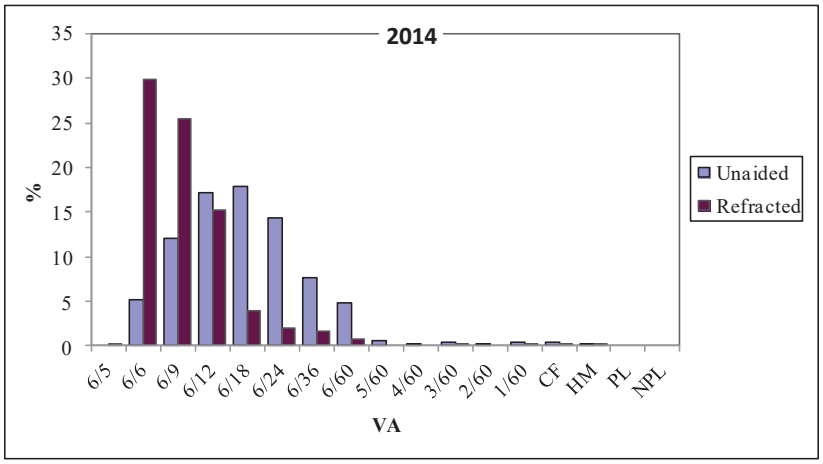
2.5.4 Post-operative Visual Acuity

Table 2.5.4-1:Post-operative Visual Acuity, All Eyes, CSR 2013-2015

Year	2013				2014				2015			
VA	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
	n	%	n	%	n	%	n	%	n	%	n	%
6/5	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
6/6	3	2.1	14	10.0	54	5.1	315	29.9	101	5.9	597	35.0
6/9	16	11.4	46	32.9	128	12.1	268	25.4	310	18.2	458	26.9
6/12	19	13.6	20	14.3	182	17.3	161	15.3	367	21.5	214	12.6
6/18	20	14.3	5	3.6	189	17.9	42	4.0	273	16.0	44	2.6
6/24	21	15.0	4	2.9	151	14.3	22	2.1	195	11.4	34	2.0
6/36	5	3.6	4	2.9	81	7.7	17	1.6	105	6.2	18	1.1
6/60	9	6.4	3	2.1	51	4.8	8	0.8	66	3.9	15	0.9
5/60	0	0.0	0	0.0	6	0.6	0	0.0	2	0.1	0	0.0
4/60	1	0.7	0	0.0	2	0.2	0	0.0	3	0.2	3	0.2

3/60	1	0.7	1	0.7	5	0.5	2	0.2	5	0.3	2	0.1
2/60	1	0.7	0	0.0	1	0.1	0	0.0	4	0.2	0	0.0
1/60	0	0.0	0	0.0	5	0.5	3	0.3	6	0.4	4	0.2
CF	1	0.7	1	0.7	5	0.5	2	0.2	11	0.6	4	0.2
HM	0	0.0	0	0.0	3	0.3	2	0.2	4	0.2	2	0.1
PL	1	0.7	1	0.7	0	0.0	0	0.0	2	0.1	1	0.1
NPL	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
Missing	42	30.0	41	29.3	192	18.2	212	20.1	249	14.6	307	18.0
Total	**140**	**100.0**	**140**	**100**	**1055**	**100**	**1055**	**100**	**1704**	**100**	**1704**	**100**





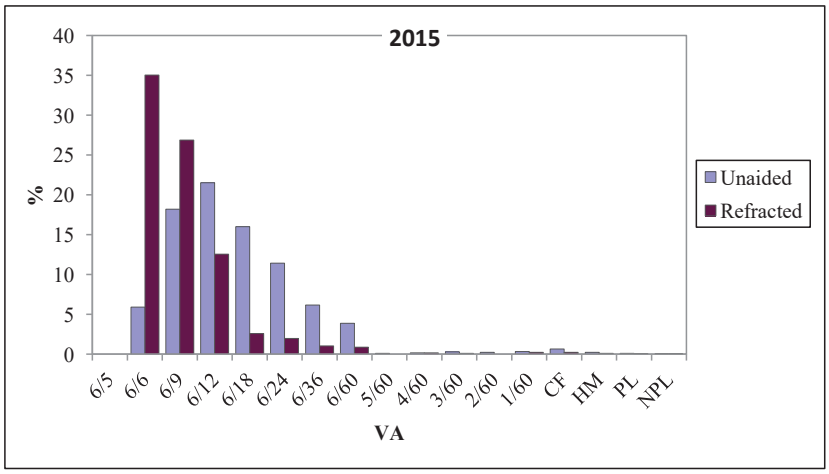
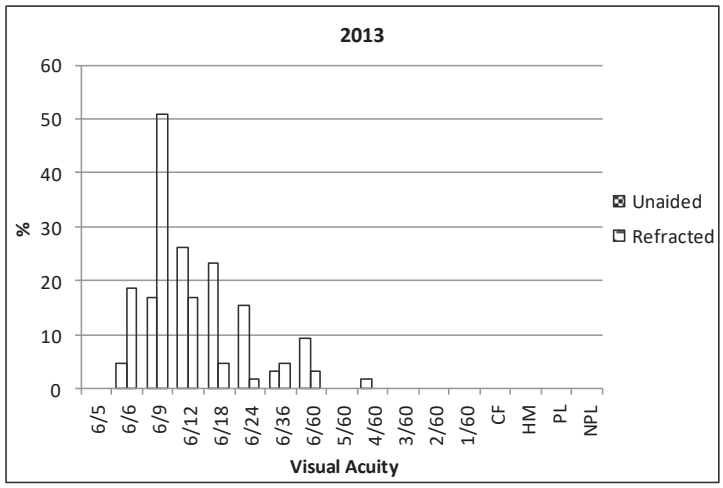
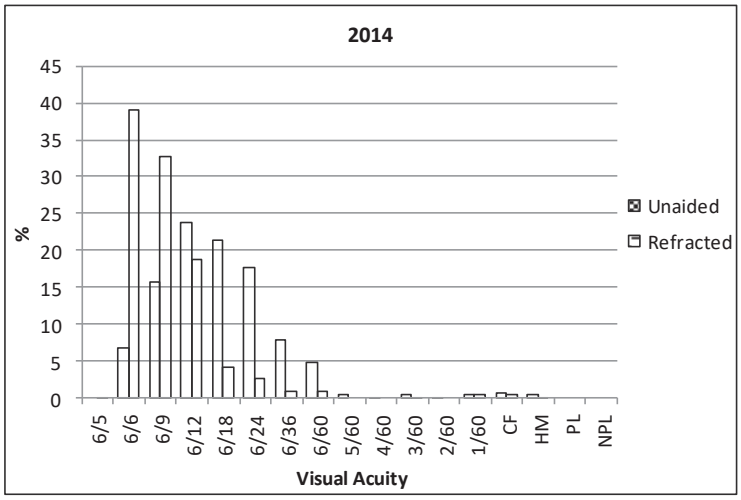


Figure 2.5.4-1:Distribution of Post-operative Unaided and Refracted Visual Acuity, All Eyes, CSR 2013-2015

Table 2.5.4-2:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2013-2015

Year	2013				2014				2015			
	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
VA	n	%	n	%	n	%	n	%	n	%	n	%
6/5	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0
6/6	3	4.6	12	18.5	45	6.7	254	39.0	94	7.5	536	44.4
6/9	11	16.9	33	50.8	105	15.7	212	32.6	273	21.9	402	33.3
6/12	17	26.2	11	16.9	158	23.7	122	18.7	321	25.7	173	14.3
6/18	15	23.1	3	4.6	142	21.3	27	4.1	239	19.2	32	2.7
6/24	10	15.4	1	1.5	117	17.5	17	2.6	161	12.9	30	2.5
6/36	2	3.1	3	4.6	52	7.8	6	0.9	85	6.8	14	1.2
6/60	6	9.2	2	3.1	32	4.8	6	0.9	52	4.2	10	0.8
5/60	0	0.0	0	0.0	3	0.4	0	0.0	2	0.2	0	0.0
4/60	1	1.5	0	0.0	1	0.1	0	0.0	3	0.2	2	0.2
3/60	0	0.0	0	0.0	2	0.3	1	0.2	2	0.2	0	0.0
2/60	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
1/60	0	0.0	0	0.0	3	0.4	2	0.3	3	0.2	1	0.1
CF	0	0.0	0	0.0	4	0.6	2	0.3	10	0.8	4	0.3
HM	0	0.0	0	0.0	2	0.3	1	0.2	1	0.1	1	0.1
PL	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
NPL	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
Total	**65**	**100**	**65**	**100**	**667**	**100**	**651**	**100**	**1248**	**100**	**1206**	**100**





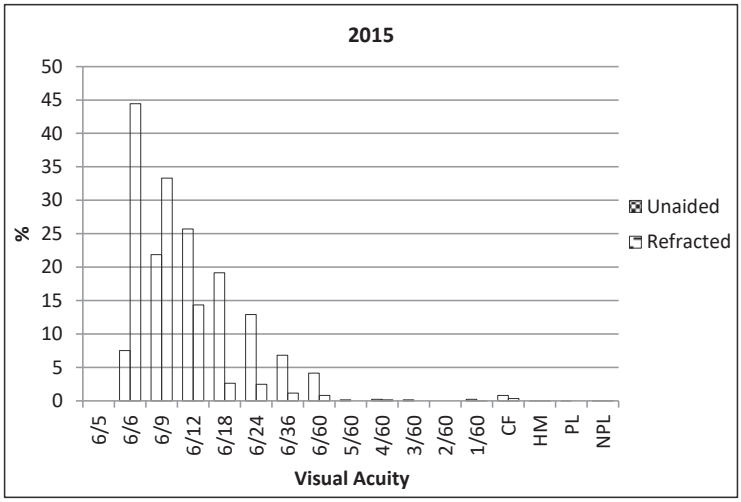


Figure 2.5.4-2:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2013-2015

2.5.5 Post-operative Visual Acuity 6/12 or Better Among Eyes without Ocular Co-morbidity

Table 2.5.5-1:Post-operative Visual Acuity 6/12 or Better for Eyes without Ocular Co-morbidities by Types of Surgery, CSR 2013-2015

	2013						2014						2015					
	Unaided			Refracted			Unaided			Refracted			Unaided			Refracted		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All Surgeries	65	31	47.7	65	56	86.2	667	308	46.2	651	589	90.5	1248	688	55.1	1206	1111	92.1
Phaco	60	30	50.0	60	54	90.0	622	292	46.9	612	555	90.7	1189	679	57.1	1150	1072	93.2
ECCE	2	1	50.0	2	1	50.0	40	13	32.5	35	31	88.6	30	8	26.7	28	21	75.0
Phaco → ECCE	3	0	0.0	3	1	33.3	4	2	50.0	3	2	66.67	26	1	3.8	28	16	57.1
Lens Aspiration	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
ICCE	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	3	0	0.0	3	2	66.7

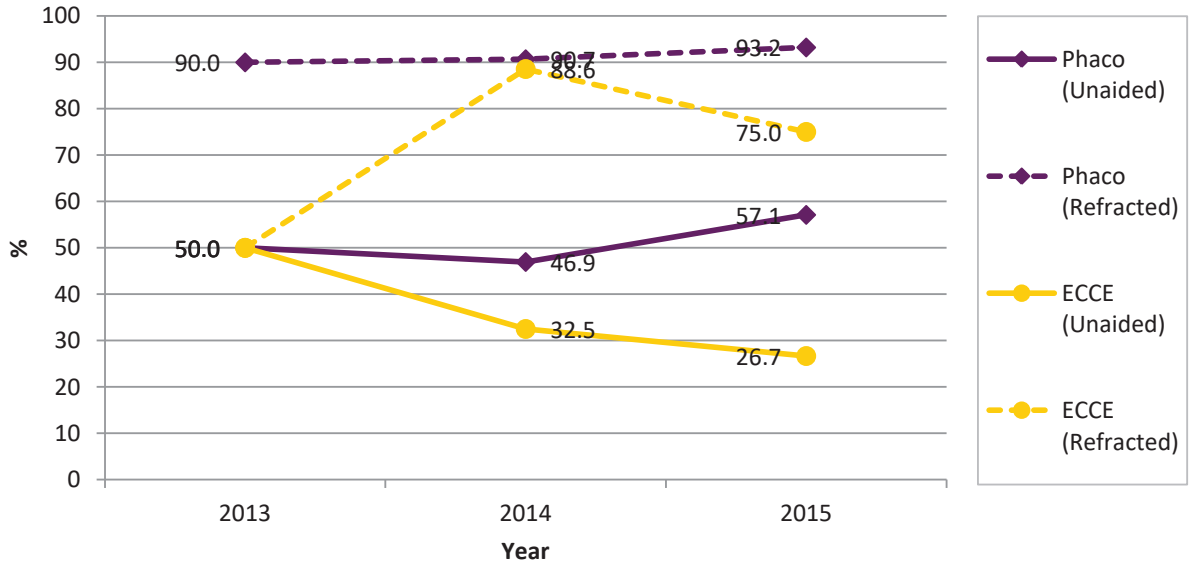


Figure 2.5.5-1:Figure 2.5.5 1:Post-operative Visual Acuity 6/12 or Better for Eyes without Ocular Co-morbidities by ECCE and Phaco, CSR 2013-2015

Table 2.5.5-2:Post-operative Refracted Visual Acuity 6/12 or Better in Eyes without Ocular Co-morbidities by Complications and Types of Surgery, CSR 2013-2015

2013	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	5	2	40.0	0	0	0.0	0	0	0.0	3	2	66.7	2	0	0.0	0	0	0.0
No intra-op complications	60	54	90.0	0	0	0.0	2	1	50.0	57	52	91.2	1	1	100.0	0	0	0.0

2014	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	21	17	81.0	0	0	0.0	4	4	100.0	15	12	80.0	2	1	50.0	0	0	0.0
No intra-op complications	630	572	90.8	0	0	0.0	31	27	87.1	597	543	91.0	1	1	100.0	0	0	0.0

2015	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	46	33	71.7	0	0	0.0	5	2	40.0	31	26	83.9	9	4	44.4	1	1	100.0
No intra-op complications	1160	1078	92.9	0	0	0.0	23	19	82.6	1119	1046	93.5	16	12	75.0	2	1	50.0

2.5.6 Factors Contributing to Post-operative Refracted Visual Acuity of Worse than 6/12

Table 2.5.6-1:Factors Contributing to Post-operative Refracted VA of Worse than 6/12 in All Eyes, CSR 2013-2015

Year	2013		2014		2015	
Factors	n	%	n	%	n	%
N (total no. of post-op refracted vision worse than 6/12)	19		98		128	
Preexisting ocular co-morbidity	3	15.8	12	12.2	20	20.4
High astigmatism	5	26.3	15	15.3	15	15.3
Posterior capsular opacity	0	0.0	1	1.0	4	4.1
Cystoid macular oedema	0	0.0	0	0.0	1	1.0
Endophthalmitis	0	0.0	0	0.0	0	0.0
Corneal decompensation	0	0.0	0	0.0	1	1.0
Decentered IOL	1	5.3	0	0.0	0	0.0
Retinal detachment	0	0.0	1	1.0	0	0.0
Others	11	57.9	28	28.6	50	51.0

Table 2.5.6-2:Factors Contributing to Post-operative Refracted VA of Worse than 6/12 in Eyes without Preexisting Ocular co-morbidity, CSR 2013-2015

	2013		2014		2015	
Factors	n	%	n	%	n	%
N	9		62		95	
Preexisting ocular co-morbidity (not detected pre-operatively)	0	0.0	6	9.7	6	6.3
High astigmatism	2	22.2	5	8.1	13	13.7
Posterior capsular opacity	0	0.0	1	1.6	2	2.1
Cystoid macular oedema	0	0.0	0	0.0	1	1.1
Endophthalmitis	0	0.0	0	0.0	0	0.0
Corneal decompensation	0	0.0	0	0.0	1	1.1
Decentered IOL	1	11.1	0	0.0	0	0.0
Retinal detachment	0	0.0	0	0.0	0	0.0
Others	5	55.6	20	32.3	41	43.2

2.5.7 Actual or Residual Refractive Power (in Spherical Equivalent)

Table 2.5.7-1:Distribution of Target and Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

	Target Refraction			Actual-Target Refraction			Actual Refraction					
	All Patient			All Patient			ECCE			Phaco		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
N	139	894	1598	86	649	1039	4	41	29	76	705	1060
Mean	-0.3	-0.3	-0.3	-0.4	-0.8	-0.3	-0.4	-1.2	-1.1	-0.7	-1.0	-0.6
SD	0.2	0.2	0.2	0.9	1.0	0.9	1.4	1.1	1.1	0.9	0.9	0.8
Median	-0.3	-0.2	-0.3	-0.5	-0.7	-0.3	-0.4	-1.3	-1.0	-0.8	-0.9	-0.5
Minimum	-0.8	-1.6	-2.1	-3.2	-4.5	-3.6	-2.0	-4.0	-3.0	-3.3	-5.4	-3.8
Maximum	0.0	0.5	1.3	1.8	3.3	8.3	0.0	0.8	2.5	1.6	3.0	7.5

Note: Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis

Table 2.5.7-2:Percentage Distribution of Target and Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

	Target Refraction						Actual Refraction											
	All Patients						ECCE						Phaco					
	2013		2014		2015		2013		2014		2015		2013		2014		2015	
Dioptre (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-10.0-<(-9.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.5-<(-9.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.0-<(-7.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.5-<(-7.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

-7.0-<(-6.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-6.5-<(-5.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
-5.0-<(-4.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-4.5-<(-4.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0
-4.0-<(-3.5)	0	0.0	0	0.0	0	0.0	0	0.0	2	4.9	0	0.0	0	0.0	5	0.7	1	0.1
-3.5-<(-3.0)	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0	1	1.3	8	1.1	1	0.1
-3.0-<(-2.5)	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	2	6.9	1	1.3	25	3.5	4	0.4
-2.5-<(-2.0)	0	0.0	0	0.0	1	0.1	0	0.0	3	7.3	3	10.3	3	3.9	46	6.5	13	1.2
-2.0-<(-1.5)	0	0.0	1	0.1	1	0.1	1	25.0	7	17.1	3	10.3	5	6.6	72	10.2	54	5.1
-1.5-<(-1.0)	0	0.0	0	0.0	2	0.1	1	25.0	8	19.5	6	20.7	12	15.8	120	17.0	133	12.5
-1.0-<(-0.5)	18	12.9	67	7.5	130	8.1	1	25.0	7	17.1	4	13.8	21	27.6	179	25.4	307	29.0
-0.5-<0.0	120	86.3	822	91.9	1454	91.0	0	0.0	4	9.8	8	27.6	16	21.1	126	17.9	331	31.2
0.0-<0.5	1	0.7	3	0.3	5	0.3	0	0.0	7	17.1	2	6.9	7	9.2	80	11.3	146	13.8
0.5-<1.0	0	0.0	1	0.1	2	0.1	0	0.0	1	2.4	0	0.0	6	7.9	32	4.5	45	4.2
1.0-<1.5	0	0.0	0	0.0	3	0.2	1	25.0	0	0.0	0	0.0	2	2.6	6	0.9	16	1.5
1.5-<2.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	2.6	1	0.1	2	0.2
2.0-<2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.3
2.5-<3.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.4	0	0.0	1	0.1	0	0.0
3.0-<3.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
3.5-<4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
4.0-<4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4.5-<5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
5.0-<5.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.5-<6.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.0-<6.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.5-<7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.0-<7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.5-<8.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
8.0-<8.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8.5-<9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.0-<9.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.5-<10.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis

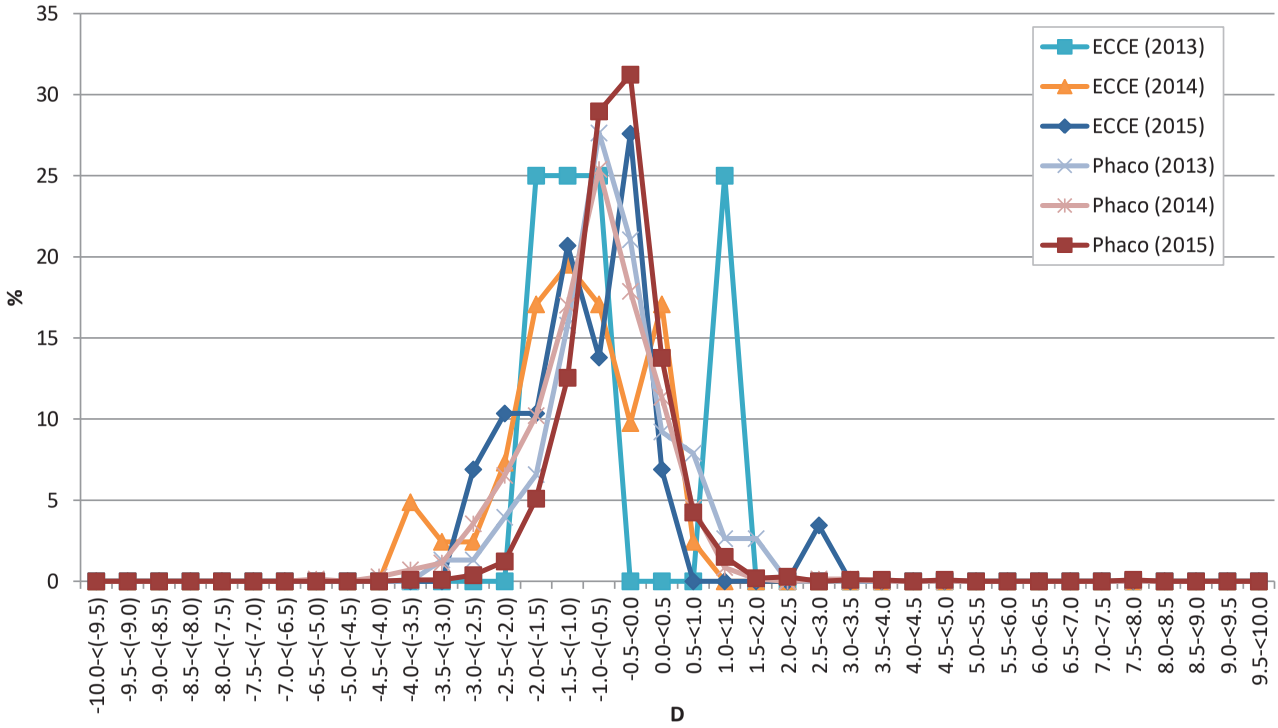


Figure 2.5.7-1:Distribution of Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

Table 2.5.7-3:Difference in Target and Actual Refractive Power for Patients who had Phacoemulsification Only, CSR 2013-2015

	Target Refraction						Actual Refraction						Difference between Target and Actual Refraction					
	2013		2014		2015		2013		2014		2015		2013		2014		2015	
Power (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
N	120	100	807	100	1507	100	76	100	705	100	1060	100	75	100	614	100	985	100
-10.0-<(-9.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.5-<(-9.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.0-<(-7.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.5-<(-7.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.0-<(-6.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-6.5-<(-5.0)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
-5.0-<(-4.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-4.5-<(-4.0)	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0	0	0.0	1	0.2	0	0.0
-4.0-<(-3.5)	0	0.0	0	0.0	0	0.0	0	0.0	5	0.7	1	0.1	0	0.0	5	0.8	1	0.1
-3.5-<(-3.0)	0	0.0	0	0.0	0	0.0	1	1.3	8	1.1	1	0.1	1	1.3	5	0.8	1	0.1
-3.0-<(-2.5)	0	0.0	0	0.0	0	0.0	1	1.3	25	3.5	4	0.4	1	1.3	16	2.6	1	0.1
-2.5-<(-2.0)	0	0.0	0	0.0	1	0.1	3	3.9	46	6.5	13	1.2	2	2.7	36	5.9	9	0.9
-2.0-<(-1.5)	0	0.0	0	0.0	0	0.0	5	6.6	72	10.2	54	5.1	4	5.3	72	11.7	25	2.5
-1.5-<(-1.0)	0	0.0	0	0.0	1	0.1	12	15.8	120	17.0	133	12.5	8	10.7	87	14.2	93	9.4
-1.0-<(-0.5)	9	7.5	40	5.0	117	7.8	21	27.6	179	25.4	307	29.0	20	26.7	140	22.8	227	23.0
-0.5-<0.0	110	91.7	764	94.7	1379	91.5	16	21.1	126	17.9	331	31.2	15	20.0	133	21.7	321	32.6
0.0-<0.5	1	0.8	3	0.4	5	0.3	7	9.2	80	11.3	146	13.8	13	17.3	67	10.9	206	20.9
0.5-<1.0	0	0.0	0	0.0	2	0.1	6	7.9	32	4.5	45	4.2	7	9.3	42	6.8	66	6.7
1.0-<1.5	0	0.0	0	0.0	2	0.1	2	2.6	6	0.9	16	1.5	1	1.3	8	1.3	21	2.1
1.5-<2.0	0	0.0	0	0.0	0	0.0	2	2.6	1	0.1	2	0.2	3	4.0	0	0.0	7	0.7
2.0-<2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.3	0	0.0	0	0.0	3	0.3
2.5-<3.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.2	0	0.0
3.0-<3.5	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1	0	0.0	1	0.2	1	0.1
3.5-<4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
4.0-<4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4.5-<5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
5.0-<5.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
5.5-<6.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.0-<6.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.5-<7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

7.0-<7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.5-<8.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1
8.0-<8.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8.5-<9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.0-<9.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.5-<10.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

NOTE: Formula of $SE = Sp + (\frac{Cy}{2})$

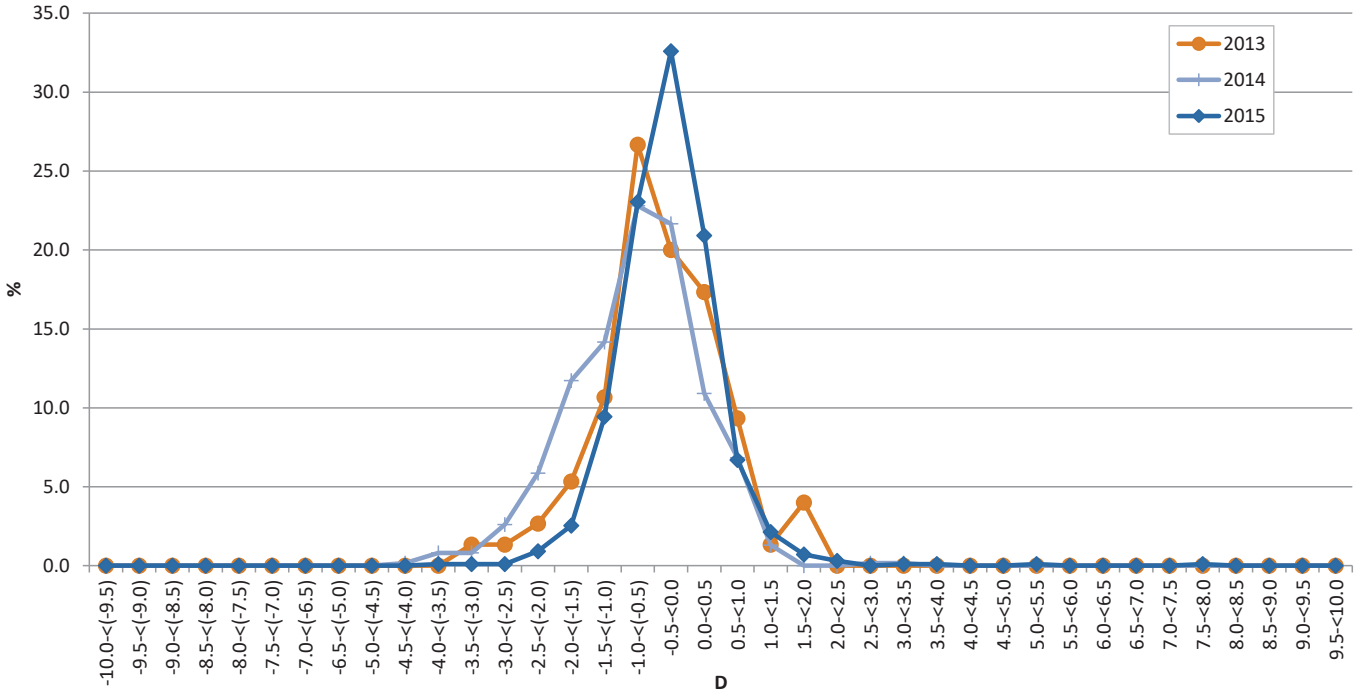


Figure 2.5.7-2:Difference in Target and Actual Refractive Power for Patients who had Phacoemulsification Only, CSR 2013-2015

Table 2.5.7-4:Percentage of Difference in Target and Actual Refractive Power within ±1.0D by SDP, CSR 2013-2015

2013	All			By Phacoemulsification			By ECCE		
	No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D		No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D		No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D	
	N	n	%	N	n	%	N	n	%

All Centres	86	61	70.9	75	55	73.3	4	1	25.0
KK1M Pahang	34	24	70.6	25	19	76.0	3	1	33.3
KK1M Sarawak	52	37	71.2	50	36	72.0	1	0	0.0

2014	**All**			**By Phacoemulsification**			**By ECCE**		
	No. of patient with refracted VA	**Difference between Target and Actual Refraction within ±1.0D**		**No. of patient with refracted VA**	**Difference between Target and Actual Refraction within ±1.0D**		**No. of patient with refracted VA**	**Difference between Target and Actual Refraction within ±1.0D**	
	N	**n**	**%**	**N**	**n**	**%**	**N**	**n**	**%**
All Centres	649	402	61.9	614	382	62.2	29	18	62.1
KK1M Terengganu	22	16	72.7	15	13	86.7	7	3	42.9
KK1M Kelantan	62	47	75.8	41	35	85.4	18	11	61.1
KK1M Sarawak	565	339	60.0	558	334	59.9	4	4	100.0

2015	**All**			**By Phacoemulsification**			**By ECCE**		
	No. of patient with refracted VA	**Difference between Target and Actual Refraction within ±1.0D**		**No. of patient with refracted VA**	**Difference between Target and Actual Refraction within ±1.0D**		**No. of patient with refracted VA**	**Difference between Target and Actual Refraction within ±1.0D**	
	N	**n**	**%**	**N**	**n**	**%**	**N**	**n**	**%**
All Centres	1039	845	81.3	985	820	83.2	26	15	57.7
KK1M Kedah	134	123	91.8	134	123	91.8	0	0	0.0
KK1M Neg. Sembilan	3	2	66.7	2	1	50.0	0	0	0.0
KK1M Pahang	113	82	72.6	96	75	78.1	10	6	60.0
KK1M Sabah	53	39	73.6	40	34	85.0	9	5	55.6
KK1M Sarawak	735	598	81.4	712	586	82.3	7	4	57.1
KK1M Terengganu	1	1	100.0	1	1	100.0	0	0	0.0

NOTE: Formula of Actual Refraction, $SE = Sp + (\frac{Cy}{2})$

Result is based on available info of target and actual refraction.

Target/Planned refractive power = Section pre-clerking

Actual refractive power, SE = Section post-op visual acuity measurement (SE=SP+(CY/2))

Denominator = patient with refraction = if info available in refracted vision Section post-op visual acuity measurement

CHAPTER 3

PUSAT PEMBEDAHAN KATARAK MAIWP-HOSPITAL SELAYANG 2015

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CHAPTER 3: PUSAT PEMBEDAHAN KATARAK MAIWP-HOSPITAL SELAYANG (PPKM-HS)

PPKM-HS forms the “static” component of the KK1M Strategy to address issue of cataract blindness within the urban population. It is a community based one-stop center for cataract surgery, has two fully functioning operating theatres and includes all other cataract care pathways under one roof. It opens for clinic and surgery sessions daily from Monday to Friday.

Consistent with its aim to maximise output at the same time to produce high quality good outcome surgery, the scheduled surgical cases are low risks and performed by fully certified surgeons from all over the country in particular from hospitals in the Klang Valley. Its location within the commercial area facilitates population access to the center. Cataract surgical data are entered into the local Eye Clinic Management System (ECMS) which synchronises with NED database at regular intervals.

3.1 Stock and Flow

PPKM-HS receives feeder from hospitals within the Central Zone (Selangor, Wilayah Persekutuan and Negeri Sembilan) and beyond. The number of patients increased from 1506 in 2013 to 2256 in 2014. The number decreased in 2015 due to closures of Operating Theaters resulting from several incidence of infrastructure failures.

3.1.1 Stock and Flow

Table 3.1.1-1:Stock and Flow, CSR 2013-2015

Year	2013		2014		2015	
Total no. of cataract surgery registered to CSR	1506		2266		1824	
	n	%	n	%	n	%
Cataract surgery with visual outcome records	1441	95.7	2183	96.3	1500	82.2

3.2 Characteristics of Patients

Although PPKM-HS is part of the Cataract Free Zone Project - KK1M strategy to address cataract blindness issue in the country, the mean presenting age of the patients was younger,compared to the mean presenting age for MOH (65.7). This could be due to its location in the urban area.

3.2.1 Patient Demography

Table 3.2.1-1:Age and Gender Distributions, CSR 2013-2015

Year	2013	2014	2015
Total number of cataract surgery	1506	2266	1824
Age			
Mean (years)	65.3	65.2	65
Median (years)	66	66	66
Minimum (year)	19	1	32
Maximum (years)	93	98	86

% Distribution						
Age group, years	**n**	**%**	**n**	**%**	**n**	**%**
0-4	0	0.0	1	0.0	0	0.0
5-9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	1	0.1	0	0.0	0	0.0
20-24	3	0.2	1	0.0	0	0.0
25-29	0	0.0	0	0.0	0	0.0
30-34	1	0.1	4	0.2	4	0.2
35-39	4	0.3	3	0.1	11	0.6
40-44	17	1.1	23	1.0	20	1.1
45-49	36	2.4	65	2.5	50	2.7
50-54	108	7.2	134	5.0	124	6.8
55-59	177	11.8	317	12.3	227	12.5
60-64	294	19.5	430	17.9	363	19.9
65-69	343	22.8	541	23.6	466	25.6
70-74	320	21.3	435	19.6	315	17.3
75-79	156	10.4	261	12.7	219	12.0
≥80	46	3.1	51	5.2	25	1.4
Missing	0	0	0	0	0	0.0
Gender						
Male	684	45.4	1077	47.5	865	47.4
Female	822	54.6	1189	52.5	959	52.6
Missing	0	0	0	0	0	0.0

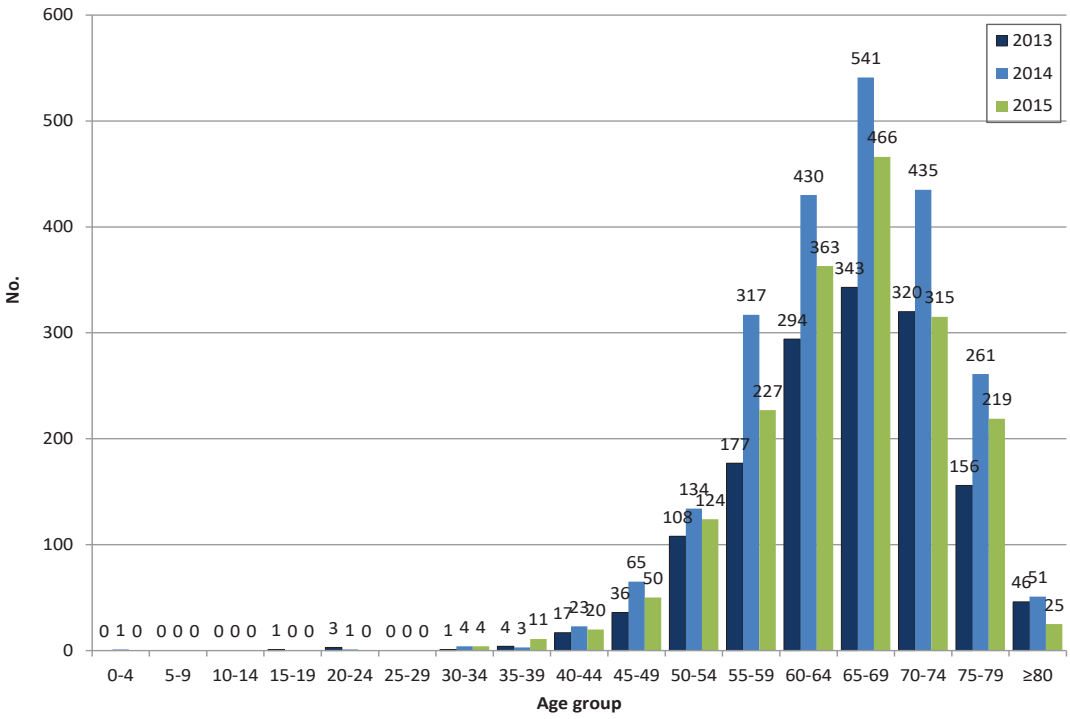

Figure 3.2.1-1:Age Distribution, CSR 2013-2015

3.2.2 Systemic co-morbidity

Similar to profile of patients in total, Hypertension and Diabetes Mellitus formed the major medical illness of patients presenting for cataract surgery in PPKM-HS

Table 3.2.2-1:Distribution of Systemic Co-Morbidity, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
Percentage of patients with any systemic co-morbidity	81.9		77.3		77.96	
Percentage of patients with specific systemic co-morbidity						
	n	**%**	**n**	**%**	**n**	**%**
1. Hypertension	984	62.2	1405	62.0	1156	63.4
2. Diabetes Mellitus	679	42.9	1042	46.0	807	44.2
3. Ischaemic Heart Disease	76	4.8	110	4.9	65	3.6
4. Renal Failure	13	0.8	35	1.5	21	1.2
5. Cerebrovascular accident	21	1.3	16	0.7	12	0.7
6. COAD/Asthma	66	4.2	87	3.8	46	2.5
7. Others	525	33.2	974	43.0	798	43.8

Number or percentage may be more than total or 100% as patients might have more than one systemic co-morbidity

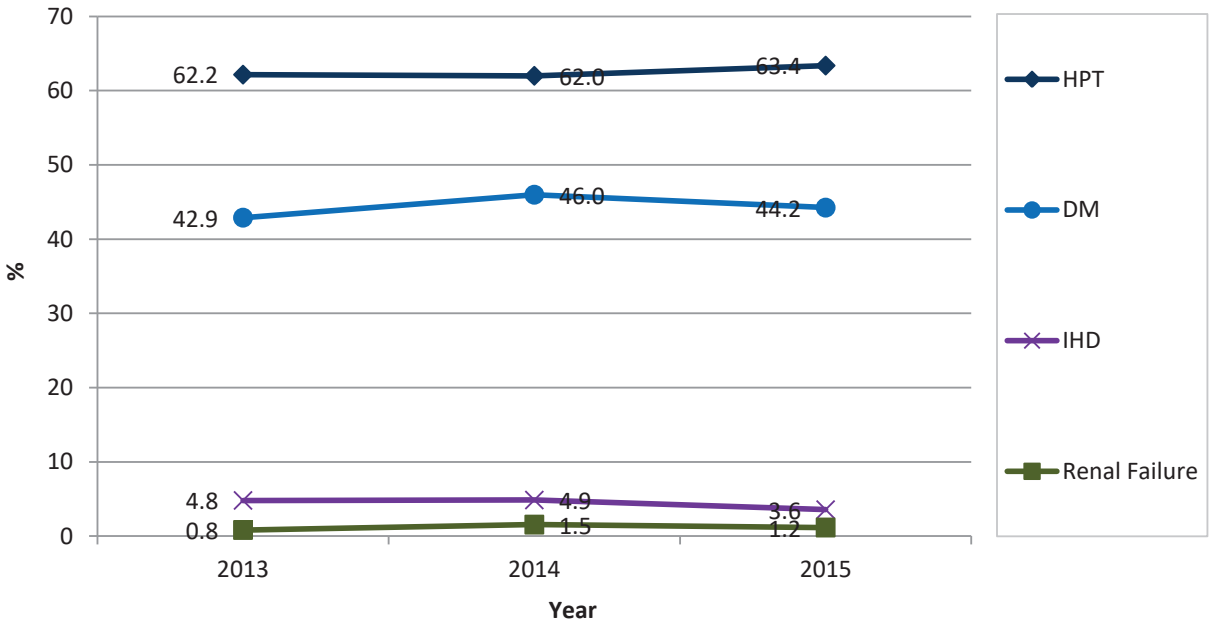

Figure 3.2.2-1: Percentage of Patients with Specific Systemic Co-morbidity, CSR 2013-2015

3.2.3 Causes of cataract

Table 3.2.3-1:Causes of Cataract, CSR 2013-2015

Year	**2013**		**2014**		**2015**	
No of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
Primary cataract	1214	80.6	1722	76.0	1410	77.3
Secondary cataract	9	0.6	8	0.4	13	0.7
Missing value	283	18.8	536	23.7	401	22.0
Primary Cataract (N)	**1067**		**1467**		**1410**	
	n	%	n	%	n	%
Senile/age related	1064	99.7	1463	99.7	1191	84.5
Congenital	0	0.0	0	0.0	0	0.0
Development	0	0.0	0	0.0	0	0.0
Others	3	0.3	4	0.3	219	15.5
Secondary Cataract (N)	**5**		**2**		**13**	
	n	%	n	%	n	%
Trauma	1	20.0	0	0.0	3	23.1
Drug induced	1	20.0	1	50.0	1	7.7
Surgery induced	2	40.0	0	0.0	2	15.4
Others	1	20.0	1	50.0	7	53.8

3.2.4 First or Second Eye Surgery

Percentage of uptake for second eye surgery is an indicator for access. The percentage of second eye surgery in PPKM-HS was higher than the figure for all MOH (35.2% in 2015). This is an evidence to suggest that PPKM-HS concept has potential to be used to increase access to patients requiring surgery.

Table 3.2.4-1:First or Second Eye Surgery, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
First eye surgery	894	59.4	1212	53.5	1088	59.6
Second eye surgery	612	40.6	913	40.3	704	38.6
Missing	0	0.0	141	6.2	32	1.8
Patients who had second surgery in the same year	0	0.0	449	19.8	343	18.8
Period of time between first and second eye surgery (months)						
N	611		913		704	
Mean	17.3		13.9		12.6	
SD	27.3		27.2		22.8	
Median	6.8		4.3		4.9	
Patients who had cataract surgery before	612		913		704	
	n	%	n	%	n	%
Eyes with intra-operative complications during surgery in the first eye	36	5.9	33	3.6	30	4.3

3.2.5 Past Ocular Surgery of the Operated Eye

Most patients did not have any past ocular surgery in the operated eye.

Table 3.2.5-1:Past Ocular Surgery of the Operated Eye, CSR 2013-2015

Year	2013		2014		2015	
No. of patients	1506		2266		1824	
No. of eyes with past ocular surgery record (N)	1424		2031		1694	
	n	%	n	%	n	%
Patients with no past ocular surgery	1362	95.6	1986	97.8	1655	97.7
Vitreoretinal surgery	33	2.3	26	1.3	29	1.7
Pterygium excision	12	0.8	20	1.0	7	0.4
Filtering surgery	0	0.0	0	0.0	0	0.0
Penetrating keratoplasty	0	0.0	0	0.0	0	0.0
Others	22	1.5	20	1.0	10	0.6

Number or percentage may be more than total or 100% as patients might have more than one past ocular surgery

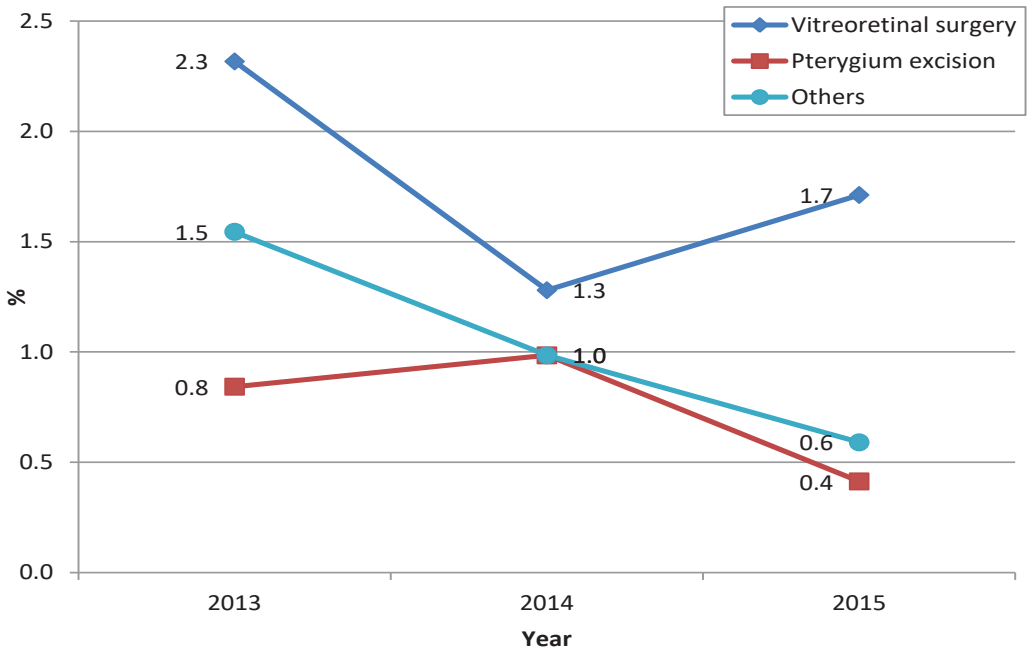

Figure 3.2.5-1:Distribution of Past Ocular Surgery of the Operated Eye, CSR 2013-2015

3.2.6 Pre-existing Ocular Co-morbidity

Consistent with the concept of maximizing surgical output by surgery on low risk cases, only 12% of the operated patients had pre-existing ocular co-morbidity in the operated eye. (as compared to 40% in total MOH)

Table 3.2.6-1:Distribution of Pre-existing Ocular Co-Morbidity, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
	n	**%**	**n**	**%**	**n**	**%**
Patients with any ocular co-morbidity	253	16.8	384	16.9	217	11.9
Patients with specific ocular co-morbidity						
Anterior segment						
1. Glaucoma	31	2.1	45	2.0	29	1.6
2. Pterygium involving the cornea	14	0.9	16	0.7	9	0.5
3. Pseudoexfoliation	4	0.3	5	0.2	6	0.3
4. Corneal opacity	2	0.1	5	0.2	3	0.2
5. Chronic uveitis	0	0.0	0	0.0	0	0.0
Len related complication						
1. Phacomorphic	0	0.0	1	0.0	0	0.0
2. Phacolytic	0	0.0	0	0.0	0	0.0
3. Subluxated/Disclosed	0	0.0	0	0.0	0	0.0

Posterior segment						
1. Diabetic Retinopathy: Non Proliferative	70	4.6	115	5.1	55	3.0
2. Diabetic Retinopathy: Proliferative	31	2.1	33	1.5	15	0.8
3. Diabetic Retinopathy: CSME*	6	0.4	13	0.6	8	0.4
4. Diabetic Retinopathy: Vitreous haemorrhage	4	0.3	2	0.1	4	0.2
5. ARMD	13	0.9	19	0.8	7	0.4
6. Other macular disease (includes hole or scar)	6	0.4	13	0.6	4	0.2
7. Optic nerve disease, any type	0	0.0	2	0.1	1	0.1
8. Retinal detachment	11	0.7	5	0.2	4	0.2
9. Cannot be assessed	9	0.6	84	3.7	58	3.2
Miscellaneous						
1. Amblyopia	0	0.0	1	0.0	0	0.0
2. Significant previous eye trauma	0	0.0	0	0.0	0	0.0
3. Pre-existing non glaucoma field defect	0	0.0	0	0.0	0	0.0
4. Others	88	5.8	65	2.9	36	2.0

*CSME=Clinically Significant Macular Oedema
Number or percentage may be more than total or 100% as patients might have more than one ocular co-morbidity

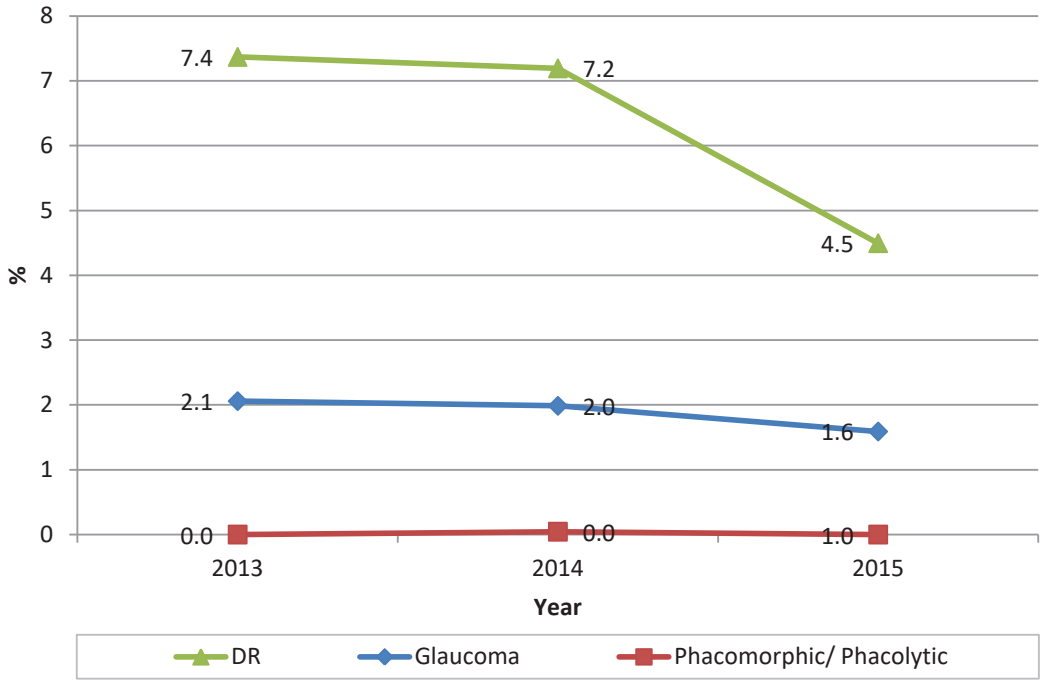

Figure 3.2.6-1:Distribution of Eyes with Specific Ocular Co-morbidity, CSR 2013-2015

3.2.7 Pre-operative Vision

Most patients presented at moderate visual impairment (33.2% at <6/18 - 6/60 in 2015) unlike figure for total MOH (42.9% at <3/60 in 2015)

Table 3.2.7-1:Distribution of Pre-Operative Vision, CSR 2013-2015

Year		2013		2014		2015	
No. of patients (N)		1506		2266		1824	
		n	%	n	%	n	%
Patients with unaided VA		1148	76.2	1662	73.3	1394	61.5
Patients with refracted VA		6	0.4	10	0.4	0	0.0
Patients with no refraction		1191	79.1	1652	72.9	1394	61.5
6/12 and better	Unaided	58	5.1	79	4.8	68	4.1
	Refracted	2	33.3	0	0.0	0	0.0
<6/12 - 6/18	Unaided	91	7.9	156	9.4	158	9.5
	Refracted	0	0.0	2	20.0	0	0.0
<6/18 - 6/60	Unaided	506	44.1	680	40.9	551	33.2
	Refracted	4	66.7	3	30.0	0	0.0
<6/60 - 3/60	Unaided	135	11.8	194	11.7	167	10.0
	Refracted	0	0.0	0	0.0	0	0.0
<3/60	Unaided	358	31.2	553	33.3	450	27.1
	Refracted	0	0.0	5	50.0	0	0.0
Unaided VA for patient with no refraction							
n		1145		1652		1394	
6/12 and better		58	5.1	79	4.8	68	4.1
<6/12 - 6/18		91	7.9	154	9.3	158	9.6
<6/18 - 6/60		503	43.9	677	41.0	551	33.4
<6/60 - 3/60		135	11.8	194	11.7	167	10.1
<3/60		358	31.3	548	33.2	450	27.2

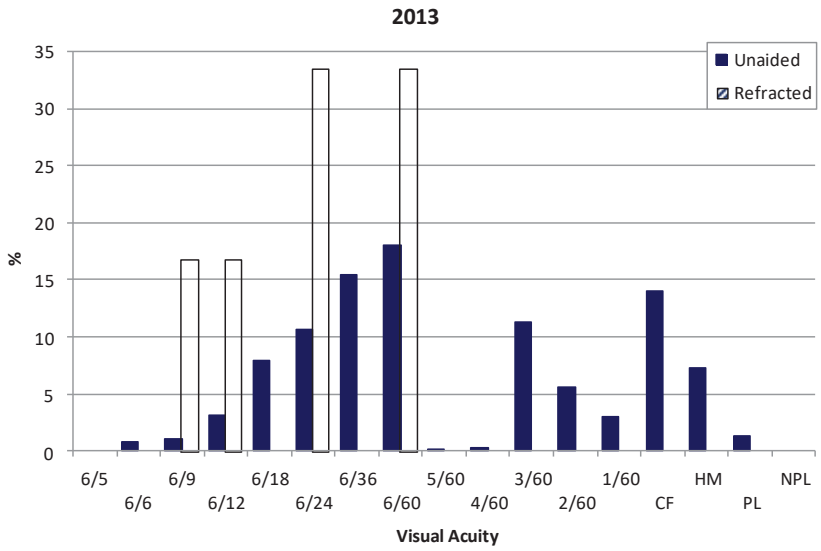

Figure 3.2.7-1:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2013

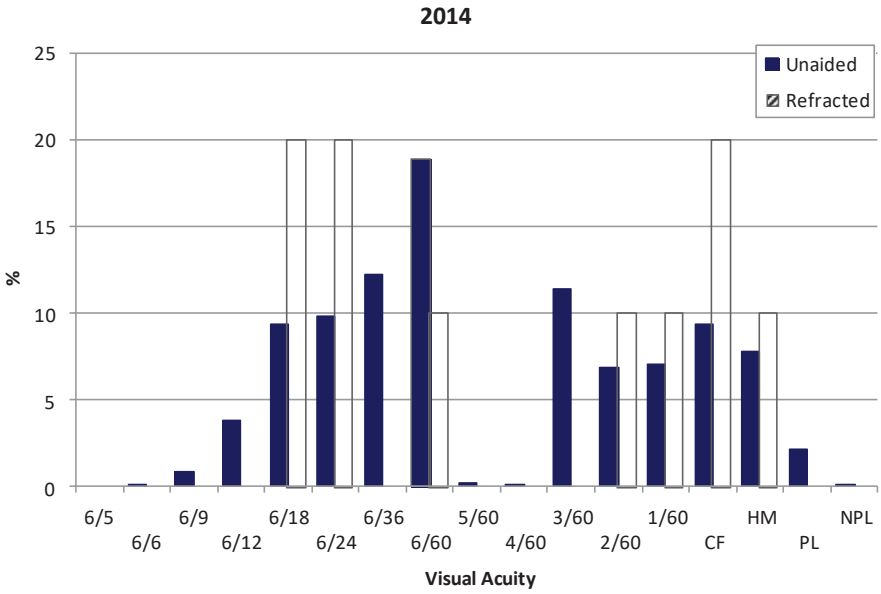

Figure 3.2.7-2:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2014

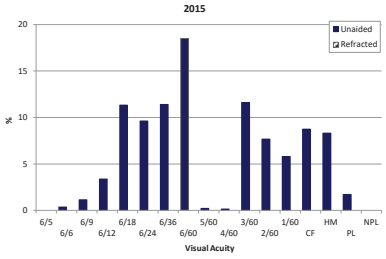

Figure 3.2.7-3:Distribution of Pre-Operative Vision (Unaided/presenting and refracted), CSR 2015

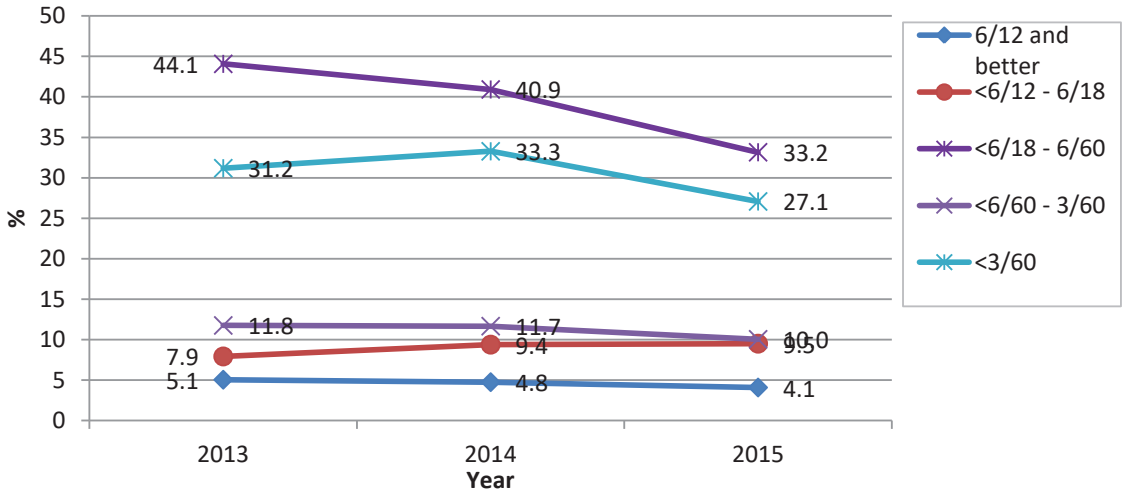

Figure 3.2.7-4:Distribution of Pre-Operative Vision (Unaided/presenting), CSR 2013-2015

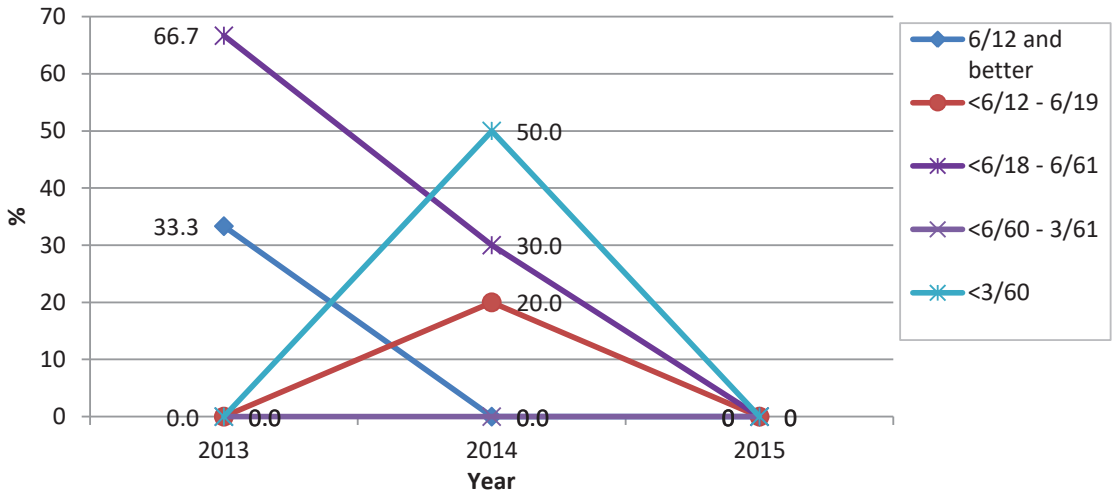

Figure 3.2.7-5:Distribution of Pre-Operative Vision (Refracted), CSR 2013-2015

3.2.8 Target Refractive Power

Data on target refractive power are not accurate from 2013-2015 due to error in data entry resulting in low number synched from the local ECMS to NED. This error has been rectified.

Table 3.2.8-1:Distribution of Target Refractive Power, CSR 2013-2015

Year	2013	2014	2015
Operated eye (N)	985	859	255
Mean	-0.3	-0.3	-0.4
SD	0.4	0.1	0.6
Median	-0.3	-0.3	-0.4
Minimum	-6.2	-1.3	-9.9
Maximum	0.01	0.20	1.82

Table 3.2.8-2:Distribution of Target Refractive Power, CSR 2013-2015

Year	2013		2014		2015	
Target refractive power (Dioptres)	Operated eye N=985		Operated eye N=859		Operated eye N=255	
	n	%	n	%	n	%
-10-<(-9.5)	0	0.0	0	0.0	1	0.4
-9.5-<(-9)	0	0.0	0	0.0	0	0.0
-9-<(-8.5)	0	0.0	0	0.0	0	0.0
-8.5-<(-8)	0	0.0	0	0.0	0	0.0
-8-<(-7.5)	0	0.0	0	0.0	0	0.0
-7.5-<(-7)	0	0.0	0	0.0	0	0.0
-7-<(-6.5)	0	0.0	0	0.0	0	0.0
-6.5-<(-5)	4	0.4	0	0.0	0	0.0
-5-<(-4.5)	0	0.0	0	0.0	0	0.0
-4.5-<(-4)	0	0.0	0	0.0	0	0.0
-4-<(-3.5)	0	0.0	0	0.0	0	0.0
-3.5-<(-3)	0	0.0	0	0.0	0	0.0
-3-<(-2.5)	0	0.0	0	0.0	0	0.0
-2.5-<(-2)	0	0.0	0	0.0	0	0.0
-2-<(-1.5)	1	0.1	0	0.0	0	0.0
-1.5-<(-1)	1	0.1	3	0.4	0	0.0
-1-<(-0.5)	42	4.3	53	6.2	61	23.9
-0.5-<0	936	95.0	802	93.4	192	75.3
0-<0.5	1	0.1	1	0.1	0	0.0
0.5-<1	0	0.0	0	0.0	0	0.0
1-<1.5	0	0.0	0	0.0	0	0.0
1.5-<2	0	0.0	0	0.0	1	0.4
2-<2.5	0	0.0	0	0.0	0	0.0
2.5-<3	0	0.0	0	0.0	0	0.0
3-<3.5	0	0.0	0	0.0	0	0.0

3.5-<4	0	0.0	0	0.0	0	0.0
4-<4.5	0	0.0	0	0.0	0	0.0
4.5-<5	0	0.0	0	0.0	0	0.0
5-<5.5	0	0.0	0	0.0	0	0.0
5.5-<6	0	0.0	0	0.0	0	0.0
6-<6.5	0	0.0	0	0.0	0	0.0
6.5-<7	0	0.0	0	0.0	0	0.0
7-<7.5	0	0.0	0	0.0	0	0.0
7.5-<8	0	0.0	0	0.0	0	0.0
8-<8.5	0	0.0	0	0.0	0	0.0
8.5-<9	0	0.0	0	0.0	0	0.0
9-<9.5	0	0.0	0	0.0	0	0.0
9.5-10	0	0.0	0	0.0	0	0.0

Values outside the +10D and -10D were excluded from analysis as they would skew the mean.

3.3 Cataract Surgical Practices

3.3.1 Surgeon Status

Table 3.3.1-1:Surgeon Status, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
Specialist	1488	98.8	2197	97.0	1714	94.0
Gazetting Specialist	7	0.5	2	0.1	6	0.3
Medical Officer	11	0.7	23	1.0	7	0.4
Missing/NA	0	0	44	1.9	97	5.3

3.3.2 Duration of Surgery

Table 3.3.2-1:Duration of Surgery by Types of Cataract Surgery in minutes, CSR 2013-2015

Year	2013		2014		2015	
	Median	(IQR)	Median	(IQR)	Median	(IQR)
All eyes	22	(18-30)	20	(17-25)	20	(17-25)
Phaco	22	(18-29)	20	(17-24)	20	(17-24)
ECCE	40	(32-49)	38	(34-45)	52.5	(37-65)
Phaco → ECCE	56.5	(45-67)	56.5	(47.5-71)	58	(43-65)
ICCE	45	(30-60)	64	(52.5-69)	50	(40-59)
Lens Aspiration	27.5	(21-34)	20.5	(17-23)	19	(18-24)

Data entered with extreme values i.e. more than 3 hours and less than 15 minutes were not analyzed as it would skew the data

3.3.3 Distribution of Types of Cataract Surgery

Table 3.3.3-1:Distribution of Types of Cataract Surgery, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
Phacoemulsification	1432	95.1	2196	96.9	1777	97.4
ECCE	37	2.5	18	0.8	13	0.7
Lens Aspiration	3	0.2	5	0.2	3	0.2
Phaco converted to ECCE	25	1.7	39	1.7	23	1.3
ICCE	2	0.1	4	0.2	7	0.4

3.3.4 Anaesthesia in Cataract Surgery

The practice is consistent in all MOH facilities

Table 3.3.4-1:Types of Anaesthesia, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
General Anesthesia	0	0.0	0	0.0	0	0.0
Local Anesthesia	1506	100.0	2266	100.0	1824	100.0
Type of local anasthesia						
Subtenon	166	11.0	123	5.4	87	4.8
Topical	1282	85.1	2171	95.8	1607	88.1
Peribulbar	0	0.0	0	0.0	4	0.2
Retrobulbar	0	0.0	6	0.3	5	0.3
Intracameral	287	19.1	494	21.8	870	47.7
Subconjunctival	25	1.7	12	0.5	7	0.4
Facial block	0	0.0	0	0.0	0	0.0
Combined local anaesthesia	309	20.5	584	25.8	766	42.0
Types of sedation for patients under local anaesthesia						
No sedation	1305	86.7	1565	69.1	1464	80.3
Oral sedation alone	0	0.0	0	0.0	0	0.0
Intravenous alone	1	0.1	0	0.0	0	0.0
Intravenous plus oral	1	0.1	0	0.0	0	0.0
Intramuscular alone	0	0.0	0	0.0	0	0.0

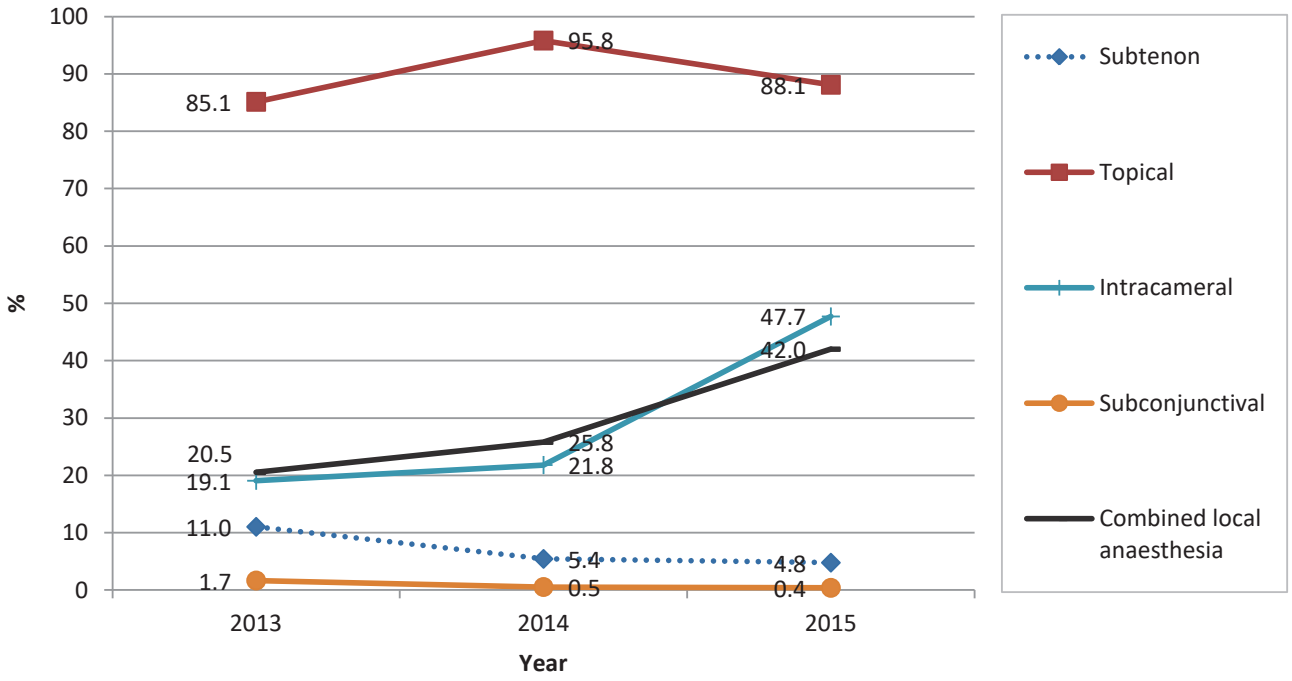

Figure 3.3.4-1:Types of Anaesthesia, CSR 2013-2015

3.3.5 Intraocular Lens Implantation

Table 3.3.5-1:Intraocular Lens Implantation, CSR 2013-2015

Year	2013		2014		2015	
No of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
With IOL	1499	99.5	2256	99.6	1820	99.8
Without IOL	7	0.5	7	0.3	4	0.2
Not Available	0	0.0	0	0.0	0	0.0
IOL Placement						
No of IOL	1499		2259		1820	
PCIOL	1472	98.2	2218	98.2	1798	98.8
ACIOL	24	1.6	36	1.6	20	1.1
Scleral Fixated IOL	0	0.0	2	0.1	0	0.0
Others	3	0.2	3	0.1	2	0.1
Not Available /missing	0	0.0	0	0.0	0	0.0
Materials of IOL						
No of IOL	1499		2259		1820	
1. Acrylic	1396	93.1	2109	93.4	1643	90.3
2. PMMA	23	1.5	26	1.2	13	0.7
3. Silicone	39	2.6	86	3.8	92	5.1
4. Others	9	0.6	12	0.5	7	0.4
Not Available/ missing	32	2.1	26	1.2	65	3.6

Types of IOL						
No of IOL	1499		2259		1820	
1. Foldable	1453	96.9	2210	97.8	1741	95.7
2. Non-foldable	21	1.4	25	1.1	15	0.8
Not Available/ missing	25	1.7	24	1.1	64	3.5

Table 3.3.5-2:Distribution of IOL Placement, CSR 2013-2015

Cataract Surgery With IOL							
		Posterior Chamber IOL		Anterior Chamber IOL		Scleral Fixated IOL	
	N	n	%	n	%	n	%
2013	1506	1472	97.7	24	1.6	0	0.0
2014	2259	2218	98.2	36	1.6	2	0.1
2015	1820	1798	98.8	20	1.1	0	0.0

3.4 Intra-operative Complications

3.4.1 Intra-operative Complications by Years

Table 3.4.1-1:Distribution of Type of Intra-operative Complications, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
Patient with intra-op complication	52	3.5	61	2.69	53	2.91
Types of complications						
PCR	2	0.1	29	1.3	28	1.5
Vitreous loss	22	1.5	27	1.2	12	0.7
Zonular dehiscence	11	0.7	20	0.9	16	0.9
Drop nucleus	7	0.5	5	0.2	2	0.1
Suprachoroidal haemorrhage	0	0.0	0	0.0	0	0.0
Central corneal oedema	1	0.1	1	0.0	1	0.1
Others	40	2.7	6	0.3	11	0.6

PCR is inaccurate due to data collection error

Table 3.4.1-2:Distribution of Type of Intra-operative Complications – Posterior Capsule Rupture, CSR 2013-2015

Year	2013		2014		2015	
No. of patients (N)	1506		2266		1824	
	n	%	n	%	n	%
Patient with intra-op complication	52	3.5	61	2.7	53	2.9
Types of complications						
PCR and Others	2	0.1	15	0.7	9	0.5
PCR Only	0	0.0	14	0.6	19	1.0

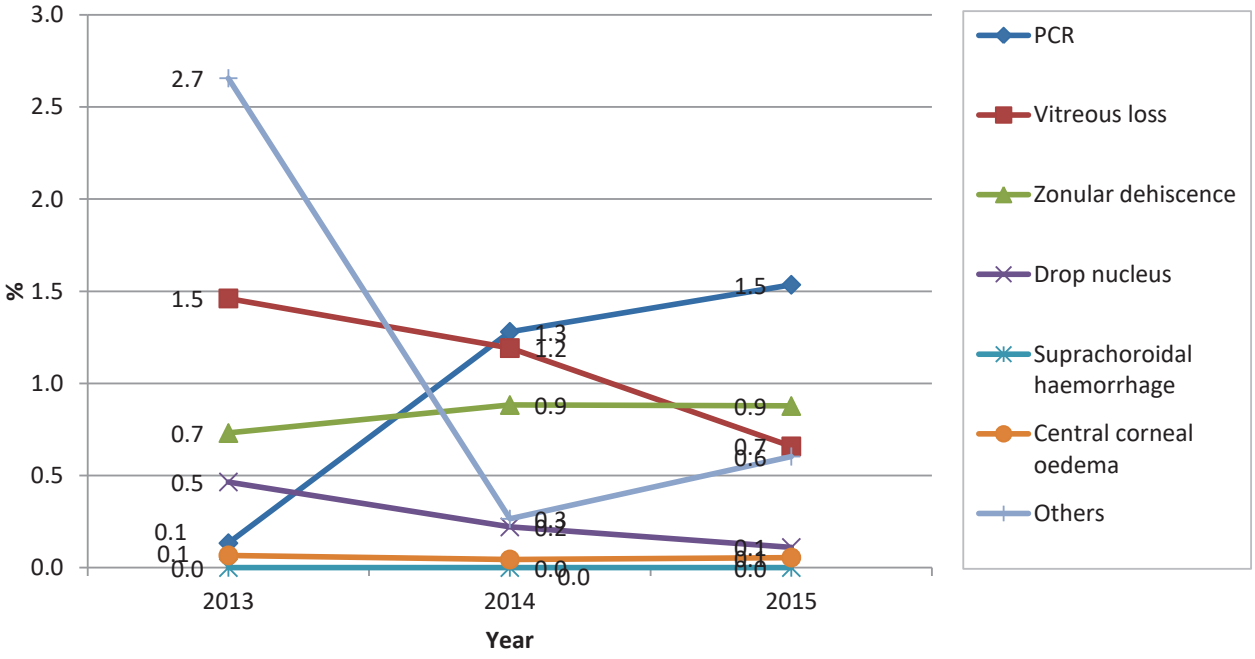

Figure 3.4.1-1:Distribution of Specific Type of Intra-operative Complications, CSE 2013-2015

Table 3.4.1-3:Distribution of Types of Intra-operative Complications, CSR 2013-2015

MAIWP	No. of patients (N)	Any intra-op complication		PCR		Vitreous loss		Zonular Dehiscence		Nucleus drop (or dropped nucleus)		Suprachoroidal Haemorrhage		Central Corneal Edema		Others	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2013	1506	52	3.5	2	0.1	22	1.5	11	0.7	7	0.5	0	0.0	1	0.1	40	2.7
2014	2266	61	2.7	29	1.3	27	1.2	20	0.9	5	0.2	0	0.0	1	0.0	6	0.3
2015	1824	53	2.9	28	1.5	12	0.7	16	0.9	2	0.1	0	0.0	1	0.1	11	0.6

3.4.2 PCR

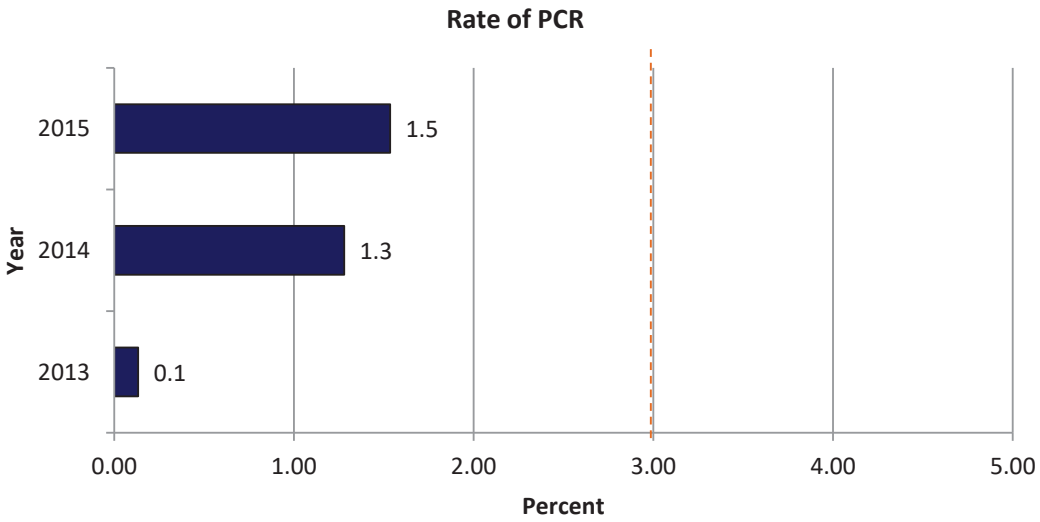

Figure 3.4.2-1:PCR (all surgeries) (National standard set at <3.0%), CSR 2013-2015

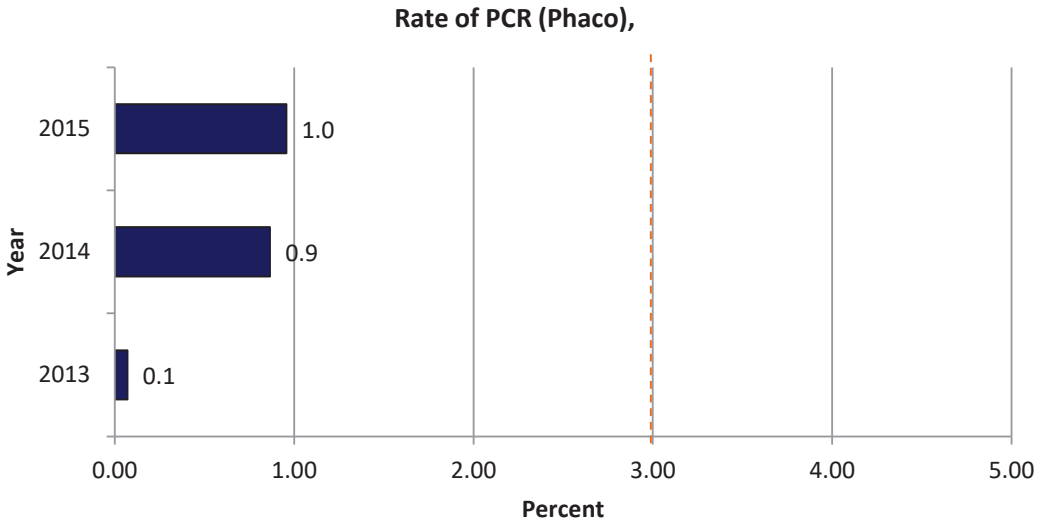

Figure 3.4.2-2:PCR (Phaco only) (National standard set at <3.0%), CSR 2013-2015

3.4.3 PCR by Type of Cataract Surgery

Table 3.4.3-1:PCR by Type of Cataract Surgery, CSR 2013-2015

Year	2013			2014			2015		
No. of patients	1506			2266			1824		
Total PCR	2			29			28		
	N	n	%	N	n	%	N	n	%
Phaco	1432	1	0.1	2196	19	0.9	1777	17	1.0
ECCE	37	1	2.7	18	0	0.0	13	1	7.7
Lens Aspiration	3	0	0.0	5	0	0.0	3	0	0.0
ICCE	2	0	0.0	4	0	0.0	7	0	0.0
Phaco converted to ECCE	25	0	0.0	39	10	25.6	23	10	43.5

3.5 Cataract Surgery Outcome

3.5.1 Post-operative Complications Record and Ascertainment

Table 3.5.1-1:Distribution of Cataract Surgery with Post-operative Complication Record, CSR 2013-2015

Year	2013	2014	2015
Total number of cataract surgery registered to CSR	1506	2266	1824
Cataract surgery with post-operative complication record	1500	2251	1535
Ascertainment on post-operative complication (%)	99.6	99.3	84.2
Cataract surgery with visual outcome record	1441	2183	1500
Ascertainment on visual outcome (%)	95.7	96.3	82.2

3.5.2 Post-operative Infectious Endophthalmitis

Table 3.5.2-1:Post-operative Infectious Endophthalmitis, CSR 2013-2015

Year	2013	2014	2015
Eyes with post-operative complication records (N)	1506	2251	1535
Eyes with post-operative infectious endophthalmitis (n)	0	0	0
Percentage of eyes with post-operative endophthalmitis (%)	0.0	0.0	0.0

3.5.3 Post-operative Follow-up Period

Table 3.5.3-1:Median Follow-up Period for Eyes with Unaided Vision (in weeks) by Types of Surgery, CSR 2013-2015

Types of surgery	2013					2014					2015				
	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile
All surgeries	1445	1443	9	6	12	2189	2187	7	6	10	1509	1509	7	7	11
Phaco	1377	1375	9	6	12	2122	2120	7	6	11	1479	1479	7	7	11
ECCE	35	35	12	7	17	18	18	11.5	10	13	9	9	9	6	17
Phaco → ECCE	23	23	17	11	21	37	37	11	7	12	16	16	12	9	16.5
ICCE	1	1	11	-	-	3	3	10	1	14	3	3	11	6	12
Lens aspiration	3	3	12	6	12	5	5	7	3	7	2	2	9.5	7	12

n = No. of available information

Table 3.5.3-2:Median Follow-up Period for Eyes with Refracted Vision (in weeks) by Types of Surgery, CSR 2013-2015

Types of surgery	2013					2014					2015				
	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile	N	n	Median	25th percentile	75th percentile
All surgeries	1377	1375	10	6	12	2048	2048	8	7	11	1520	1520	7	7	11
Phaco	1318	1316	10	6	12	1989	1989	7	7	11	1493	1493	7	7	11
ECCE	29	29	12	8	15	18	18	11.5	10	13	8	8	8	5.5	14
Phaco → ECCE	21	21	17	12	21	33	33	11	10	13	15	15	12	9	17
ICCE	2	2	13.5	11	16	2	2	12	10	14	3	3	11	6	12
Lens aspiration	3	3	12	6	12	2	2	8	7	9	1	1	7	7	7

n = No. of available information

3.5.4 Post-operative Visual Acuity

Table 3.5.4-1:Post-operative Visual Acuity, All Eyes, CSR 2013-2015

Year	2013				2014				2015			
VA	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
	n	%	n	%	n	%	n	%	n	%	n	%
6/5	1	0.1	1	0.1	1	0.0	1	0.0	0	0.0	0	0.0
6/6	210	13.9	938	62.3	396	17.5	1339	59.1	267	14.6	980	53.7
6/9	448	29.8	267	17.7	710	31.3	469	20.7	555	30.4	409	22.4
6/12	212	14.1	65	4.3	342	15.1	113	5.0	205	11.2	85	4.7
6/18	222	14.7	38	2.5	254	11.2	40	1.8	214	11.7	26	1.4
6/24	81	5.4	21	1.4	126	5.6	25	1.1	96	5.3	13	0.7
6/36	89	5.9	11	0.7	128	5.6	20	0.9	48	2.6	1	0.1
6/60	81	5.4	18	1.2	91	4.0	20	0.9	51	2.8	1	0.1
5/60	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4/60	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3/60	37	2.5	8	0.5	52	2.3	10	0.4	17	0.9	1	0.1
2/60	15	1.0	1	0.1	28	1.2	1	0.0	19	1.0	0	0.0
1/60	7	0.5	2	0.1	20	0.9	1	0.0	16	0.9	1	0.1
CF	30	2.0	5	0.3	25	1.1	5	0.2	10	0.5	1	0.1
HM	11	0.7	2	0.1	10	0.4	4	0.2	6	0.3	2	0.1
PL	1	0.1	0	0.0	2	0.1	0	0.0	3	0.2	0	0.0
NPL	0	0.0	0	0.0	4	0.2	0	0.0	2	0.1	0	0.0
Missing	61	4.05	129	8.57	77	3.4	218	9.6	315	17.3	304	16.7
Total	**1506**	**100.0**	**1506**	**100**	**2266**	**100**	**2266**	**100.0**	**1824**	**100.0**	**1824**	**100.0**

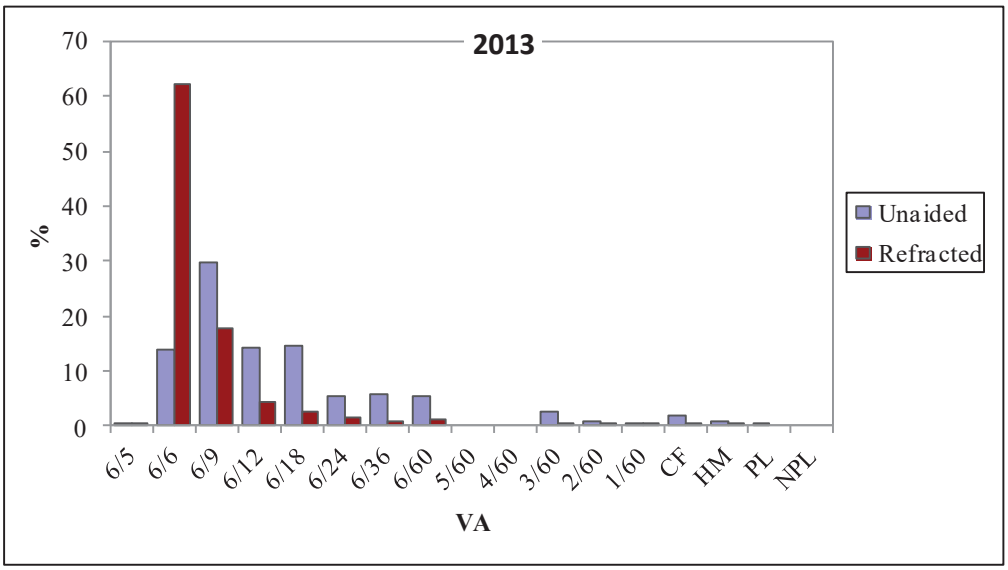

Figure 3.5.4-1:Distribution of Post-operative Unaided and Refracted Visual Acuity, All Eyes, CSR 2013

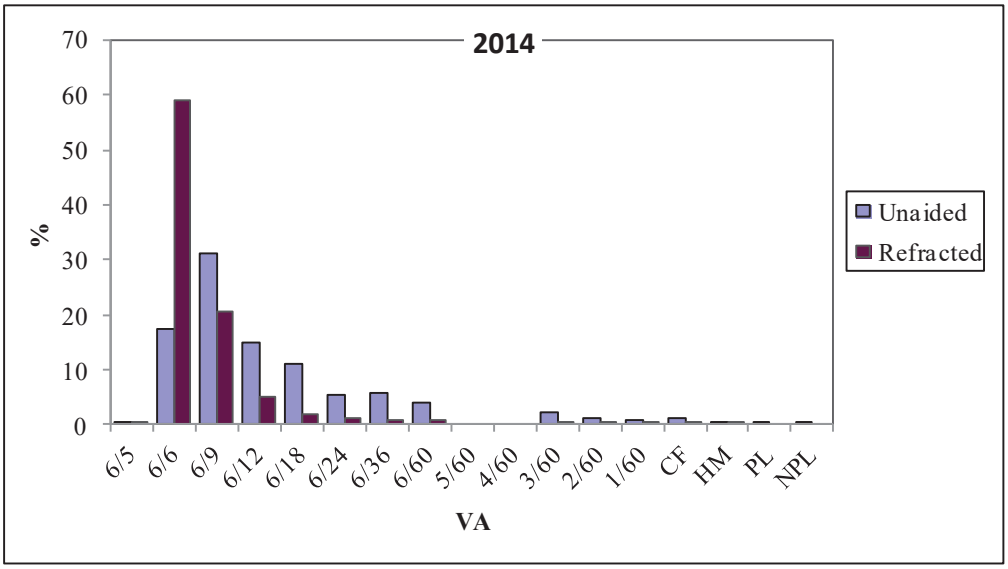

Figure 3.5.4-2:Distribution of Post-operative Unaided and Refracted Visual Acuity, All Eyes, CSR 2014

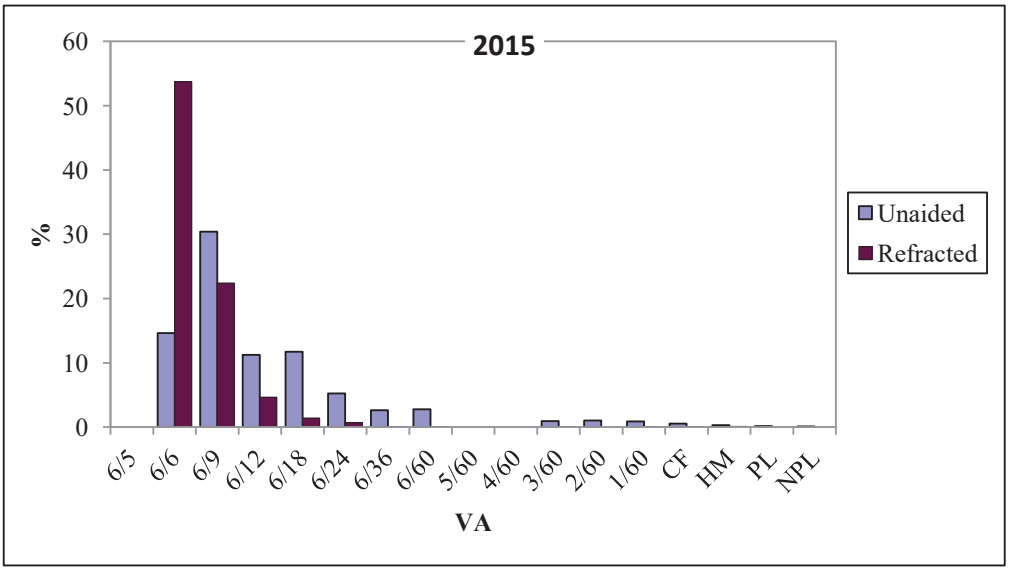

Figure 3.5.4-3:Distribution of Post-operative Unaided and Refracted Visual Acuity, All Eyes, CSR 2015

Table 3.5.4-2:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2013-2015

Year	2013				2014				2015			
	Unaided		Refracted		Unaided		Refracted		Unaided		Refracted	
VA	n	%	n	%	n	%	n	%	n	%	n	%
6/5	1	0.1	1	0.1	0	0.0	0	0	0	0.0	0	0
6/6	188	15.6	834	72.5	337	20.1	1,125	71.6	246	14.6	884	56.3
6/9	384	31.9	213	18.5	564	33.6	328	20.9	486	28.9	346	22.0
6/12	179	14.9	47	4.1	268	16.0	65	4.1	164	9.8	59	3.8
6/18	178	14.8	19	1.7	172	10.2	23	1.5	188	11.2	16	1.0
6/24	65	5.4	12	1.0	88	5.2	13	0.8	78	4.6	8	0.5
6/36	69	5.7	7	0.6	89	5.3	9	0.6	38	2.3	0	0.0
6/60	63	5.2	10	0.9	65	3.9	2	0.1	44	2.6	0	0.0
5/60	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4/60	0	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0
3/60	25	2.1	3	0.3	38	2.3	3	0.2	13	0.8	0	0.0
2/60	12	1.0	1	0.1	21	1.3	0	0	16	1.0	0	0
1/60	6	0.5	0	0.0	16	1.0	0	0.0	14	0.8	0	0.0
CF	26	2.2	3	0.3	13	0.8	2	0.1	7	0.4	0	0.0
HM	8	0.7	1	0.1	7	0.4	1	0.1	5	0.3	1	0.1
PL	0	0.0	0	0.0	0	0.0	0	0	2	0.1	0	0
NPL	0	0.0	0	0.0	2	0.1	0	0	1	0.1	0	0
Total	**1204**	**100**	**1151**	**100**	**1680**	**100**	**1571**	**100**	**1302**	**100**	**1314**	**100**

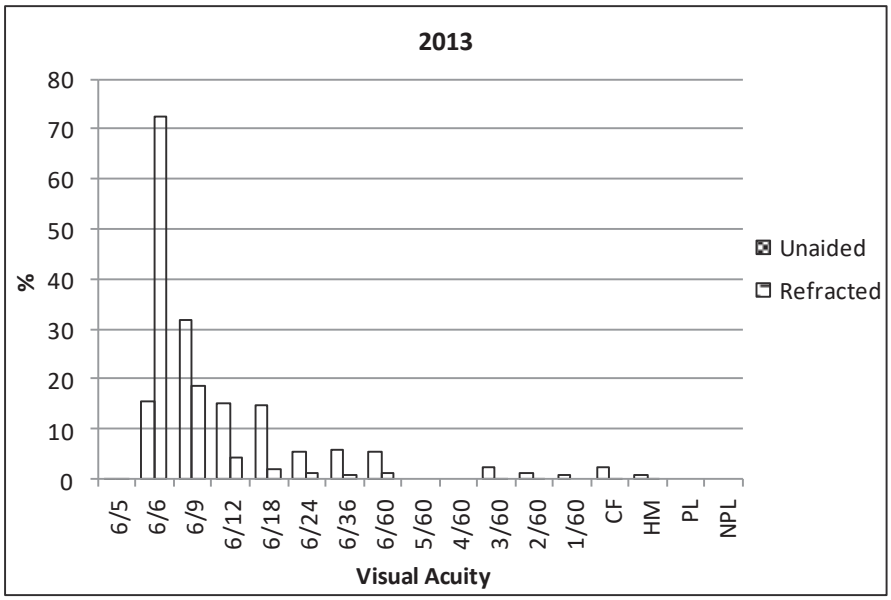

Figure 3.5.4-4:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2013

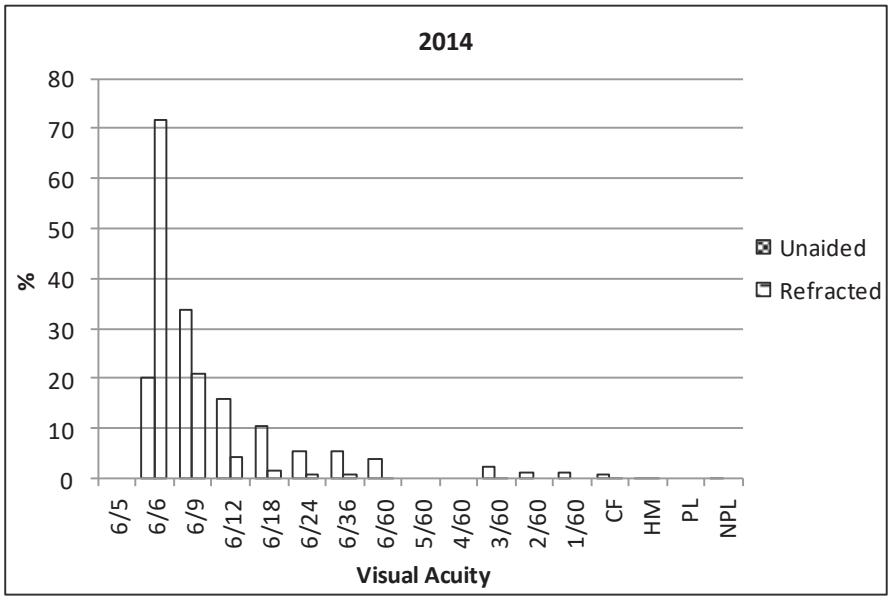

Figure 3.5.4-5:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2014

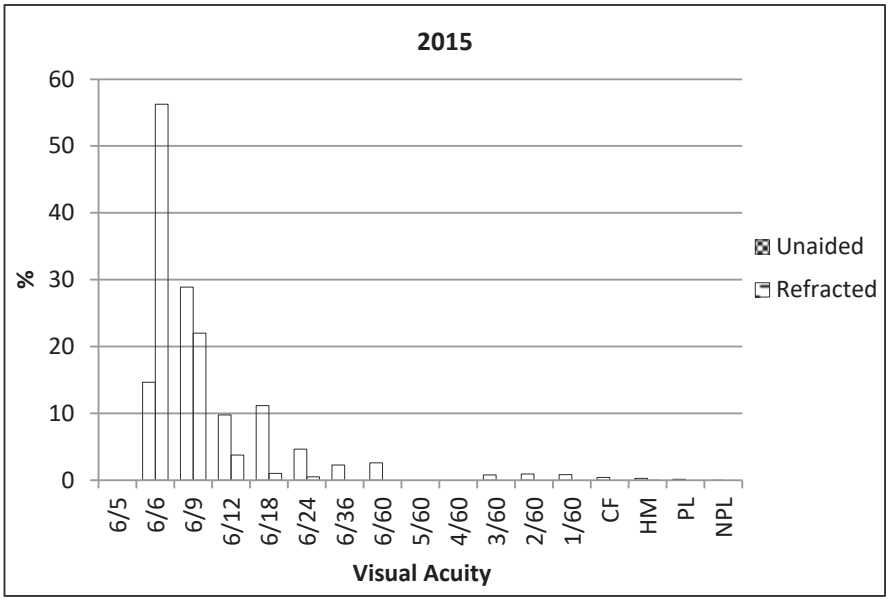

Figure 3.5.4-6:Post-Operative Visual Acuity for Eyes without Ocular Co-morbidity, CSR 2015

3.5.5 Post-operative Visual Acuity 6/12 or Better Among Eyes without Ocular Co-morbidity

Table 3.5.5-1:Post-operative Visual Acuity 6/12 or Better for Eyes without Ocular Co-morbidities by Types of Surgery, CSR 2013-2015

	2013						2014						2015					
	Unaided			Refracted			Unaided			Refracted			Unaided			Refracted		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
All Surgeries	1204	752	62.5	1151	1095	95.1	1680	1169	69.6	1571	1518	96.6	1302	896	68.8	1314	1289	98.1
Phaco	1147	729	63.6	1101	1057	96.0	1645	1154	70.2	1539	1491	96.9	1282	888	69.3	1296	1277	98.5
ECCE	30	11	36.7	26	19	73.1	7	4	57.1	7	6	85.7	4	1	25.0	3	3	100.0
Phaco → ECCE	20	9	45.0	18	14	77.8	24	9	37.5	22	18	81.8	12	5	41.7	12	8	66.7
Lens Aspiration	2	0	0.0	2	2	100.0	2	2	100.0	1	1	100.0	2	1	50.0	1	1	100.0
ICCE	1	1	100.0	1	0	0.0	2	0	0.0	2	2	100.0	2	1	50.0	2	0	0.0

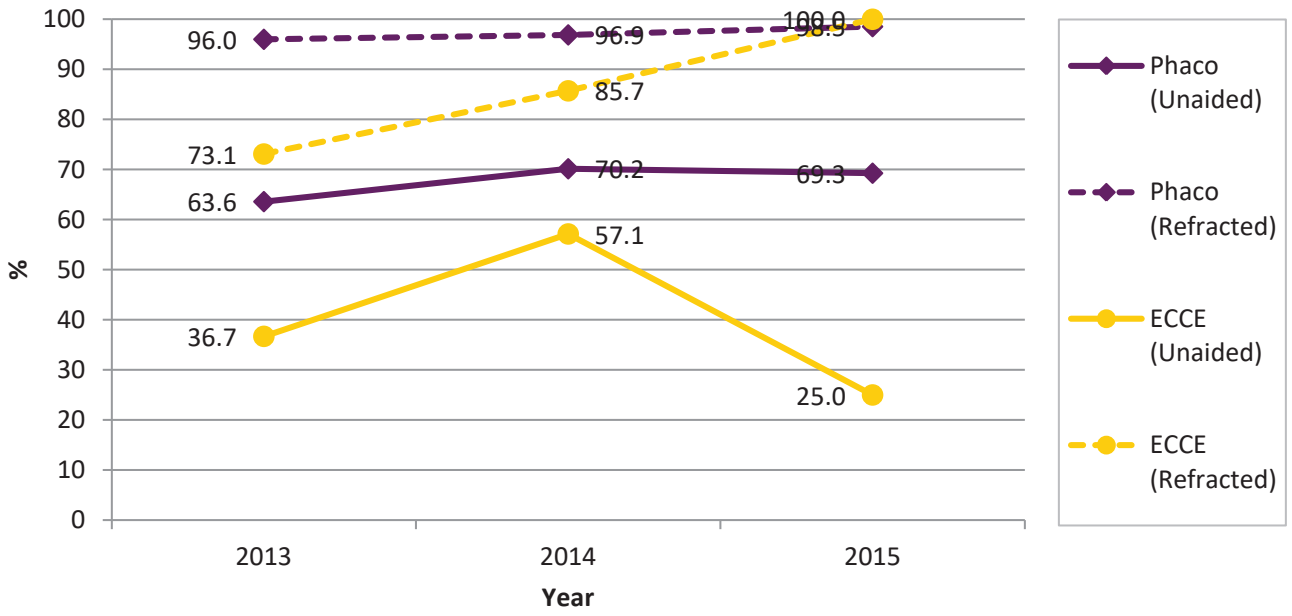

Figure 3.5.5-1:Post-operative Visual Acuity 6/12 or Better for Eyes without Ocular Co-morbidities by ECCE and Phaco, CSR 2013-2015

Table 3.5.5-2:Post-operative Refracted Visual Acuity 6/12 or Better in Eyes without Ocular Co-morbidities by Complications and Types of Surgery, CSR 2013-2014

2013	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	24	17	70.8	0	0	0	2	1	50	13	11	84.6	8	4	50	0	0	0
No intra-op complications	1127	1078	95.7	2	2	100	24	18	75	1088	1046	96.1	10	10	100	1	0	0

2014	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	36	28	77.8	0	0	0	0	0	0.0	23	19	82.6	12	8	66.7	1	1	100
No intra-op complications	1535	1490	97.1	1	1	100	7	6	85.7	1516	1472	97.1	10	10	100.0	1	1	100

2015	Types of Cataract Surgery																	
	All Surgeries			Lens Aspiration			ECCE			Phaco			Phaco → ECCE			ICCE		
	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%	N	n	%
With intra-op complications	28	23	82.1	0	0	0.0	1	1	100.0	17	17	100.0	9	5	55.6	1	0	0.0
No intra-op complications	1286	1266	98.4	1	1	100.0	2	2	100.0	1279	1260	98.5	3	3	100.0	1	0	0.0

3.5.7 Factors Contributing to Post-operative Refracted Visual Acuity of Worse than 6/12

Table 3.5.7-1:Factors Contributing to Post-operative Refracted VA of Worse than 6/12 in All Eyes, CSR 2013-2015

Year	2013		2014		2015	
Factors	n	%	n	%	n	%
N (total no. of post-op refracted vision worse than 6/12)	106		126		46	
Preexisting ocular co-morbidity	0	0.0	28	22.2	4	8.7
High astigmatism	0	0.0	2	1.6	3	6.5
Posterior capsular opacity	0	0.0	0	0.0	0	0.0
Cystoid macular oedema	0	0.0	3	2.4	0	0.0
Endophthalmitis	0	0.0	0	0	0	0.0
Corneal decompensation	0	0.0	0	0	0	0.0
Decentered IOL	0	0.0	0	0	1	2.2
Retinal detachment	0	0.0	1	0.8	0	0.0
Others	2	1.9	6	4.8	6	13.0

Table 3.5.7-2:Factors Contributing to Post-operative Refracted VA of Worse than 6/12 in Eyes without Preexisting Ocular co-morbidity, CSR 2013-2015

	2013		2014		2015	
Factors	n	%	n	%	n	%
N	56		53		25	
Preexisting ocular co-morbidity (not detected pre-operatively)	0	0.0	6	11.3	1	4.0
High astigmatism	0	0.0	1	1.9	2	8.0
Posterior capsular opacity	0	0.0	0	0.0	0	0.0
Cystoid macular oedema	0	0.0	2	3.8	0	0.0
Endophthalmitis	0	0.0	0	0.0	0	0.0
Corneal decompensation	0	0.0	0	0.0	0	0.0
Decentered IOL	0	0.0	0	0.0	0	0.0
Retinal detachment	0	0.0	0	0.0	0	0.0
Others	2	3.6	4	7.5	5	20.0

3.5.8 Actual or Residual Refractive Power (Spherical Equivalent)

Table 3.5.8-1:Distribution of Target and Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

	Target Refraction			Actual-Target Refraction			Actual Refraction					
	All Patient			All Patient			ECCE			Phaco		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
N	990	862	258	870	658	190	29	18	8	1270	1693	1284
Mean	-0.3	-0.3	0.5	-0.1	-0.1	-1.0	-0.4	-0.3	-0.7	-0.5	-0.5	-0.5
SD	0.4	0.1	0.6	0.7	0.7	0.9	0.9	0.9	0.6	0.7	0.6	0.5
Median	-0.3	-0.3	0.4	-0.1	-0.1	-0.9	-0.5	-0.3	-0.8	-0.5	-0.5	-0.5
Minimum	-6.2	-1.3	0.1	-7.8	-4.0	-10.7	-1.8	-2.8	-1.5	-9	-5.8	-0.4
Maximum	0.4	0.3	9.9	8.3	9.1	0.2	2.8	1.8	0.0	3.8	8.8	1.5

Note: Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis

Table 3.5.8-2:Percentage Distribution of Target and Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

	Target Refraction						Actual Refraction											
	All Patients						ECCE						Phaco					
	2013		2014		2015		2013		2014		2015		2013		2014		2015	
Dioptre (D)	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
-10.0-<(-9.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.5-<(-9.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.0-<(-7.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
-7.5-<(-7.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.0-<(-6.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-6.5-<(-5.0)	4	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0
-5.0-<(-4.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-4.5-<(-4.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
-4.0-<(-3.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1
-3.5-<(-3.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	3	0.2	0	0.0
-3.0-<(-2.5)	0	0.0	0	0.0	0	0.0	0	0.0	1	5.6	0	0.0	4	0.3	3	0.2	0	0.0
-2.5-<(-2.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.4	4	0.2	7	0.5
-2.0-<(-1.5)	1	0.1	0	0.0	0	0.0	2	6.9	0	0.0	0	0.0	19	1.5	29	1.7	22	1.7
-1.5-<(-1.0)	1	0.1	3	0.3	0	0.0	4	13.8	1	5.6	2	25.0	104	8.2	145	8.6	108	8.4
-1.0-<(-0.5)	42	4.2	53	6.1	0	0.0	8	27.6	4	22.2	3	37.5	339	26.7	474	28.0	362	28.2
-0.5-<0.0	936	94.5	802	93.0	0	0.0	6	20.7	4	22.2	1	12.5	522	41.1	683	40.3	565	44.0
0.0-<0.5	6	0.6	4	0.5	185	71.7	3	10.3	6	33.3	2	25.0	209	16.5	275	16.2	185	14.4
0.5-<1.0	0	0.0	0	0.0	71	27.5	4	13.8	1	5.6	0	0.0	46	3.6	55	3.2	27	2.1
1.0-<1.5	0	0.0	0	0.0	0	0.0	1	3.4	0	0.0	0	0.0	9	0.7	14	0.8	4	0.3
1.5-<2.0	0	0.0	0	0.0	1	0.4	0	0.0	1	5.6	0	0.0	4	0.3	4	0.2	3	0.2
2.0-<2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
2.5-<3.0	0	0.0	0	0.0	0	0.0	1	3.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3.0-<3.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
3.5-<4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
4.0-<4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4.5-<5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.0-<5.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.5-<6.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.0-<6.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.5-<7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.0-<7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.5-<8.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8.0-<8.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0

8.5-<9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
9.0-<9.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9.5-<10.0	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Eyes with actual refractive power (SE) of more than +10.0D and -10.0D were excluded from analysis

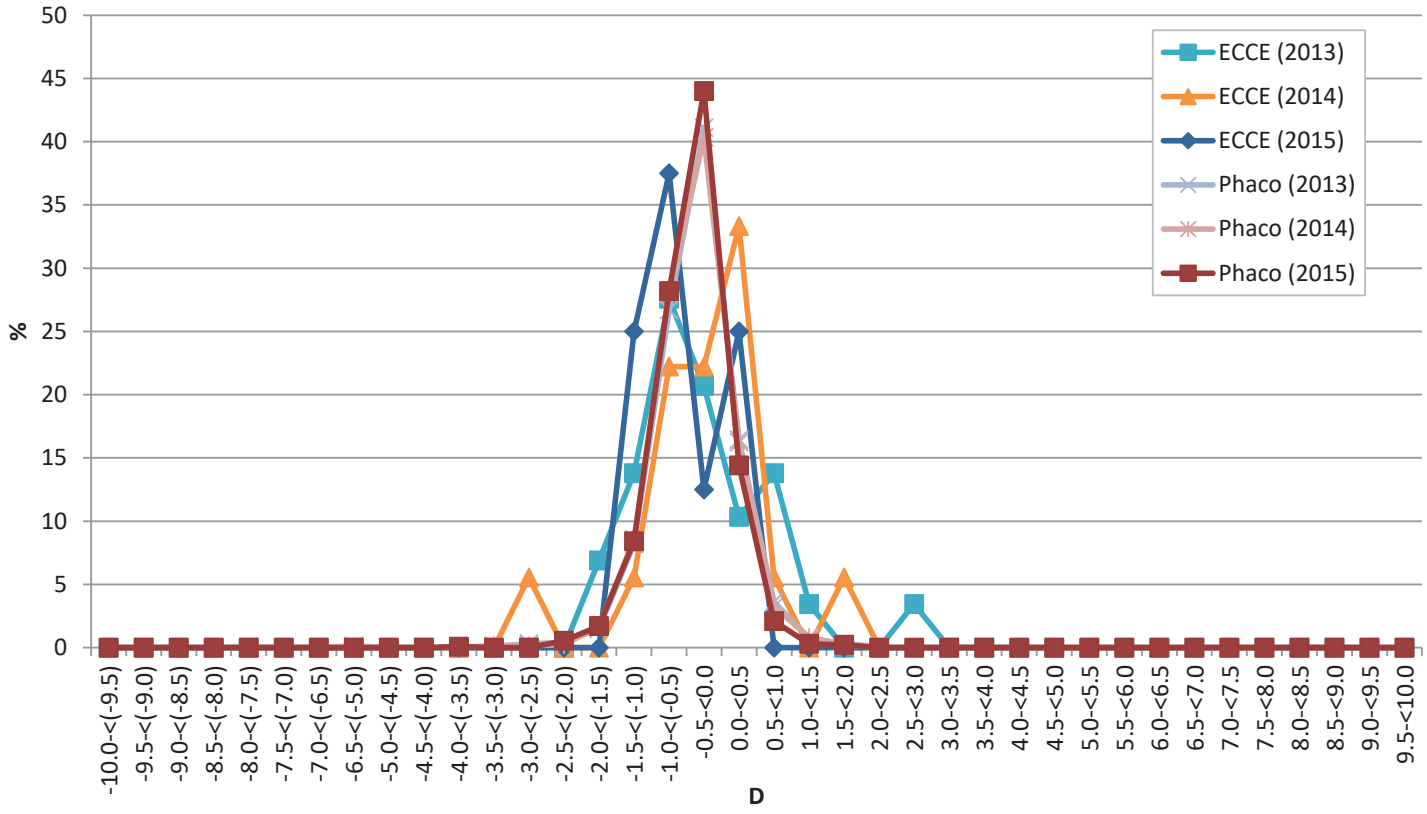

Figure 3.5.8-1:Distribution of Actual Refractive Power in ECCE and Phaco, CSR 2013-2015

Table 3.5.8-3:Difference in Target and Actual Refractive Power for Patients who had Phacoemulsification Only, CSR 2013-2015

	Target Refraction						Actual Refraction						Difference between Target and Actual Refraction					
	2013		2014		2015		2013		2014		2015		2013		2014		2015	
Power (D)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
N	936	100	841	100	249	100	1270	100	1693	100	1284	100	829	100	642	100	183	100
-10.0-<(-9.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.5-<(-9.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-9.0-<(-8.5)	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.5-<(-8.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-8.0-<(-7.5)	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.5-<(-7.0)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-7.0-<(-6.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
-6.5-<(-5.0)	4	0.4	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
-5.0-<(-4.5)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5
-4.5-<(-4.0)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.2	0	0.0
-4.0-<(-3.5)	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
-3.5-<(-3.0)	0	0.0	0	0.0	0	0.0	1	0.1	3	0.2	0	0.0	0	0.0	1	0.2	0	0.0
-3.0-<(-2.5)	0	0.0	0	0.0	0	0.0	4	0.3	3	0.2	0	0.0	1	0.1	1	0.2	1	0.5
-2.5-<(-2.0)	0	0.0	0	0.0	0	0.0	5	0.4	4	0.2	7	0.5	6	0.7	1	0.2	5	2.7
-2.0-<(-1.5)	1	0.1	0	0.0	0	0.0	19	1.5	29	1.7	22	1.7	9	1.1	5	0.8	15	8.2
-1.5-<(-1.0)	1	0.1	3	0.4	0	0.0	104	8.2	145	8.6	108	8.4	25	3.0	14	2.2	53	29.0
-1.0-<(-0.5)	39	4.2	50	5.9	0	0.0	339	26.7	474	28.0	362	28.2	145	17.5	103	16.0	74	40.4
-0.5-<0.0	885	94.6	784	93.2	0	0.0	522	41.1	683	40.3	565	44.0	301	36.3	256	39.9	32	17.5
0.0-<0.5	6	0.6	4	0.5	180	72.3	209	16.5	275	16.2	185	14.4	259	31.2	194	30.2	2	1.1
0.5-<1.0	0	0.0	0	0.0	67	26.9	46	3.6	55	3.2	27	2.1	56	6.8	50	7.8	0	0.0
1.0-<1.5	0	0.0	0	0.0	0	0.0	9	0.7	14	0.8	4	0.3	18	2.2	13	2.0	0	0.0
1.5-<2.0	0	0.0	0	0.0	1	0.4	4	0.3	4	0.2	3	0.2	4	0.5	0	0.0	0	0.0
2.0-<2.5	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	3	0.4	1	0.2	0	0.0
2.5-<3.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3.0-<3.5	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3.5-<4.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4.0-<4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
4.5-<5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5.0-<5.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
5.5-<6.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.0-<6.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6.5-<7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.0-<7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7.5-<8.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

8.0-<8.5	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.2	0	0.0
8.5-<9.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
9.0-<9.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
9.5-<10.0	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

NOTE: Formula of $SE = Sp + (\frac{Cyl}{2})$

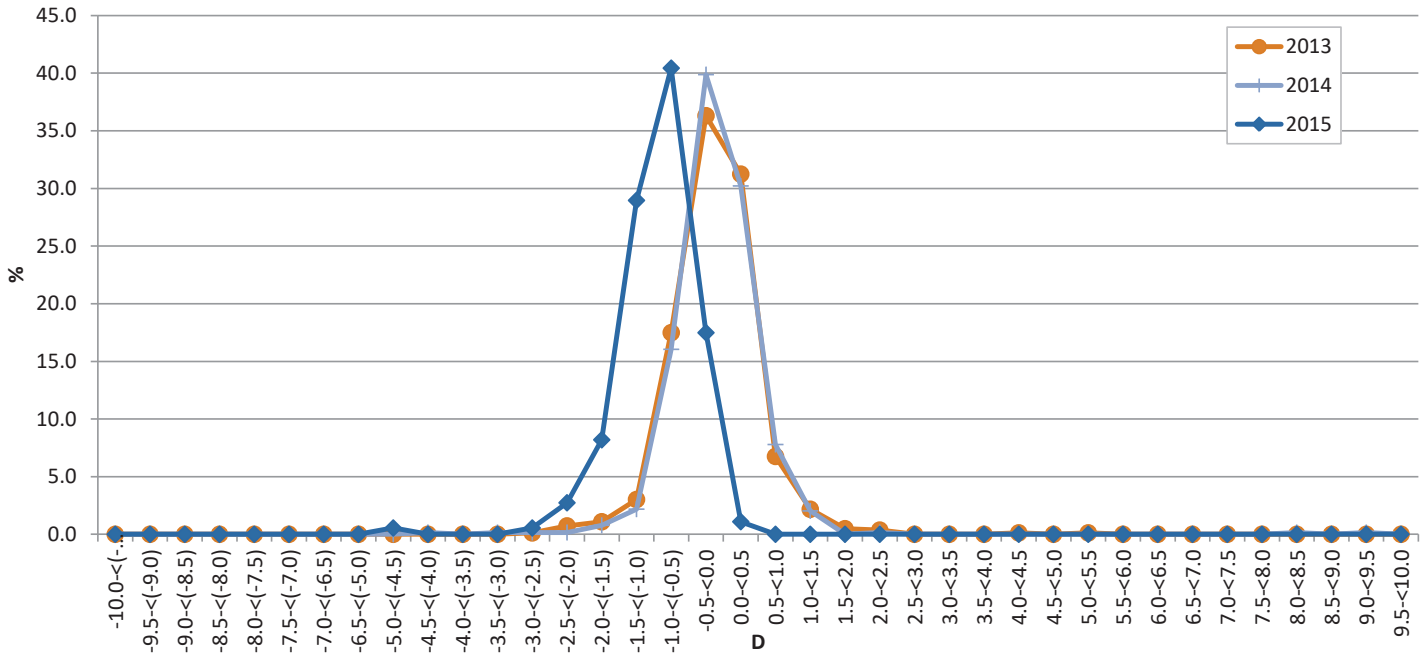

Figure 3.5.8-2:Difference in Target and Actual Refractive Power for Patients who had Phacoemulsification Only, CSR 2013-2015

Table 3.5.8-4:Difference in Target and Actual Refractive Power within ±1.0D, CSR 2013-2015

Year	All			By Phacoemulsification			By ECCE		
	No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D		No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D		No. of patient with refracted VA	Difference between Target and Actual Refraction within ±1.0D	
	N	n	%	N	n	%	N	n	%
2013	870	792	91.0	829	761	91.8	19	15	78.9
2014	658	615	93.5	642	603	93.9	6	4	66.7
2015	190	110	57.9	184	108	58.7	2	1	50.0

NOTE: Formula of Actual Refraction, $SE = Sp + (\frac{CY}{2})$

Result is based on available info of target and actual refraction.
Target/Planned refractive power = Section pre-clerking
Actual refractive power, SE = Section post-op visual acuity measurement (SE=SP+(CY/2))
Denominator = patient with refraction = if info available in refracted vision Section post-op visual acuity measurement

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