# Equity is rarely considered in Cochrane Eyes and Vision systematic reviews and primary studies on cataract.

Running title: Equity in Cochrane Eyes and Vision Reviews on cataract.

Jennifer Evans1 ORCID: 0000-0002-6137-2030

Nyawira Mwangi2 ORCID: 0000-0002-8236-470X

Helen Burn3 ORCID 0000-0002-1469-8169

Jacqueline Ramke1,4 ORCID: [0000-0002-5764-1306](https://orcid.org/0000-0002-5764-1306)

1International Centre for Eye Health, London School of Hygiene and Tropical Medicine, London, UK

2Department of Clinical Medicine, Kenya Medical Training College, Nairobi, Kenya

3 Department of Ophthalmology, Stoke Mandeville Hospital, Aylesbury, UK

4School of Optometry and Vision Science, University of Auckland, Auckland, New Zealand

Corresponding author: Jennifer Evans. Jennifer.evans@lshtm.ac.uk. Clinical Research Department, LSHTM, Keppel Street, London WC1E 7HT.

Keywords: equity, cataract, systematic reviews

Competing interests: Jennifer Evans is joint co-ordinating editor of Cochrane Eyes and Vision, Jacqueline Ramke is editor of Cochrane Eyes and Vision with special interest in equity. Other authors have no competing interests.

Funding: No specific funding was obtained for this work. Jacqueline Ramke is a Commonwealth Rutherford Fellow, funded by the UK government through the Commonwealth Scholarship Commission in the UK.

Abstract

Objective

We sought to understand the extent to which Cochrane Eyes and Vision systematic reviews of interventions for cataract, and primary studies, consider equity.

Study design and Setting

Review of Cochrane systematic reviews (CSR) on cataract published on the Cochrane Library (end of March 2019) (n=23), and recently published primary studies included in those reviews (n=62), using the PROGRESSPlus framework.

Results

One CSR considered equity as a topic. Four (17%) CSRs included an LMIC author; one of these as a first author. The CSR with equity as a main topic restricted primary studies to those conducted in LMICs, otherwise none of the systematic reviews used PROGRESS factors as inclusion or exclusion criteria. None of the CSRs reported subgroup analyses by any PROGRESS factor, although these were planned in two.

Two of the primary studies were led by a LMIC author; 42% involved LMIC authors; 37% were conducted in LMICs; 73% studies reported on gender/sex of participants but other PROGRESS factors were less frequently reported. Three studies reported subgroup analyses by sex; one reported subgroup analyses by race/ethnicity.

Conclusion

PROGRESS factors and equity are rarely considered in studies of interventions for cataract and this is reflected in the associated Cochrane reviews.

What is new

* PROGRESS factors and equity are rarely considered in studies of interventions for cataract and this is reflected in the associated Cochrane reviews.
* Equity in Cochrane systematic reviews on Eyes and Vision and the underlying studies has not been assessed systematically before.
* Review authors and trialists could consider expanding their review author teams to include researchers from LMICs to address questions relevant to these settings, where most vision impairment and blindness from cataract is found.
* Issues of equity should be considered in priority setting processes.

## Background

Age-related cataract is the leading cause of avoidable blindness, accounting for 35% of blindness worldwide.[1] Cataract usually affects both eyes and has important impacts on quality of life.[2] Cataract cannot be prevented but surgery is usually safe and cost-effective.[3] Vision impairment from cataract is distributed unequally, with disadvantaged populations disproportionately affected.[4]

Health inequalities are defined as “differences in health status or in the distribution of health determinants between different population groups”.[5] In some circumstances, health inequalities cannot be avoided, such as differences in health linked to age. However, when health inequalities arise due to avoidable circumstances, such as poverty or access to health care, these differences are avoidable and unfair and can be described as inequity in health. These inequities in health are a function of the environment in which people live: where they are born and where they live, what jobs they do and how much they earn, as well as the position they have in society including gender roles.[6] The recently released WHO *World Report on Vision* highlights that vision impairment is distributed unequally: “it weighs more heavily on low- and middle-income countries, on older people and rural communities.”[7] The WHO considers equity as one of seven elements of health-care quality.[8]

Ideally health programs and health interventions would reduce inequities in health. However, this is not always the case, and some interventions may lead to an increase in inequities.[9] There have been efforts to identify the most important factors that may lead to inequities in health. Evans and Brown proposed the use of an acronym to provide a framework for assessing these factors.[10] PROGRESS refers to Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socioeconomic status and Social capital. For each PROGRESS factor there are examples of differences in health outcomes which may contribute to disadvantage.[6] PROGRESS has been expanded to include personal characteristics such as age and disability, as well as consideration of relationships. Examples include parental care or school exclusion, and time-dependent relationships that might create temporary disadvantage, such as leaving hospital. [11]

Cochrane Eyes and Vision aims to prepare and promote access to systematic reviews of interventions for preventing or treating eye conditions and/or vision impairment, and helping people adjust to vision impairment or blindness.[12] Systematic reviews are scientific pieces of work, ideally based on an openly accessible protocol, and following structured and reproducible methods for the identification, appraisal, data extraction, analysis and interpretation of published or unpublished studies. In many health-care decision-making contexts, systematic reviews can be considered the most robust source of evidence. A consideration of equity in systematic reviews may therefore be important for two reasons. Firstly, to ensure that evidence-based recommendations do not increase inequity and secondly, to assess interventions that may reduce inequity. A number of authors have considered equity using PROGRESS framework, or specific PROGRESS characteristics such as gender/sex, in both Cochrane and Campbell reviews. [13-15] The current work extends this approach to Cochrane Eyes and Vision systematic reviews on cataract.

## Aim

The aim of this study was to determine how and to what extent Cochrane Eyes and Vision systematic reviews (CSRs), and a sample of recent underlying primary studies, consider equity (as captured by the PROGRESS framework with the addition of disability).

## Materials and methods

We identified all CSRs on cataract published on the Cochrane Library up to the end of March 2019. From each included CSR we identified a sample of published primary studies.

We used the PROGRESS [6] framework to define our axes of inequity and to this we added disability.

We developed an on-line form (Google forms) for data collection which we pilot-tested. We collected quantitative and qualitative data on authorship, methods, results and discussion relevant to equity and low- and middle-income countries (LMICs). We classified countries as either high income (HIC) or LMIC according to the classification by the World Bank (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519 , accessed October 7th 2019). We had separate but similar forms for reviews and primary studies. We checked our data extraction for consistency with duplicate data extraction in 10% of records.

We were interested in LMIC author representation and the extent to which included studies were conducted in LMICs. We collected data on whether PROGRESS plus disability factors were considered as inclusion or exclusion criteria, or whether data were collected on these factors in the characteristics of studies. We examined whether reviews considered differences in effect for any PROGRESS plus disability factors. We assessed whether subgroup analyses were undertaken, whether they showed any differences in effect, and whether these favoured the advantaged group or disadvantaged group. Lastly, we considered whether the CSR addressed equity or mentioned any of the PROGRESS plus disability factors when discussing the context and implications of the findings.

We selected the 5 most recently published studies from each CSR. For resource reasons, we only considered studies reported in English and where the full text was available. We considered together CSRs that overlapped in terms of intervention i.e. we selected 5 studies from these overlapping reviews. We only considered primary studies that were published in full i.e. we did not include abstracts.

### Ethics statement

This study did not require an ethics committee approval because it only included published data.

## Results

### Reviews

There were 23 published CSRs on cataract in the Cochrane Library at the end of March 2019 (table 1). [16-38] These CSRs were published, or last updated, between July 2001 and January 2019 and the median publication year was 2014. The number of primary studies included in these CSRs ranged from 0 to 48 with a median number of included studies of 5. All of the CSRs were intervention reviews and included randomised controlled trials or quasi-randomised controlled trials. One of these CSRs specifically considered equity as a topic, with an investigation of whether methods of improving access to cataract surgery impacted on equity.[33]

Table 1 Cochrane Systematic Reviews (CSR) on cataract in the Cochrane Library (end March 2019)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **CSR topic** | **Date published or last updated** | **Number of included studies** | **Main outcome** |
| Ong2014 (31) | Accommodative intraocular lens versus standard monofocal intraocular lens | May 2014 | 4 | Amplitude of accommodation |
| Thomas 2014 (36) | Antimetabolites to prevent failure of a previous trabeculectomy | July 2014 | 0 | Failed trabeculectomy |
| Mathew 2012 (30) | Antioxidant vitamin supplementation | June 2012 | 9 | Incidence of cataract and cataract extraction |
| Zhang 2015 (37) | Combined surgery versus cataract surgery alone for eyes with cataract and glaucoma | July 2015 | 9 | Change in intraocular pressure |
| Lawrence 2015 (26) | Day care versus in-patient surgery | November 2015 | 2 | Visual acuity |
| Chen 2017 (23) | Different-sized incisions for phacoemulsification | September 2017 | 26 | Astigmatism |
| Ramke 2017 (32) | Interventions to improve access to cataract surgical services | November 2017 | 2 | Cataract blindness |
| Day 2016 (17) | Laser-assisted cataract surgery versus standard ultrasound phacoemulsification | July 2016 | 16 | Intraoperative complications |
| Ang 2014 (15) | Manual small incision cataract surgery (MSICS) versus extracapsular cataract extraction (ECCE) | November 2014 | 3 | Visual acuity |
| Riaz 2013 (33) | MSICS versus phacoemulsification | October 2013 | 8 | Visual acuity |
| De Silva 2016 (18) | Multifocal versus monofocal intraocular lenses | December 2016 | 20 | Visual acuity and spectacle independence |
| Dubois 2017 (21) | N-acetylcarnosine (NAC) drops | February 2017 | 0 | Cataract appearance |
| Sivaprasad 2012 (35) | Non-steroidal anti-inflammatory agents for treating cystoid macular oedema | February 2012  | 7 | Visual acuity |
| Juthani 2017(24) | Non-steroidal anti-inflammatory drugs versus corticosteroids for controlling inflammation | July 2017 | 48 | Intraocular inflammation |
| Gower 2017 (22) | Perioperative antibiotics for prevention of acute endophthalmitis | February 2017  | 5 | Endophthalmitis |
| De Silva 2016 (19) | Phacoemulsification versus ECCE | January 2014 | 11 | Visual acuity |
| Lim 2016 (28)  | Prophylactic non-steroidal anti-inflammatory drugs for the prevention of macular oedema | November 2016 | 34 | Poor vision due to macular oedema |
| Keay 2019 (25) | Routine preoperative medical testing | January 2019 | 3 | Medical adverse events |
| Casparis 2017 (16) | Surgery for cataracts in people with age-related macular degeneration | June 2012 | 2 | Visual acuity |
| Do 2018 (20) | Surgery for postvitrectomy cataract | December 2013 | 0 | Visual acuity |
| Riaz 2006 (34) | Surgical interventions | October 2006 | 17 | Visual acuity |
| Long 2006 (29) | Surgical interventions for bilateral congenital cataract | July 2001 | 1 | Visual acuity |
| Leung 2014 (27) | Types of intraocular lenses for cataract surgery in eyes with uveitis | March 2014 | 4 | Visual acuity |

Four (17%) CSRs included an LMIC author on the byline; in one of these CSRs an LMIC author was both first and last author. No additional LMIC consultation was acknowledged. The CSR with equity as a main topic restricted studies to those conducted in LMICs, otherwise none of the CSRs used PROGRESS plus disability factors as inclusion or exclusion criteria. Of the 20 CSRs with included studies, 16 (80%) included studies that were conducted in LMICs and 6 (30%) had more than half of their studies from LMICs.

Just over half of the CSRs reported the sex of participants in the included studies (12, 52%), one CSR described race/ethnicity/culture/language and the CSR on equity considered all of the PROGRESS plus disability factors (figure 1). None of the included CSRs reported subgroup analyses by any PROGRESS plus disability factor, although these were planned in two reviews (by race/ethnicity). Other than the CSR on equity, none of the CSRs took equity into account when discussing the interventions or discussing the implications of the findings of their review.

### Studies included in the reviews

There were 231 studies included in these 23 CSRs. These studies were published in 312 separate reports, of which 19 were conference abstracts which we did not consider further. Over half of the studies were contained in four CSRs.[25, 39-41] There was some overlap between reviews: a CSR on surgical interventions for cataract [35] was later divided into specific comparisons of different techniques.[16, 20, 34] As all the studies in the original CSR were included in the later CSRs, we only considered studies included in the three later sub-divided CSRs. There was some overlap in the studies included in two reviews of topical NSAIDs.[25, 29] We considered the trials in these two CSRs together, selecting the 5 most recent studies from these reviews. Three CSRs had no trials and therefore provided no studies. The final number of studies eligible for assessment of equity was 71 of which we extracted data on the 62 studies for which we were able to obtain a full text report.

Twenty-six (42%) primary studies involved LMIC authors—19 of these studies only included LMIC authors; 5 had neither the first nor the last author LMIC-based; one had both first and last authors who were LMIC-based and one had the first author but not the last author LMIC-based. A total of 23/62 (37%) studies were conducted in LMICs. A small number of studies used PROGRESS factors in the inclusion / exclusion criteria and these were related to perceived ability of participants to take part in the study—place of residence (4 studies), language (3), education (1), gender/sex (1) and disability (4).

A majority of studies reported on sex of participants (45/62, 73%) but other PROGRESS plus disability factors were less frequently reported: place of residence (2 studies), race/ethnicity/culture/language (5), occupation (1), education (3), socioeconomic status (2), and social capital (1) (figure 1).

Three of the 62 studies reported subgroup analyses by sex. In two studies “no difference” was observed and in one study worse outcomes were seen in men (the “advantaged” group). One study reported subgroup analyses by race/ethnicity/culture/language and observed “no difference”.

## Discussion

Authors of Cochrane Eyes and Vision systematic reviews on cataract, and trialists conducting the underlying trials, rarely consider equity when designing and executing their studies, nor do they discuss the implications of their findings for equity. Overall, a minority of cataract studies and CSRs are focussed on questions relevant to LMICs, where most vision impairment and blindness due to cataract is found.

There are several points of the systematic review process at which equity issues could apply. Firstly, in the choice of questions to be studied. There is one CSR of cataract on the Cochrane library that specifically addresses the issue of equity, by considering interventions to improve access to cataract surgery in LMICs . [31] This infrequent consideration of equity-relevant questions is also common in non-Cochrane reviews—when we searched for “cataract” and “review” in the title field on PubMed for comparison, none of the 193 identified reviews included equity in the title (as recommended by PRISMA-equity extension.[42] There were three reviews with titles indicating a topic of relevance to equity but none of these reviews specifically addressed interventions to reduce inequity, being focussed instead on demonstrating the size of the problem, or availability of evidence.[43-45] This demonstrates that there is a lack of research on interventions to reduce inequity in vision impairment due to cataract. It is unclear whether equity would figure in traditional methods of priority setting. For example, the James Lind Alliance Priority Setting Partnership in Sight Loss and Vision identified over 100 priority questions for 10 important eye conditions.[46] However, none of the identified priority questions addressed the issue of reducing inequity.

Secondly, issues of equity could be considered when considering the populations included in the studies. In particular, differential effects across PROGRESS plus disability factors would be an important indication of whether an intervention reduces or increases inequity. Again, we found little consideration of this in either reviews or trials. The only PROGRESS plus disability factor routinely used when describing participants was gender/sex. However, few CSRs or primary studies discussed these data further, neither did they consider whether the effect of the intervention differed by gender/sex. Beyond gender/sex, other PROGRESS plus disability factors were rarely considered in terms of the description of the study populations for subgroup analyses. In general, the primary studies included in these CSRs were small—75% of the studies assessed here enrolled fewer than 350 people. This means that these studies would have been underpowered to consider meaningful differences in effect in PROGRESS plus disability factors. If studies are to be “equity-relevant” they need to be designed such that intervention effects may be reliably estimated across different subgroups according to which particular inequity is to be considered.

The PROGRESS framework was first proposed by Evans and Brown in 2003[10] and further developed (PROGRESSPlus) by Oliver et al.[11]. Although there are several other equity frameworks available, we chose this framework as it is the one recommended by the Campbell and Cochrane Equity Methods group and was included in reporting guidelines for systematic reviews in 2012 (PRISMA) [42] and intervention studies in 2017 (CONSORT).[47] Although the framework has been in existence for nearly two decades, uptake into the guidance documents that may be used by systematic review authors and trialists has been slow. All but one of the CSRs included here was published after PROGRESS was published in 2003, and we selected the most recently published primary studies, but it is likely that the lack of structured guidance has been an issue. The new Cochrane Handbook for Systematic Reviews of Interventions (updated 2019) now includes a chapter on Equity.[48] Going forward, systematic review authors will therefore have more guidance on how to address equity in their reviews. As systematic review authors are dependent on whether or not primary studies have addressed equity (on study level characteristics), the role of CONSORT equity extension will also be important in order to ensure that data relevant to equity are presented in the primary studies, for example, subgroup analyses by PROGRESS characteristics.

It may be the case that not all components of the PROGRESSPlus framework are relevant to all systematic reviews or primary studies. For example, if all participants are drawn from a similar location and have similar ethnicities or language/religion then it may be that inequity along these dimensions is not a concern. However, we did note that sometimes people were excluded from taking part in studies for reasons such as language or disability, and therefore a higher awareness of equity issues on the part of trialists may be important.

It is also worth considering the resource implications of collecting data on all PROGRESS plus criteria in the primary studies. This analysis has been focussed on randomised controlled trials. It is likely that much of these data are collected routinely during the course of clinical intervention studies – for example, age, sex, co-morbidities, place of residence. It may be that the lack of a pre-planned analysis strategy with an equity framework is more of an issue when it comes to reporting these data.

Equity is not often addressed in other Cochrane reviews. For example, Tugwell et al evaluated 14 Cochrane reviews on rhematoid arthritis[13] and Aves et al provided a similar analysis of 101 Cochrane reviews of HIV.[14] Both studies found a similar deficit in consideration of equity in these reviews, with sex/gender being the most commonly reported PROGRESSPlus characteristic.

Cataract is the leading cause of blindness globally and is predominantly experienced by people living in LMICs. Research questions and approaches are required to reduce this global inequity. To promote equity in future research on cataract, Cochrane Eyes and Vision systematic review authors teams and cataract trialists could expand their author teams to include researchers from LMICs. In addition, Cochrane Eyes and Vision systematic review authors teams and trialists could consider equity in their studies, particularly using the PROGRESS plus disability framework.

**References**

## 1. Khairallah M, Kahloun R, Bourne R, Limburg H, Flaxman SR, Jonas JB, Keeffe J, Leasher J, Naidoo K, Pesudovs K *et al*: **Number of People Blind or Visually Impaired by Cataract Worldwide and in World Regions, 1990 to 2010**. *Investigative ophthalmology & visual science* 2015, **56**(11):6762-6769.

## 2. Polack S, Kuper H, Mathenge W, Fletcher A, Foster A: **Cataract visual impairment and quality of life in a Kenyan population**. *The British journal of ophthalmology* 2007, **91**(7):927-932.

## 3. Lansingh VC, Carter MJ, Martens M: **Global cost-effectiveness of cataract surgery**. *Ophthalmology* 2007, **114**(9):1670-1678.

## 4. Ramke J, Zwi AB, Palagyi A, Blignault I, Gilbert CE: **Equity and Blindness: Closing Evidence Gaps to Support Universal Eye Health**. *Ophthalmic epidemiology* 2015, **22**(5):297-307.

## 5. **WHO: 10 facts on health inequities and their causes (accessed 12/11/2019)** [https://[www.who.int/features/factfiles/health\_inequities/en/](http://www.who.int/features/factfiles/health_inequities/en/)]

## 6. O'Neill J, Tabish H, Welch V, Petticrew M, Pottie K, Clarke M, Evans T, Pardo Pardo J, Waters E, White H: **Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health**. *Journal of Clinical Epidemiology* 2014, **67**(1):56-64.

## 7. WHO: **World report on vision**. In*.* Geneva: World Health Organization; 2019.

## 8. L KM-PETSSKEKNFIVJLSSSKSNSD: **Delivering quality health services: a global imperative for universal health coverage (English).** . In*.* Washington, D.C. : World Bank Group 2018.

## 9. Lorenc T, Petticrew M, Welch V, Tugwell P: **What types of interventions generate inequalities? Evidence from systematic reviews**. *Journal of epidemiology and community health* 2013, **67**(2):190-193.

## 10. Evans T, Brown H: **Road traffic crashes: operationalizing equity in the context of health sector reform**. *Injury control and safety promotion* 2003, **10**(1-2):11-12.

## 11. Oliver SK, J; Caird, J; Lorenc, T; Oliver, K; Harden, A; Thomas, J; Greaves, A; Oakley,, ( A: **Health promotion, inequalities and young people’s health: a systematic review of research.**

## **Technical Report**. In*.* London: EPPI-Centre; 2008.

## 12. Evans J, Li T, Virgili G, Wormald R, Cochrane E, Vision: **Cochrane Eyes and Vision: a perspective introducing Cochrane Corner in Eye**. *Eye* 2019, **33**(6):882-886.

## 13. Tugwell P, Maxwell L, Welch V, Kristjansson E, Petticrew M, Wells G, Buchbinder R, Suarez-Almazor ME, Nowlan MA, Ueffing E *et al*: **Is health equity considered in systematic reviews of the Cochrane Musculoskeletal Group?** *Arthritis and rheumatism* 2008, **59**(11):1603-1610.

## 14. Aves T, Kredo T, Welch V, Mursleen S, Ross S, Zani B, Motaze NV, Quinlan L, Mbuagbaw L: **Equity issues were not fully addressed in Cochrane human immunodeficiency virus systematic reviews**. *Journal of clinical epidemiology* 2017, **81**:96-100.

## 15. Petkovic J, Trawin J, Dewidar O, Yoganathan M, Tugwell P, Welch V: **Sex/gender reporting and analysis in Campbell and Cochrane systematic reviews: a cross-sectional methods study**. *Systematic reviews* 2018, **7**(1):113.

## 16. Ang M, Evans JR, Mehta JS: **Manual small incision cataract surgery (MSICS) with posterior chamber intraocular lens versus extracapsular cataract extraction (ECCE) with posterior chamber intraocular lens for age-related cataract**. *The Cochrane database of systematic reviews* 2014(11):CD008811.

## 17. Casparis H, Lindsley K, Kuo IC, Sikder S, Bressler NM: **Surgery for cataracts in people with age‐related macular degeneration**. *Cochrane Database of Systematic Reviews* 2017(2).

## 18. Day AC, Gore DM, Bunce C, Evans JR: **Laser‐assisted cataract surgery versus standard ultrasound phacoemulsification cataract surgery**. *Cochrane Database of Systematic Reviews* 2016(7).

## 19. de Silva SR, Evans JR, Kirthi V, Ziaei M, Leyland M: **Multifocal versus monofocal intraocular lenses after cataract extraction**. *Cochrane Database of Systematic Reviews* 2016(12).

## 20. de Silva SR, Riaz Y, Evans JR: **Phacoemulsification with posterior chamber intraocular lens versus extracapsular cataract extraction (ECCE) with posterior chamber intraocular lens for age-related cataract**. *The Cochrane database of systematic reviews* 2014(1):CD008812.

## 21. Do DV, Gichuhi S, Vedula SS, Hawkins BS: **Surgery for postvitrectomy cataract**. *Cochrane Database of Systematic Reviews* 2018(1).

## 22. Dubois V, Bastawrous A: **N‐acetylcarnosine (NAC) drops for age‐related cataract**. *Cochrane Database of Systematic Reviews* 2017(2).

## 23. Gower EW, Lindsley K, Tulenko SE, Nanji AA, Leyngold I, McDonnell PJ: **Perioperative antibiotics for prevention of acute endophthalmitis after cataract surgery**. *Cochrane Database of Systematic Reviews* 2017(2).

## 24. Jin C, Chen X, Law A, Kang Y, Wang X, Xu W, Yao K: **Different‐sized incisions for phacoemulsification in age‐related cataract**. *Cochrane Database of Systematic Reviews* 2017(9).

## 25. Juthani VV, Clearfield E, Chuck RS: **Non‐steroidal anti‐inflammatory drugs versus corticosteroids for controlling inflammation after uncomplicated cataract surgery**. *Cochrane Database of Systematic Reviews* 2017(7).

## 26. Keay L, Lindsley K, Tielsch J, Katz J, Schein O: **Routine preoperative medical testing for cataract surgery**. *The Cochrane database of systematic reviews* 2019, **1**:CD007293.

## 27. Lawrence D, Fedorowicz Z, van Zuuren EJ: **Day care versus in-patient surgery for age-related cataract**. *The Cochrane database of systematic reviews* 2015(11):CD004242.

## 28. Leung TG, Lindsley K, Kuo IC: **Types of intraocular lenses for cataract surgery in eyes with uveitis**. *The Cochrane database of systematic reviews* 2014(3):CD007284.

## 29. Lim BX, Lim CHL, Lim DK, Evans JR, Bunce C, Wormald R: **Prophylactic non‐steroidal anti‐inflammatory drugs for the prevention of macular oedema after cataract surgery**. *Cochrane Database of Systematic Reviews* 2016(11).

## 30. Long V, Chen S, Hatt S: **Surgical interventions for bilateral congenital cataract**. *The Cochrane database of systematic reviews* 2006(3):CD003171.

## 31. Mathew MC, Ervin AM, Tao J, Davis RM: **Antioxidant vitamin supplementation for preventing and slowing the progression of age-related cataract**. *The Cochrane database of systematic reviews* 2012(6):CD004567.

## 32. Ong HS, Evans JR, Allan BD: **Accommodative intraocular lens versus standard monofocal intraocular lens implantation in cataract surgery**. *The Cochrane database of systematic reviews* 2014(5):CD009667.

## 33. Ramke J, Petkovic J, Welch V, Blignault I, Gilbert C, Blanchet K, Christensen R, Zwi AB, Tugwell P: **Interventions to improve access to cataract surgical services and their impact on equity in low‐ and middle‐income countries**. *Cochrane Database of Systematic Reviews* 2017(11).

## 34. Riaz Y, de Silva SR, Evans JR: **Manual small incision cataract surgery (MSICS) with posterior chamber intraocular lens versus phacoemulsification with posterior chamber intraocular lens for age-related cataract**. *The Cochrane database of systematic reviews* 2013(10):CD008813.

## 35. Riaz Y, Mehta JS, Wormald R, Evans JR, Foster A, Ravilla T, Snellingen T: **Surgical interventions for age-related cataract**. *The Cochrane database of systematic reviews* 2006(4):CD001323.

## 36. Sivaprasad S, Bunce C, Crosby-Nwaobi R: **Non-steroidal anti-inflammatory agents for treating cystoid macular oedema following cataract surgery**. *The Cochrane database of systematic reviews* 2012(2):CD004239.

## 37. Thomas RE, Crichton A, Thomas BC: **Antimetabolites in cataract surgery to prevent failure of a previous trabeculectomy**. *The Cochrane database of systematic reviews* 2014(7):CD010627.

## 38. Zhang ML, Hirunyachote P, Jampel H: **Combined surgery versus cataract surgery alone for eyes with cataract and glaucoma**. *The Cochrane database of systematic reviews* 2015(7):CD008671.

## 39. Jin C, Chen X, Law A, Kang Y, Wang X, Xu W, Yao K: **Different-sized incisions for phacoemulsification in age-related cataract**. *The Cochrane database of systematic reviews* 2017, **9**:CD010510.

## 40. Lim BX, Lim CH, Lim DK, Evans JR, Bunce C, Wormald R: **Prophylactic non-steroidal anti-inflammatory drugs for the prevention of macular oedema after cataract surgery**. *The Cochrane database of systematic reviews* 2016, **11**:CD006683.

## 41. de Silva SR, Evans JR, Kirthi V, Ziaei M, Leyland M: **Multifocal versus monofocal intraocular lenses after cataract extraction**. *The Cochrane database of systematic reviews* 2016, **12**:CD003169.

## 42. Welch V, Petticrew M, Tugwell P, Moher D, O'Neill J, Waters E, White H, group PR-EB: **PRISMA-Equity 2012 extension: reporting guidelines for systematic reviews with a focus on health equity**. *PLoS medicine* 2012, **9**(10):e1001333.

## 43. Gilbert CE, Lepvrier-Chomette N: **Gender Inequalities in Surgery for Bilateral Cataract among Children in Low-Income Countries: A Systematic Review**. *Ophthalmology* 2016, **123**(6):1245-1251.

## 44. Aboobaker S, Courtright P: **Barriers to Cataract Surgery in Africa: A Systematic Review**. *Middle East African journal of ophthalmology* 2016, **23**(1):145-149.

## 45. Virendrakumar B, Jolley E, Gordon I, Bascaran C, Schmidt E: **Availability of evidence on cataract in low/middle-income settings: a review of reviews using evidence gap maps approach**. *The British journal of ophthalmology* 2016, **100**(11):1455-1460.

## 46. Rowe F, Wormald R, Cable R, Acton M, Bonstein K, Bowen M, Bronze C, Bunce C, Conroy D, Cowan K *et al*: **The Sight Loss and Vision Priority Setting Partnership (SLV-PSP): overview and results of the research prioritisation survey process**. *BMJ open* 2014, **4**(7):e004905.

## 47. Welch VA, Norheim OF, Jull J, Cookson R, Sommerfelt H, Tugwell P, Equity C, Boston Equity S: **CONSORT-Equity 2017 extension and elaboration for better reporting of health equity in randomised trials**. *Bmj* 2017, **359**:j5085.

## 48. Welch VAP, J.; Jull, J.; Hartling, L.; Klassen, T.; Kristjansson, E.; Pardo, J.P.; Petticrew, M.; Stott, D.J.; Thomson, D.; Ueffing, E.; Williams, K.; Young, C.; Tugwell, P.: **Chapter 16: Equity and specific populations**. In: *Cochrane Handbook for Systematic Reviews of Interventions version 60 (updated July 2019)* edn. Edited by Higgins JPTT, J.; Chandler, J.; Cumpston, M.; Li, T.; Page, M.J.; Welch, V.A. Available from [www.training.cochrane.org/handbook.:](http://www.training.cochrane.org/handbook.%3A) Cochrane; 2019.

## CRediT Author statement:

Jennifer Evans: Conceptualization; Methodology; Project administration; Data curation; Formal analysis; Roles/Writing - original draft;

Nyawira Mwangi: Investigation; Writing - review & editing.

Helen Burn: Investigation; Writing - review & editing.

Jacqueline Ramke: Conceptualization; Methodology; Writing - review & editing

Figure 1: Percentage of Cochrane systematic reviews on cataract (CSRs) and primary studies according to reporting of PROGRESS characteristics.

