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# Self-management interventions for quality of life in adults with visual impairment (Protocol)

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[Intervention Protocol]

# Self-management interventions for quality of life in adults with visual impairment

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## ABSTRACT

### Objectives

This is a protocol for a Cochrane Review (intervention). The objectives are as follows:

The objective of this review is to assess the impact of self-management interventions on quality of life in adults with visual impairment compared with inactive or active (usual care) control interventions.

# BACKGROUND

According to the World Health Organization, at least 2,200 million people are affected by vision impairment globally (WHO 2022). Vision impairment is one of the leading causes of disability, posing a significant financial burden on healthcare systems across the globe (GBD 2018). While vision loss can affect people of all ages, the majority of those with vision impairment are over the age of 50 with age-related ocular disease. Furthermore, the number of individuals affected by vision impairment is expected to exponentially increase as the population ages (Chan 2018).

The main causes of vision impairment are uncorrected refractive error, cataract, macular degeneration, glaucoma, and diabetic retinopathy (GBD 2021). In most cases, these conditions are progressive in nature, which may lead to functional impairment in activities of daily living and loss of independence and quality of life.

Visually impaired adults are more likely to be older, unemployed, and have lower income (Varadaraj 2021). In addition, visual impairment is associated with a higher risk of mortality, as a decline in functional ability in instrumental activities of daily living are experienced (Christ 2014). To understand and address health disparities associated with a decline in visual acuity, we may begin by addressing the functional concerns of these individuals and which interventions are effective to bridge these gaps.

## Description of the condition

There are many definitions for visual impairment. In this review, we will use the definition determined by the International Classification of Diseases 11, which states: "A vision impairment results when an eye condition affects the visual system and one or more of its vision functions. Typically, population-based surveys measure visual impairment using exclusively visual acuity, with severity categorized as mild, moderate or severe distance vision impairment or blindness, and near vision impairment. However, in the clinical setting, other visual functions are also often assessed, such as a person's field of vision, contrast sensitivity and color vision" (WHO 2022a). This definition is consistent with previous studies in the literature, and it is broad enough to ensure that the review will capture the majority of those with visual impairment.

## Description of the intervention

In this review, we define self-management as the skills and resources for an individual to manage the practical, social, and emotional consequences of their condition. Self-management interventions focus on teaching skills that allow individuals to better manage their chronic condition, and thereby optimize their health and well-being (Jonkman 2016). The aim of self-management is to teach people to cope with their visual disabilities to maximize their activities of daily living. Self-management can include the use of low-vision devices, improving visual skills in conjunction with occupational therapy, and other guided interventions. People with low vision may receive recommendations from their low-vision specialist for ways that they can engage in self-management. They may also encounter these types of strategies through support groups or other educational programs.

## How the intervention might work

Self-management is defined in various sectors of healthcare as the support provided to patients with one or more chronic medical conditions which enables and empowers them to place an active role in managing their own health on a day-to-day basis (Grady 2014). Interventions to promote self-management may also increase an individual's ability to solve problems, make decisions, and develop action plans for specific goals. By evaluating self-management strategies in vision impairment, we may expect to see an improvement in visual functioning and independence, therefore enhancing patients' quality of life.

We define health-related quality of life (HRQOL) as an individual's or a group's perceived physical, mental, and social health over time (CDC 2023). HRQOL measures are used to represent the qualitative experience with a disease pre- and postintervention. Generic HRQOL measures are not always sensitive to vision-specific functionality, thus research in this population can include vision-related quality of life (VRQOL) measures to capture the complex trait that encompasses visual functioning, symptoms, emotional well-being, social relationships, and concerns that are specific to vision loss (Lamoureux 2011). These vision-specific domains may not be adequately represented in a generic measure, therefore we will apply both HRQOL and VRQOL in our review.

## Why it is important to do this review

This review is important to determine how quality of life is affected by self-management interventions to improve the social, psychological, economic, and cognitive burdens on those affected by visual impairment (CDC 2022). This study is important for vision health professionals to better understand the most effective self-management intervention for visually impaired patients so that we can provide more effective care. Currently, there are scarcely any published systematic reviews that use quality of life as a metric, therefore this is an important metric that needs to be considered. Additionally, this metric is of importance due to the growing interest of governments and health insurance companies in assessing quality of life as an outcome measure.

# OBJECTIVES

The objective of this review is to assess the impact of self-management interventions on quality of life in adults with visual impairment compared with inactive or active (usual care) control interventions.

# METHODS

## Criteria for considering studies for this review

### Types of studies

We will include randomized controlled trials (RCTs) evaluating self-management interventions for individuals with visual impairment compared to inactive interventions or usual care. Cluster-RCTs and quasi-RCTs will also be eligible for inclusion. We will exclude cross-over RCTs because self-management intervention can lead to permanent or long-term modification to participants, and carry-over effect cannot be ignored. We will not exclude studies on the basis of publication status or language of publication.

### Types of participants

We will include any study with adult participants utilizing self-management therapy for acquired visual impairment, including dual sensory impairment. There will be no limits on etiology or onset of diagnosis. We will exclude participants less than 18 years of age and those with congenital forms of visual impairment. We will only include participants with congenital forms of visual impairment if separate data on participants with acquired visual impairment are reported.

### Types of interventions

We will include any self-management interventions that are used to enhance visual function and improve patient-reported outcomes secondary to visual impairment. The intervention, which could be delivered to an individual or group, must contain at least one of the following components: problem-solving, goal-setting, decision-making, self-monitoring, coping with the condition, or an alternative method designed to facilitate behavior change and improvements in physical and psychological functioning. There is no minimum time frame for the duration of the intervention.

These self-management interventions may include the following.

- Education-based approach to patient or caretakers, or both
- Psychological support—professional/family/friends
- Interventions promoting greater usage of low-vision aids, such as:
  - magnifiers;
  - reading glasses;
  - video magnifiers;
  - screen readers;
  - assistive technology.
- Occupational therapy
  - Behavioral activation
  - Home management
- Enhancement of problem-solving skills
- Behavioral skills planning
- Goal planning

Self-management interventions as defined here do not include training through telerehabilitation or residential and/or weekly rehabilitation programs.

### Types of outcome measures

We will categorize outcomes reported up to six months after baseline as short-term review outcomes, and outcomes reported more than six months after baseline as long-term review outcomes.

#### *Critical outcomes*

The critical outcomes for this review are the mean change in (1) generic health-related quality of life (HRQOL) and (2) overall vision-related quality of life (VRQOL) scores up to six months from baseline. We will evaluate studies that had assessed quality of life using validated questionnaires that were completed by the person affected, a caregiver, or a close relative (Langelaan 2007).

Examples of quality of life questionnaires are listed below.

- Visual function (Activity Inventory (Massof 2007), Veterans Affairs Low-Vision Visual Functioning Questionnaire-48 (VA LV VFQ-48) (Stelmack 2006), Impact on Vision Impairment (IVI) (Weih 2002))
- Vision-related quality of life (Low Vision Quality-of-Life Questionnaire (LVQOL) (Wolffsohn 2000), National Eye Institute Visual Function Questionnaire-25 (NEI VFQ-25) (Mangione 2001))
- Psychological well-being (Geriatric Depression Scale (GDS) (Yesavage 1982), Patient Health Questionnaire-9 (PHQ-9) (Kroenke 2001), General Anxiety Disorder-7 (GAD-7) (Spitzer 2006))
- Health-related quality of life (36-item Short Form Health Survey (SF-36) version 2 (Ware 1992), EQ-5D (EuroQoL 1990))

#### *Important outcomes*

We will assess the following important outcomes reported up to six months from baseline, or at the longest follow-up time of the study if the outcomes are not reported within six months.

- Mean change in subscores in HRQOL and VRQOL including physical functioning, social functioning, emotional distress, feelings of depression and anxiety. If quality of life measures include only a single domain, we will use overall scores as subscores.
- Mean change in vision-related living performance measures from baseline:
  - reading speed;
  - Timed Instrumental Activities of Daily Living (Owsley 2001);
  - tracing speed;
  - facial recognition;
  - mobility outcomes.
- Proportion of participants who experienced any adverse events (AEs) during the intervention period. Because AEs are unlikely to be intervention related, we will extract all AEs reported by the included studies.

## Search methods for identification of studies

The Cochrane Eyes and Vision Information Specialist will search the following electronic databases for RCTs and controlled clinical trials.

### Electronic searches

We will search the Cochrane Central Register of Controlled Trials (CENTRAL) (which contains the Cochrane Eyes and Vision Trials Register) (latest issue), Ovid MEDLINE (All) (January 1946 to present), Embase.com (January 1947 to present), PubMed (1946 to present), Latin American and Caribbean Health Sciences Literature Database (LILACS) (1982 to present), ClinicalTrials.gov (www.clinicaltrials.gov), and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (trialsearch.who.int/). We will not use any date or language restrictions in the electronic search for trials.

See: Appendices for details of search strategies for CENTRAL (Appendix 1), MEDLINE (Appendix 2), Embase.com (Appendix 3), PubMed (Appendix 4), LILACS (Appendix 5), ClinicalTrials.gov (Appendix 6), and the ICTRP (Appendix 7).

### Searching other resources

We will search the reference lists of included studies for additional trials. We will not search conference abstracts for the purposes of this review.

## Data collection and analysis

### Selection of studies

After removal of duplicates, two review authors will independently screen the titles and abstracts of all records identified by the searches using Covidence software (Covidence). We will classify each record as 'relevant,' 'possibly relevant,' or 'not relevant' based on the eligibility criteria. We will obtain full-text copies of all relevant or possibly relevant studies, and assess these according to the Criteria for considering studies for this review outlined above. Two review authors will independently evaluate the full-text articles for inclusion in the review. We will merge multiple reports published on the same primary study. A third review author will resolve any disagreements or discrepancies between the two review authors through discussion and consensus.

### Data extraction and management

Two review authors will independently extract data from the included studies using the data extraction form developed by Cochrane Eyes and Vision US Project (CEV@US) in Covidence (Covidence). We will extract the following information.

- Study design and unit of allocation
- Participants (inclusion/exclusion criteria, number randomized, participant characteristics, withdrawals and exclusions)
- Self-management intervention(s), including location, personnel delivering the intervention, delivery method and duration
- Outcomes (including time points measured)

We will collect data in sufficient detail to facilitate description of the included studies, construct tables and figures, assess risk of bias, and conduct synthesis.

We will contact study authors to request missing information or for clarification. If the authors do not respond within two weeks, we will proceed with the available information. In case of any discrepancies in data extraction between review authors, consensus will be reached through discussion or adjudication with an additional review author if necessary. After we reach consensus, one review author will export the collated data into Review Manager Web (RevMan Web 2022), and a second review author will verify the data entry.

### Assessment of risk of bias in included studies

Two review authors will independently assess risk of bias for the critical outcomes, generic HRQOL change scores and VRQOL change scores, using Cochrane's RoB 2 tool, Sterne 2019, as described in Chapter 8 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2022). In case of disagreement, an adjudicator will resolve the discrepancy.

We will consider the following domains of bias:

- bias arising from the randomization process;
- bias introduced by deviations from intended interventions;
- bias arising from missing outcome data;
- bias in measurement of the outcome;
- bias in selection of the reported result.

We will present an overall risk of bias assessment for each trial based on the assessments across the five domains. The overall risk of bias will have three categories: 'low risk of bias,' 'high risk of bias,' or 'some concerns.'

If we include any cluster-randomized trials, we will use the RoB 2 tool for cluster-randomized trials. We will assess risk of bias following the guidance in Chapter 23 of the *Cochrane Handbook for Systematic Reviews of Interventions* regarding including variants on randomized trials (Higgins 2022a). We will add one more domain to assess the bias arising from the timing of identification and recruitment of participants for cluster-randomized trials.

### Measures of treatment effect

We will conduct data analysis following the guidance in Chapter 6 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2022b). For the data on the quality of life questionnaire, we will collect the data separately as a total score (mean and standard deviation) and as the subscores on the questionnaire.

We will summarize the results as mean difference (MD) with 95% confidence intervals (CIs) where studies used the same quality of life tool across studies. Alternatively, we will use the standardized mean difference (SMD) with 95% CIs where studies employed different tools. We will express point estimates for dichotomous outcomes (e.g. adverse events) as risk ratio (RR) (Higgins 2022a).

Where it is not possible to summarize results as above, we will report the results narratively.

### Unit of analysis issues

The unit of analysis for critical and other important outcomes will be the study participant. If the unit of randomization is a group of participants (e.g. randomization per clinic) rather than a participant, as in cluster-RCTs, a unit of analysis issue will occur. We will refer to Chapter 23 of the *Cochrane Handbook for Systematic Reviews of Interventions* for guidance regarding including variants on randomized trials (Higgins 2022a).

### Dealing with missing data

If data are missing from a paper or difficult to interpret, we will contact the study authors to request the information of interest. If the study investigators do not respond within two weeks, we will proceed with the available information and assess the impact of the missing data on the overall interpretation of results. If precision measures (e.g. standard deviations) are not provided in the included studies, we will impute them by using the information from the studies (e.g. confidence intervals and exact P values). Except for the imputation of precision measures, we will not impute other data on our own. In dealing with missing data, we will follow the recommendations in Chapter 10 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Deeks 2022).

### Assessment of heterogeneity

Before combining data in a meta-analysis, we will assess studies for clinical heterogeneity such as variations in participants, interventions, outcomes, and time points. We will assess statistical heterogeneity by using the $I^2$ statistic as recommended in

Chapter 10 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Deeks 2022). We will use the following thresholds for the interpretation of $I^2$:

- 0% to 40%: might not be important;
- 30% to 60%: may represent moderate heterogeneity;
- 50% to 90%: may represent substantial heterogeneity;
- 75% to 100%: considerable heterogeneity.

### Assessment of reporting biases

We will examine the risk of reporting bias by comparing the outcomes defined in the trial protocol or trial registration with those presented in the full-text publication/report of the study according to the signaling questions in the relevant domain of the RoB 2 tool. If we identify sufficient randomized trials (> 10), we will examine the potential for publication bias using a funnel plot (Egger 1997).

### Data synthesis

Where we consider studies to be sufficiently similar in terms of study populations and design, we will conduct a meta-analysis using a random-effects model. If fewer than three small studies are included, we will use a fixed-effect model (Deeks 2022). If we include multi-arm studies, we will combine groups to create a single pair-wise comparison. If we are unable to conduct meta-analysis due to substantial heterogeneity, we will report a narrative or tabulated summary of the data.

If we include cluster-randomized or cross-over trials, we will follow the additional guidance in Chapter 23 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins 2022a).

### Subgroup analysis and investigation of heterogeneity

In the case of sufficient data (> 10 trials), we will perform subgroup analyses on the critical outcomes by:

- etiology of visual impairment (e.g. glaucoma, age-related macular degeneration, and diabetic retinopathy);
- participant age of onset of visual impairment (working-age population versus elderly population (e.g. ≥ 65 years));
- length of diagnosis (newly diagnosed: within last six months versus established diagnosis: greater than six months).

### Sensitivity analysis

We will undertake sensitivity analyses by excluding studies judged as having an overall high risk of bias. We will compare the results to determine whether this changes the effect estimate.

### Summary of findings and assessment of the certainty of the evidence

We will present summary of findings tables to provide key information concerning the certainty of evidence, the magnitude of effect of the interventions examined, and the summary of the available data on the two critical outcomes, generic HRQOL change scores and overall VRQOL change scores, reported up to six months postintervention and adverse events at the end of follow-up. We will follow the guidelines in Chapter 14 of the *Cochrane Handbook for Systematic Reviews of Interventions* (Schünemann 2022).

Two review authors will independently perform the GRADE assessment to evaluate the certainty of the review findings. We will grade the certainty of evidence of 'high,' 'moderate,' 'low,' or 'very low' based on (i) high risk of bias among included studies, (ii) indirectness of evidence, (iii) unexplained heterogeneity or inconsistency of results, (iv) imprecision of results, and (v) high probability of publication bias. For outcomes not specified for RoB 2 assessment, the GRADE assessment will be informed by study-level risk of bias assessment.

## ACKNOWLEDGEMENTS

### Acknowledgements from the authors

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### Editorial and peer-reviewer contributions

The following people conducted the editorial process for this protocol.

- Sign-off Editors (final editorial decision): Dr Tianjing Li (University of Colorado Anschutz Medical Campus), Dr Gianni Virgilli (Queen's University Belfast)
- Managing Editor and Assistant Managing Editors (selected peer reviewers, collated peer-reviewer comments): Anupa Shah (Queen's University Belfast); Louis Leslie (University of Colorado Anschutz Medical Campus); Genie Han (Johns Hopkins University)
- Methodologist (provided methodological and editorial guidance to authors, edited the article): Alison Su-Hsun Liu and Sueko Ng (University of Colorado Anschutz Medical Campus)
- Information Specialist: Lori Rosman (Johns Hopkins University)
- Copy Editor: Lisa Winer (Cochrane Central Production Service)
- Peer reviewers: Drs Alexis Ceecee Britten-Jones (University of Melbourne) and Erin Rueff (Ohio State University)

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# APPENDICES

## Appendix 1. CENTRAL search strategy

#1 MeSH descriptor: [Vision Disorders] explode all trees
#2 MeSH descriptor: [Refractive Errors] explode all trees
#3 MeSH descriptor: [Macular Degeneration] explode all trees
#4 MeSH descriptor: [Diabetic Retinopathy] explode all trees
#5 MeSH descriptor: [Cataract] explode all trees
#6 MeSH descriptor: [Glaucoma] explode all trees
#7 MeSH descriptor: [Visually Impaired Persons] explode all trees

#8 MeSH descriptor: [Orthoptics] explode all trees
#9 ((low* or handicap* or subnormal* or impair* or partial* or disab* or reduce* or diminish* or decrease*) NEAR/3 (vision or visual* or sight*))
#10 ((abnormal* or blurred or defect* or difficult* or dim or disturbed or hazy or interference or poor or tunnel or weak* or defect* or deficienc* or disorder* or disturb* or problem*) NEAR/3 (vision or visual* or sight*))
#11 ((vision or visual or sight*) NEAR/2 loss) or blindness
#12 cataract* or (macula* NEAR/3 degenerat*) or (macula* NEAR/3 dystroph*) or maculopath* or AMD or ARMD or glaucoma* or (diabet* AND retinopath*)
#13 (refractive NEXT/1 error*) or ("near" NEXT/1 sighted*) or nearsighted* or (short NEXT/1 sighted*) or shortsighted* or hyperopia or farsighted* or (far NEXT/1 sighted*) or (long NEXT/1 sighted*) or longsighted* or astigmatism or astigmatism or presbyopia* or onchocerciasis or onchocerciases
#14 LASIK or LASEK or orthoptic* or (punctal NEXT plug*) or glasses or eyeglasses or spectacle*
#15 {OR #1-#14}
#16 MeSH descriptor: [Quality of Life] this term only
#17 MeSH descriptor: [Quality-Adjusted Life Years] this term only
#18 MeSH descriptor: [Value of Life] this term only
#19 MeSH descriptor: [Health Status] this term only
#20 MeSH descriptor: [Sickness Impact Profile] this term only
#21 MeSH descriptor: [Disability Evaluation] this term only
#22 MeSH descriptor: [Activities of Daily Living] explode all trees
#23 MeSH descriptor: [Cost-Benefit Analysis] this term only
#24 MeSH descriptor: [Surveys and Questionnaires] this term only
#25 MeSH descriptor: [Health Surveys] this term only
#26 MeSH descriptor: [Psychometrics] explode all trees
#27 (quality NEAR/2 life)
#28 ("disability adjusted life" or "qaly*" or "qald*" or "qale*" or "qtime*" or "daly*" or "euroqol" or "euro qol" or "eq5d" or "eq 5d" or "hql" or "hqol" or "h qol" or "hrqol" or "hr qol" or "hye" or "hyes" or (health* year* equivalent*) or "hui" or "hui1" or "hui2" or "hui3" or "willingness to pay" or "standard gamble" or "QOL" or "HRQL" or "wellbeing" or "well being" or "WHOQOL" or "WHO QOL" or "healthy days measures" or "EQ VAS" or "EQ 15D" or "36 Item Short Form Survey" or "SF 36" or "12 item Short Form Survey" or "SF 12" or "Visual Function Questionnaire" or "NEI VFQ" or "VFQ 25" or "IND VFQ 33" or "VA LV VFQ" or "VFQ 48" or "VFQ 20" or "14 item Visual Functioning" or "VF 14" or "11 item Visual Functioning" or "VF 11" or "Impact of Vision Impairment" or "IVI" or "glaucoma utility index" or "catquest" or "Activities of Daily Vision Scale" or "ADVS" or "Cataract Symptom Scale" or "Daily Living Tasks Dependent Upon Vision" or DLTV or "Measure of Outcome in Ocular Disease" or "Refractive Status and Vision Profile" or "Vision Specific Sickness Impact Profile" or "SIPV" or "Visual Activities Questionnaire" or "VAQ" or "Visual Disability Assessment" or "VDA" or "Visual Disabilities Questionnaire" or "Glaucoma symptom scale" or "Symptom Impact Glaucoma Score" or "GHPI" or "Glaucoma Health Perceptions index" or "activity inventory" or "LVQOL" or "Geriatric Depression Scale" or "GDS" or "patient health questionnaire" or "PHQ 9" or "GAD 7" or "EQ15D" or "EQVAS" or "SF12" or "SF36" or "NEIVFQ" or "VFQ" or "VFQ25" or "INDVFQ23" or "VALVVFQ" or "VFQ48" or "VFQ20" or "VF14" or "VF11" or "LV QOL")
#29 (health NEAR/3 (utility* or disutili* or state or status))
#30 ((visual or vision) NEAR/2 (function* or activit* or task or performance or assessment* or questionnaire* or evaluation*))
#31 {OR #16-#30}
#32 #15 AND #31
#33 MeSH descriptor: [Self-Management] explode all trees
#34 MeSH descriptor: [Self Efficacy] explode all trees
#35 MeSH descriptor: [Self Care] explode all trees
#36 MeSH descriptor: [Self Administration] explode all trees
#37 MeSH descriptor: [Self-Assessment] explode all trees
#38 MeSH descriptor: [Self Concept] this term only
#39 MeSH descriptor: [Self-Help Devices] explode all trees
#40 MeSH descriptor: [Patient Compliance] this term only
#41 MeSH descriptor: [Patient Education as Topic] this term only
#42 MeSH descriptor: [Patient Participation] explode all trees
#43 MeSH descriptor: [Consumer Health Information] explode all trees
#44 MeSH descriptor: [Attitude to Health] this term only
#45 MeSH descriptor: [Health Behavior] this term only
#46 MeSH descriptor: [Health Knowledge, Attitudes, Practice] this term only
#47 MeSH descriptor: [Health Promotion] this term only
#48 MeSH descriptor: [Life Style] explode all trees
#49 MeSH descriptor: [Disease Management] this term only
#50 MeSH descriptor: [Risk Reduction Behavior] this term only
#51 MeSH descriptor: [Adaptation, Psychological] this term only
#52 MeSH descriptor: [Motivation] this term only
#53 MeSH descriptor: [Goals] this term only

#54 MeSH descriptor: [Problem Solving] explode all trees
#55 MeSH descriptor: [Decision Making] explode all trees
#56 MeSH descriptor: [Health Plan Implementation] this term only
#57 MeSH descriptor: [Behavior Therapy] explode all trees
#58 MeSH descriptor: [Self-Help Groups] explode all trees
#59 MeSH descriptor: [Psychosocial Intervention] explode all trees
#60 MeSH descriptor: [Psychosocial Support Systems] explode all trees
#61 MeSH descriptor: [Occupational Therapy] explode all trees
#62 MeSH descriptor: [Home Environment] explode all trees
#63 MeSH descriptor: [House Calls] explode all trees
#64 #61 AND (#62 OR #63)
#65 self-manag* or self-car* or self-monitor* or self-efficac* or self-administ* or self-medicat* or self-instil* or self-help*
#66 ((self or oneself) NEAR/3 care)
#67 ((patient* or consumer* or client* or individual* or caretaker* or caregiver* or participant* or people or person* or adult*) NEXT/5 (educat* or participat* or behaviour* or behavior* or compliance or centered or centric* or focus*))
#68 (health NEAR/5 (promot* or educat* or behav*))
#69 (risk NEXT/3 reduc* NEXT/3 behav*)
#70 ((patient* or consumer* or client* or individual* or caretaker* or caregiver* or participant* or people or person* or adult*) NEXT/5 manag* NEXT/5 disease*)
#71 (educate or educated or education or educating or educational or instructed or instruction or instructions or instructional or trained or training*)
#72 (behav* NEAR/3 (change* OR therap* OR skills OR intervention* or activation))
#73 (problem* NEAR/3 solving) or (goal* NEAR/3 setting) or (decision* NEAR/3 making*) or (support* NEXT/3 group*) or (action NEXT plan*) or (goal* NEXT plan*) or (skills NEXT plan*) or (guided NEXT intervention*) or empowerment or coping
#74 (psychological or psychosocial or psycho-social) NEAR/3 (support* or intervention*)
#75 (occupational NEXT therap*) AND (home* OR house*)
#76 ("low vision" or "vision impairment" or "vision impairments" or "visual impairment" or "visual impairments" or "visual function" or "visual functioning") NEAR/3 (intervention* or device* or aid or aids or technolog*)
#77 (assistive NEXT (technolog* or device*)) or magnifier* or "reading glasses" or "screen reader" or "screen readers"
#78 {OR #33-#60, #64-#77}
#79 #32 AND #78 in Trials

## Appendix 2. MEDLINE (Ovid) search strategy

1. Randomized Controlled Trial.pt.
2. Controlled Clinical Trial.pt.
3. (randomized or randomised).ab,ti.
4. placebo.ab,ti.
5. drug therapy.fs.
6. randomly.ab,ti.
7. trial.ab,ti.
8. groups.ab,ti.
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. exp animals/ not humans.sh.
11. 9 not 10
12. exp Vision Disorders/
13. exp Refractive Errors/
14. exp Macular Degeneration/
15. exp Diabetic Retinopathy/
16. exp Cataract/
17. exp Glaucoma/
18. exp Visually Impaired Persons/
19. exp Orthoptics/
20. ((low* or handicap* or subnormal* or impair* or partial* or disab* or reduce* or diminish* or decrease*) adj3 (vision or visual* or sight*)).tw.
21. ((abnormal* or blurred or defect* or difficult* or dim or disturbed or hazy or interference or poor or tunnel or weak* or defect* or deficienc* or disorder* or disturb* or problem*) adj3 (vision or visual* or sight*)).tw.
22. (((vision or visual or sight*) adj2 loss) or blindness).tw.
23. (cataract* or (macula* adj3 degenerat*) or (macula* adj3 dystroph*) or maculopath* or AMD or ARMD or glaucoma* or (diabet* and retinopath*)).tw.
24. ("refractive error*" or "near sighted*" or nearsighted* or "short sighted*" or shortsighted* or hyperopia or farsighted* or "far sighted*" or "long sighted*" or longsighted* or astigmatism or presbyopia* or onchocerciasis or onchocerciases).tw.

25. (LASIK or LASEK or orthoptic* or "punctal plug*" or glasses or eyeglasses or spectacle*).tw.
26. or/12-25
27. "Quality of Life"/ or Quality-Adjusted Life Years/ or "Value of Life"/ or Health Status/ or Sickness Impact Profile/ or Disability Evaluation/ or exp "Activities of Daily Living"/ or Cost-Benefit Analysis/ or "Surveys and Questionnaires"/ or Health surveys/ or exp psychometrics/
28. (quality adj2 life).tw.
29. ("disability adjusted life" or qaly* or qald* or qale* or qtime* or daly* or euroqol or "euro qol" or eq5d or "eq 5d" or hql or hqol or "h qol" or hrqol or "hr qol" or hye or hyes or (health* adj year* adj equivalent*) or hui or hui1 or hui2 or hui3 or "willingness to pay" or "standard gamble" or QOL or HRQL or wellbeing or "well being" or WHOQOL or "WHO QOL" or "healthy days measures" or "EQ VAS" or "EQ 15D" or "36 Item Short Form Survey" or "SF 36" or "12 item Short Form Survey" or "SF 12" or "Visual Function Questionnaire" or "NEI VFQ" or "VFQ 25" or "IND VFQ 33" or "VA LV VFQ" or "VFQ 48" or "VFQ 20" or "14 item Visual Functioning" or "VF 14" or "11 item Visual Functioning" or "VF 11" or "Impact of Vision Impairment" or IVI or "glaucoma utility index" or catquest or "Activities of Daily Vision Scale" or ADVS or "Cataract Symptom Scale" or "Daily Living Tasks Dependent Upon Vision" or DLTV or "Measure of Outcome in Ocular Disease" or "Refractive Status and Vision Profile" or "Vision Specific Sickness Impact Profile" or SIPV or "Visual Activities Questionnaire" or VAQ or "Visual Disability Assessment" or VDA or "Visual Disabilities Questionnaire" or "Glaucoma symptom scale" or "Symptom Impact Glaucoma Score" or GHPI or "Glaucoma Health Perceptions index" or "activity inventory" or "LVQOL" or "Geriatric Depression Scale" or "GDS" or "patient health questionnaire" or "PHQ 9" or "GAD 7" or EQ15D or EQVAS or SF12 or SF36 or NEIVFQ or VFQ or VFQ25 or INDVFQ23 or VALVVFQ or VFQ48 or VFQ20 or VF14 or VF11 or "LV QOL").tw.
30. (health adj3 (utility* or disutili* or state or status)).tw.
31. ((visual or vision) adj2 (function* or activit* or task or performance or assessment* or questionnaire* or evaluation*)).tw.
32. or/27-31
33. 26 and 32
34. exp Self-Management/
35. exp Self Efficacy/
36. exp Self Care/
37. exp Self Administration/
38. exp Self-Assessment/
39. Self Concept/
40. exp Self-Help Devices/
41. Patient Compliance/
42. Patient Education as Topic/
43. exp Patient Participation/
44. exp Consumer Health Information/
45. Attitude to Health/
46. Health Behavior/
47. Health Knowledge, Attitudes, Practice/
48. Health Promotion/
49. exp Life Style/
50. Disease Management/
51. Risk Reduction Behavior/
52. Adaptation, Psychological/
53. Motivation/
54. Goals/
55. exp Problem Solving/
56. exp Decision Making/
57. Health Plan Implementation/
58. exp Behavior Therapy/
59. exp Self-Help Groups/
60. exp Psychosocial Intervention/
61. exp Psychosocial Support Systems/
62. exp Occupational Therapy/
63. exp Home Environment/
64. exp House Calls/
65. 62 and (63 or 64)
66. ("self manag*" or "self car*" or "self monitor*" or "self efficac*" or "self administ*" or "self medicat*" or "self instil*" or "self help*").tw.
67. ((self or oneself) adj3 care).tw.
68. ((patient* or consumer* or client* or individual* or caretaker* or caregiver* or participant* or people or person or persons or adult*) adj5 (educat* or participat* or behaviour* or behavior* or compliance or centered or centric* or focus*)).tw.
69. (health adj5 (promot* or educat* or behav*)).tw.
70. (risk adj3 reduc* adj3 behav*).tw.
71. ((patient* or consumer* or client* or individual* or caretaker* or caregiver* or participant* or people or person or persons or adult*) adj5 manag* adj5 disease*).tw.

72. (educate or educated or education or educating or educational or instructed or instruction or instructions or instructional or trained or training*).tw.
73. (behav* adj3 (change* or therap* or skills or intervention* or activation)).tw.
74. ((problem* adj3 solving) or (goal* adj3 setting) or (decision* adj3 making*) or (support* adj3 group*) or "action plan*" or (goal* adj plan*) or "skills plan*" or "guided intervention*" or empowerment or coping).tw.
75. ((psychological or psychosocial or psycho-social) adj3 (support* or intervention*)).tw.
76. ("occupational therap*" and (home* or house*)).tw.
77. (("low vision" or "vision impairment*" or "visual impairment*" or "visual function" or "visual functioning") adj3 (intervention* or device* or aid or aids or technolog*)).tw.
78. ((assistive adj1 (technolog* or device*)) or magnifier* or "reading glasses" or "screen reader" or "screen readers").tw.
79. or/34-61,65-78
80. 33 and 79
81. 11 and 80

The search filter for trials at the beginning of the MEDLINE strategy is from the published paper by Glanville et al (Glanville 2006).

## Appendix 3. Embase.com search strategy

#1 'randomized controlled trial'/exp
#2 'randomization'/exp
#3 'double blind procedure'/exp
#4 'single blind procedure'/exp
#5 random*:ab,ti
#6 #1 OR #2 OR #3 OR #4 OR #5
#7 'animal'/exp OR 'animal experiment'/exp
#8 'human'/exp
#9 #7 AND #8
#10 #7 NOT #9
#11 #6 NOT #10
#12 'clinical trial'/exp
#13 (clin* NEAR/3 trial*):ab,ti
#14 ((singl* OR doubl* OR trebl* OR tripl*) NEAR/3 (blind* OR mask*)):ab,ti
#15 'placebo'/exp
#16 placebo*:ab,ti
#17 random*:ab,ti
#18 'experimental design'/exp
#19 'crossover procedure'/exp
#20 'control group'/exp
#21 'latin square design'/exp
#22 #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21
#23 #22 NOT #10
#24 #23 NOT #11
#25 'comparative study'/exp
#26 'evaluation'/exp
#27 'prospective study'/exp
#28 control*:ab,ti OR prospectiv*:ab,ti OR volunteer*:ab,ti
#29 #25 OR #26 OR #27 OR #28
#30 #29 NOT #10
#31 #30 NOT (#11 OR #23)
#32 #11 OR #24 OR #31
#33 'visual disorder'/exp
#34 'refraction error'/exp
#35 'macular degeneration'/exp
#36 'diabetic retinopathy'/exp
#37 'cataract'/exp
#38 'glaucoma'/exp
#39 'visually impaired person'/exp OR 'orthoptics'/exp
#40 ((low* OR handicap* OR subnormal* OR impair* OR partial* OR disab* OR reduce* OR diminish* OR decrease*) NEAR/3 (vision OR visual* OR sight*)):ab,ti,kw
#41 ((abnormal* OR blurred OR defect* OR difficult* OR dim OR disturbed OR hazy OR interference OR poor OR tunnel OR weak* OR defect* OR deficienc* OR disorder* OR disturb* OR problem*) NEAR/3 (vision OR visual* OR sight*)):ab,ti,kw
#42 (((vision OR visual OR sight*) NEAR/2 loss):ab,ti,kw) OR blindness:ab,ti,kw

#43 cataract*:ab,ti,kw OR ((macula* NEAR/3 degenerat*):ab,ti,kw) OR ((macula* NEAR/3 dystroph*):ab,ti,kw) OR maculopath*:ab,ti,kw OR amd:ab,ti,kw OR armd:ab,ti,kw OR glaucoma*:ab,ti,kw OR (diabet*:ab,ti,kw AND retinopath*:ab,ti,kw)
#44 'refractive error*':ab,ti,kw OR 'near sighted*':ab,ti,kw OR nearsighted*:ab,ti,kw OR 'short sighted*':ab,ti,kw OR shortsighted*:ab,ti,kw OR hyperopia:ab,ti,kw OR farsighted*:ab,ti,kw OR 'far sighted*':ab,ti,kw OR 'long sighted*':ab,ti,kw OR longsighted*:ab,ti,kw OR astigmatism:ab,ti,kw OR presbyopia*:ab,ti,kw OR onchocerciasis:ab,ti,kw OR onchocerciases:ab,ti,kw
#45 lasik:ab,ti,kw OR lasek:ab,ti,kw OR orthoptic*:ab,ti,kw OR 'punctal plug*':ab,ti,kw OR glasses:ab,ti,kw OR eyeglasses:ab,ti,kw OR spectacle*:ab,ti,kw
#46 #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45
#47 'quality of life'/exp
#48 'socioeconomics'/de
#49 'health status'/de
#50 'sickness impact profile'/de
#51 'disability'/exp
#52 'daily life activity'/exp
#53 'cost benefit analysis'/de
#54 'questionnaire'/de
#55 'health survey'/de
#56 'psychometry'/exp
#57 (quality NEAR/2 life):ab,ti,kw
#58 ('disability adjusted life':ti,ab,kw OR qaly*:ti,ab,kw OR qald*:ti,ab,kw OR qale*:ti,ab,kw OR qtime*:ti,ab,kw OR daly*:ti,ab,kw OR euroqol:ti,ab,kw OR 'euro qol':ti,ab,kw OR eq5d:ti,ab,kw OR 'eq 5d':ti,ab,kw OR hql:ti,ab,kw OR hqol:ti,ab,kw OR 'h qol':ti,ab,kw OR hrqol:ti,ab,kw OR 'hr qol':ti,ab,kw OR hye:ti,ab,kw OR hyes:ti,ab,kw OR health*:ti,ab,kw) AND year*:ti,ab,kw AND equivalent*:ti,ab,kw OR hui:ti,ab,kw OR hui1:ti,ab,kw OR hui2:ti,ab,kw OR hui3:ti,ab,kw OR 'willingness to pay':ti,ab,kw OR 'standard gamble':ti,ab,kw OR qol:ti,ab,kw OR hrql:ti,ab,kw OR wellbeing:ti,ab,kw OR 'well being':ti,ab,kw OR whoqol:ti,ab,kw OR 'who qol':ti,ab,kw OR 'healthy days measures':ti,ab,kw OR 'eq vas':ti,ab,kw OR 'eq 15d':ti,ab,kw OR '36 item short form survey':ti,ab,kw OR 'sf 36':ti,ab,kw OR '12 item short form survey':ti,ab,kw OR 'sf 12':ti,ab,kw OR 'visual function questionnaire':ti,ab,kw OR 'nei vfq':ti,ab,kw OR 'vfq 25':ti,ab,kw OR 'ind vfq 33':ti,ab,kw OR 'va lv vfq':ti,ab,kw OR 'vfq 48':ti,ab,kw OR 'vfq 20':ti,ab,kw OR '14 item visual functioning':ti,ab,kw OR 'vf 14':ti,ab,kw OR '11 item visual functioning':ti,ab,kw OR 'vf 11':ti,ab,kw OR 'impact of vision impairment':ti,ab,kw OR ivi:ti,ab,kw OR 'glaucoma utility index':ti,ab,kw OR catquest:ti,ab,kw OR 'activities of daily vision scale':ti,ab,kw OR advs:ti,ab,kw OR 'cataract symptom scale':ti,ab,kw OR 'daily living tasks dependent upon vision':ti,ab,kw OR dltv:ti,ab,kw OR 'measure of outcome in ocular disease':ti,ab,kw OR 'refractive status and vision profile':ti,ab,kw OR 'vision specific sickness impact profile':ti,ab,kw OR sipv:ti,ab,kw OR 'visual activities questionnaire':ti,ab,kw OR vaq:ti,ab,kw OR 'visual disability assessment':ti,ab,kw OR vda:ti,ab,kw OR 'visual disabilities questionnaire':ti,ab,kw OR 'glaucoma symptom scale':ti,ab,kw OR 'symptom impact glaucoma score':ti,ab,kw OR ghpi:ti,ab,kw OR 'glaucoma health perceptions index':ti,ab,kw OR 'activity inventory':ti,ab,kw OR 'lvqol':ti,ab,kw OR 'geriatric depression scale':ti,ab,kw OR 'gds':ti,ab,kw OR 'patient health questionnaire':ti,ab,kw OR 'phq 9':ti,ab,kw OR 'gad 7':ti,ab,kw OR eq15d:ti,ab,kw OR eqvas:ti,ab,kw OR sf12:ti,ab,kw OR sf36:ti,ab,kw OR neivfq:ti,ab,kw OR vfq:ti,ab,kw OR vfq25:ti,ab,kw OR indvfq23:ti,ab,kw OR valvvfq:ti,ab,kw OR vfq48:ti,ab,kw OR vfq20:ti,ab,kw OR vf14:ti,ab,kw OR vf11:ti,ab,kw OR 'lv qol':ti,ab,kw
#59 (health NEAR/3 (utility* OR disutili* OR state OR status)):ab,ti,kw
#60 ((visual OR vision) NEAR/2 (function* OR activit* OR task OR performance OR assessment* OR questionnaire* OR evaluation*)):ab,ti,kw
#61 #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60
#62 #32 AND #46 AND #61
#63 'self care'/exp
#64 'self concept'/de
#65 'self management support'/exp
#66 'drug self administration'/exp
#67 'self evaluation'/exp
#68 'patient compliance'/de
#69 'patient education'/exp
#70 'patient participation'/exp
#71 'consumer health information'/exp
#72 'attitude to health'/de
#73 'health behavior'/de
#74 'health promotion'/de
#75 'lifestyle'/exp
#76 'disease management'/de
#77 'risk reduction'/de
#78 'psychological adjustment'/exp
#79 'motivation'/exp
#80 'motivational enhancement therapy'/exp
#81 'motivational therapy'/exp
#82 'problem solving'/exp
#83 'decision making'/exp

#84 'health care planning'/de
#85 'behavior therapy'/exp
#86 'self help device'/exp
#87 'psychosocial intervention'/exp
#88 'psychosocial care'/exp
#89 'occupational therapy'/exp
#90 'home environment'/exp OR 'home visit'/exp
#91 #89 AND #90
#92 'self manag*':ab,ti,kw OR 'self car*':ab,ti,kw OR 'self monitor*':ab,ti,kw OR 'self efficac*':ab,ti,kw OR 'self administ*':ab,ti,kw OR 'self medicat*':ab,ti,kw OR 'self instil*':ab,ti,kw OR 'self help*':ab,ti,kw
#93 ((self OR oneself) NEAR/3 care):ab,ti,kw
#94 ((patient* OR consumer* OR client* OR individual* OR caretaker* OR caregiver* OR participant* OR people OR person* OR adult*) NEXT/5 (educat* OR participat* OR behaviour* OR behavior* OR compliance OR centered OR centric* OR focus*)):ab,ti,kw
#95 (health NEAR/5 (promot* OR educat* OR behav*)):ab,ti,kw
#96 (risk NEXT/3 reduc* NEXT/3 behav*):ab,ti,kw
#97 ((patient* OR consumer* OR client* OR individual* OR caretaker* OR caregiver* OR participant* OR people OR person* OR adult*) NEXT/5 manag* NEXT/5 disease*):ab,ti,kw
#98 educate:ab,ti,kw OR educated:ab,ti,kw OR education:ab,ti,kw OR educating:ab,ti,kw OR educational:ab,ti,kw OR instructed:ab,ti,kw OR instruction:ab,ti,kw OR instructions:ab,ti,kw OR instructional:ab,ti,kw OR trained:ab,ti,kw OR training*:ab,ti,kw
#99 (behav* NEAR/3 (change* OR therap* OR skills OR intervention* OR activation)):ab,ti,kw
#100 ((problem* NEAR/3 solving):ab,ti,kw) OR ((goal* NEAR/3 setting):ab,ti,kw) OR ((decision* NEAR/3 making*):ab,ti,kw) OR ((support* NEXT/3 group*):ab,ti,kw) OR 'action plan*':ab,ti,kw OR ((goal* NEXT/1 plan*):ab,ti,kw) OR 'skills plan*':ab,ti,kw OR 'guided intervention*':ab,ti,kw OR empowerment:ab,ti,kw OR coping:ab,ti,kw
#101 ((psychological OR psychosocial OR 'psycho social') NEAR/3 (support* OR intervention*)):ab,ti,kw
#102 'occupational therap*':ab,ti,kw AND (home*:ab,ti,kw OR house*:ab,ti,kw)
#103 (('low vision' OR 'vision impairment*' OR 'visual impairment*' OR 'visual function' OR 'visual functioning') NEAR/3 (intervention* OR device* OR aid OR aids OR technolog*)):ab,ti,kw
#104 ((assistive NEXT/1 (technolog* OR device*)):ab,ti,kw) OR magnifier*:ab,ti,kw OR 'reading glasses':ab,ti,kw OR 'screen reader':ab,ti,kw OR 'screen readers':ab,ti,kw
#105 #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82 OR #83 OR #84 OR #85 OR #86 OR #87 OR #88 OR #91 OR #92 OR #93 OR #94 OR #95 OR #96 OR #97 OR #98 OR #99 OR #100 OR #101 OR #102 OR #103 OR #104
#106 #62 AND #105

The search filter for trials at the beginning of the Embase.com strategy is adapted from the published paper by Lefebvre et al (Lefebvre 2008).

## Appendix 4. PubMed search strategy

#1 ((randomized controlled trial[pt]) OR (controlled clinical trial[pt]) OR (randomised[tiab] OR randomized[tiab]) OR (placebo[tiab]) OR (drug therapy[sh]) OR (randomly[tiab]) OR (trial[tiab]) OR (groups[tiab])) NOT (animals[mh] NOT humans[mh])
#2 "low vision"[tiab:~3] OR "low visual"[tiab:~3] OR "low visually"[tiab:~3] OR "low sight"[tiab:~3] OR "lower vision"[tiab:~3] OR "lower visual"[tiab:~3] OR "lower visually"[tiab:~3] OR "lower sight"[tiab:~3] OR "handicap vision"[tiab:~3] OR "handicap visual"[tiab:~3] OR "handicap visually"[tiab:~3] OR "handicap sight"[tiab:~3] OR "handicapped vision"[tiab:~3] OR "handicapped visual"[tiab:~3] OR "handicapped visually"[tiab:~3] OR "handicapped sight"[tiab:~3] OR "subnormal vision"[tiab:~3] OR "subnormal visual"[tiab:~3] OR "subnormal visually"[tiab:~3] OR "subnormal sight"[tiab:~3] OR "impair vision"[tiab:~3] OR "impair visual"[tiab:~3] OR "impair visually"[tiab:~3] OR "impair sight"[tiab:~3] OR "impaired vision"[tiab:~3] OR "impaired visual"[tiab:~3] OR "impaired visually"[tiab:~3] OR "impaired sight"[tiab:~3] OR "partial vision"[tiab:~3] OR "partial visual"[tiab:~3] OR "partial visually"[tiab:~3] OR "partial sight"[tiab:~3] OR "partially vision"[tiab:~3] OR "partially visual"[tiab:~3] OR "partially visually"[tiab:~3] OR "partially sight"[tiab:~3] OR "disabled vision"[tiab:~3] OR "disabled visual"[tiab:~3] OR "disabled visually"[tiab:~3] OR "disabled sight"[tiab:~3] OR "disability vision"[tiab:~3] OR "disability visual"[tiab:~3] OR "disability visually"[tiab:~3] OR "disability sight"[tiab:~3] OR "reduced vision"[tiab:~3] OR "reduced visual"[tiab:~3] OR "reduced visually"[tiab:~3] OR "reduced sight"[tiab:~3] OR "diminished vision"[tiab:~3] OR "diminished visual"[tiab:~3] OR "diminished visually"[tiab:~3] OR "diminished sight"[tiab:~3] OR "decreased vision"[tiab:~3] OR "decreased visual"[tiab:~3] OR "decreased visually"[tiab:~3] OR "decreased sight"[tiab:~3]
#3 "abnormal vision"[tiab:~3] OR "abnormal visual"[tiab:~3] OR "abnormal visually"[tiab:~3] OR "abnormal sight"[tiab:~2] OR "abnormally vision"[tiab:~3] OR "abnormally visual"[tiab:~3] OR "abnormally visually"[tiab:~3] OR "abnormally sight"[tiab:~2] OR "blurred vision"[tiab:~3] OR "blurred visual"[tiab:~3] OR "blurred visually"[tiab:~3] OR "blurred sight"[tiab:~2] OR "defect vision"[tiab:~3] OR "defect visual"[tiab:~3] OR "defect visually"[tiab:~3] OR "defect sight"[tiab:~2] OR "defective vision"[tiab:~3] OR "defective visual"[tiab:~3] OR "defective visually"[tiab:~3] OR "defective sight"[tiab:~2] OR "defects vision"[tiab:~3] OR "defects visual"[tiab:~3] OR "defects visually"[tiab:~3] OR "defects sight"[tiab:~3] OR "difficult vision"[tiab:~3] OR "difficult visual"[tiab:~3] OR "difficult visually"[tiab:~3] OR "difficult sight"[tiab:~3] OR "dim vision"[tiab:~3] OR "dim visual"[tiab:~3] OR "dim visually"[tiab:~3] OR "dim sight"[tiab:~3] OR "disturbed vision"[tiab:~3] OR "disturbed visual"[tiab:~3] OR "disturbed visually"[tiab:~3] OR "disturbed sight"[tiab:~3] OR "hazy

vision"[tiab:~3] OR "hazy visual"[tiab:~3] OR "hazy visually"[tiab:~3] OR "hazy sight"[tiab:~3] OR "interference vision"[tiab:~3] OR "interference visual"[tiab:~3] OR "interference visually"[tiab:~3] OR "interference sight"[tiab:~3] OR "poor vision"[tiab:~3] OR "poor visual"[tiab:~3] OR "poor visually"[tiab:~3] OR "poor sight"[tiab:~3] OR "tunnel vision"[tiab:~3] OR "tunnel visual"[tiab:~3] OR "tunnel visually"[tiab:~3] OR "tunnel sight"[tiab:~3] OR "weak vision"[tiab:~3] OR "weak visual"[tiab:~3] OR "weak visually"[tiab:~3] OR "weak sight"[tiab:~3] OR "defect vision"[tiab:~3] OR "defect visual"[tiab:~3] OR "defect visually"[tiab:~3] OR "defect sight"[tiab:~3] OR "defective vision"[tiab:~3] OR "defective visual"[tiab:~3] OR "defective visually"[tiab:~3] OR "defective sight"[tiab:~3] OR "deficiency vision"[tiab:~3] OR "deficiency visual"[tiab:~3] OR "deficiency visually"[tiab:~3] OR "deficiency sight"[tiab:~3] OR "disorder vision"[tiab:~3] OR "disorder visual"[tiab:~3] OR "disorder visually"[tiab:~3] OR "disorder sight"[tiab:~3] OR "disorders vision"[tiab:~3] OR "disorders visual"[tiab:~3] OR "disorders visually"[tiab:~3] OR "disorders sight"[tiab:~3] OR "disturbed vision"[tiab:~3] OR "disturbed visual"[tiab:~3] OR "disturbed visually"[tiab:~3] OR "disturbed sight"[tiab:~3] OR "problem vision"[tiab:~3] OR "problem visual"[tiab:~3] OR "problem visually"[tiab:~3] OR "problem sight"[tiab:~3]
#4 "vision loss"[tiab:~2] OR "visual loss"[tiab:~2] OR "sight loss"[tiab:~2] OR blindness[tw]
#5 cataract*[tw] OR "macula degenerat*"[tw] OR "macular degenerat*" OR "macula dystroph*"[tw] OR "macular dystroph*"[tw] OR maculopath*[tw] OR "amd"[tw] OR "armd"[tw] OR glaucoma*[tw] OR "diabetic retinopath*"[tw]
#6 "refractive error*"[tw] OR "near sighted*"[tw] OR nearsighted*[tw] OR "short sighted*"[tw] OR shortsighted*[tw] OR hyperopia[tw] OR farsighted*[tw] OR "far sighted*"[tw] OR "long sighted*"[tw] OR longsighted*[tw] OR astigmatism[tw] OR presbyopia*[tw] OR onchocerciasis[tw] OR onchocerciases[tw]
#7 lasik[tw] OR lasek[tw] OR orthoptic*[tw] OR "punctal plug*"[tw] OR glasses[tw] OR eyeglasses[tw] OR spectacle*[tw]
#8 #2 OR #3 OR #4 OR #5 OR #6 OR #7
#9 "quality life"[tiab:~2]
#10 "disability adjusted life"[tw] OR qaly*[tw] OR qald*[tw] OR qale*[tw] OR qtime*[tw] OR daly*[tw] OR euroqol[tw] OR "euro qol"[tw] OR eq5d[tw] OR "eq 5d"[tw] OR hql[tw] OR hqol[tw] OR "h qol"[tw] OR hrqol[tw] OR "hr qol"[tw] OR hye[tw] OR hyes[tw] OR "health year equivalent*"[tw] OR "healthy year equivalent*"[tw] OR hui[tw] OR hui1[tw] OR hui2[tw] OR hui3[tw] OR "willingness to pay"[tw] OR "standard gamble"[tw] OR qol[tw] OR hrql[tw] OR wellbeing[tw] OR "well being"[tw] OR whoqol[tw] OR "who qol"[tw] OR "healthy days measures"[tw] OR "eq vas"[tw] OR "eq 15d"[tw] OR "36 item short form survey"[tw] OR "sf 36"[tw] OR "12 item short form survey"[tw] OR "sf 12"[tw] OR "visual function questionnaire"[tw] OR "nei vfq"[tw] OR "vfq 25"[tw] OR "ind vfq 33"[tw] OR "va lv vfq"[tw] OR "vfq 48"[tw] OR "vfq 20"[tw] OR "14 item visual functioning"[tw] OR "vf 14"[tw] OR "11 item visual functioning"[tw] OR "vf 11"[tw] OR "impact of vision impairment"[tw] OR ivi[tw] OR "glaucoma utility index"[tw] OR catquest[tw] OR "activities of daily vision scale"[tw] OR advs[tw] OR "cataract symptom scale"[tw] OR "daily living tasks dependent upon vision"[tw] OR dltv[tw] OR "measure of outcome in ocular disease"[tw] OR "refractive status and vision profile"[tw] OR "vision specific sickness impact profile"[tw] OR sipv[tw] OR "visual activities questionnaire"[tw] OR vaq[tw] OR "visual disability assessment"[tw] OR vda[tw] OR "visual disabilities questionnaire"[tw] OR "glaucoma symptom scale"[tw] OR "symptom impact glaucoma score"[tw] OR ghpi[tw] OR "glaucoma health perceptions index"[tw] OR "activity inventory"[tw] OR "lvqol"[tw] OR "geriatric depression scale"[tw] OR "gds"[tw] OR "patient health questionnaire"[tw] OR "phq 9"[tw] OR "gad 7"[tw] OR eq15d[tw] OR eqvas[tw] OR sf12[tw] OR sf36[tw] OR neivfq[tw] OR vfq[tw] OR vfq25[tw] OR indvfq23[tw] OR valvvfq[tw] OR vfq48[tw] OR vfq20[tw] OR vf14[tw] OR vf11[tw] OR "lv qol"[tw]
#11 "health utility"[tw] OR "health disutility"[tw] OR "health state"[tw] OR "health status"[tw]
#12 "visual function"[tiab:~2] OR "visual functions"[tiab:~2] OR "visual activity"[tiab:~2] OR "visual activities"[tiab:~2] OR "visual task"[tiab:~2] OR "visual tasks"[tiab:~2] OR "visual performance"[tiab:~2] OR "visual assessment"[tiab:~2] OR "visual assessments"[tiab:~2] OR "visual questionnaire"[tiab:~2] OR "visual questionnaires"[tiab:~2] OR "visual evaluation"[tiab:~2] OR "visual evaluations"[tiab:~2] OR "vision function"[tiab:~2] OR "vision functions"[tiab:~2] OR "vision activity"[tiab:~2] OR "vision activities"[tiab:~2] OR "vision task"[tiab:~2] OR "vision tasks"[tiab:~2] OR "vision performance"[tiab:~2] OR "vision assessment"[tiab:~2] OR "vision assessments"[tiab:~2] OR "vision questionnaire"[tiab:~2] OR "vision questionnaires"[tiab:~2] OR "vision evaluation"[tiab:~2] OR "vision evaluations"[tiab:~2]
#13 #9 OR #10 OR #11 OR #12
#14 "self manag*"[tw] OR "self car*"[tw] OR "self monitor*"[tw] OR "self efficac*"[tw] OR "self administ*"[tw] OR "self medicat*"[tw] OR "self instil*"[tw] OR "self help*"[tw]
#15 "self care"[tiab:~3] OR "oneself care"[tiab:~3]
#16 ((patient*[tw] OR consumer*[tw] OR client*[tw] OR individual*[tw] OR caretaker*[tw] OR caregiver*[tw] OR participant*[tw] OR people[tw] OR person*[tw] OR adult*[tw]) AND (educat*[tw] OR participat*[tw] OR behaviour*[tw] OR behavior*[tw] OR compliance[tw] OR centered[tw] OR centric*[tw] OR focus*[tw]))
#17 "health promot*"[tw] OR "health educat*"[tw] OR "health behav*"[tw]
#18 "risk reduction behavior"[tiab:~3] OR "risk reducing behavior"[tiab:~3] OR "risk reduction behaviors"[tiab:~3] OR "risk reducing behaviors"[tiab:~3]
#19 ((patient*[tw] OR consumer*[tw] OR client*[tw] OR individual*[tw] OR caretaker*[tw] OR caregiver*[tw] OR participant*[tw] OR people[tw] OR person*[tw] OR adult*[tw]) AND manag*[tw] AND disease*[tw])
#20 educate[tw] OR educated[tw] OR education[tw] OR educating[tw] OR educational[tw] OR instructed[tw] OR instruction[tw] OR instructions[tw] OR instructional[tw] OR trained[tw] OR training*[tw]
#21 "behavior change*"[tw] OR "behavioural change*"[tw] OR "behavior therap*"[tw] OR "behavioural therap*"[tw] OR "behavior skills"[tw] OR "behavioural skills"[tw] OR "behavior intervention*"[tw] OR "behavioural intervention*"[tw] OR "behavior activation" OR "behavioural activation"[tw]
#22 "problem solving"[tw] OR "goal setting"[tw] OR "decision making*"[tw] OR "support group*"[tw] OR "action plan*"[tw] OR "goal plan*"[tw] OR "skills plan*"[tw] OR "guided intervention*"[tw] OR empowerment[tw] OR coping[tw]

#23 "psychological support*"[tw] OR "psychosocial support*"[tw] OR "psycho social support*"[tw] OR "psychological intervention*"[tw] OR "psychosocial intervention*"[tw] OR "psycho social intervention*"[tw]
#24 "occupational therap*"[tw] AND (home*[tw] OR house*[tw])
#25 (("low vision"[tw] OR "vision impairment*"[tw] OR "visual impairment*"[tw] OR "visual function"[tw] OR "visual functioning"[tw]) AND (intervention*[tw] OR device*[tw] OR aid[tw] OR aids[tw] OR technolog*[tw]))
#26 "assistive technolog*"[tw] OR "assistive device*"[tw] OR magnifier*[tw] OR "reading glasses"[tw] OR "screen reader"[tw] OR "screen readers"[tw]
#27 #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26
#28 #1 AND #8 AND #13 AND #27
#29 Medline[sb]
#30 #28 NOT #29

## Appendix 5. LILACS search strategy

(MH:C10.597.751.941$ OR MH:C11.966$ OR MH:C23.888.592.763.941 OR MH:C11.744$ OR MH:C11.768.585.439$ OR MH:C11.768.257$ OR MH:C14.907.320.382$ OR MH:C19.246.099.500.382$ OR MH:C11.510.245$ OR MH:C11.525.381$ OR MH:M01.150.850$ OR MH:E02.730$ OR MH:H02.573$ OR ((low$ OR handicap$ OR subnormal$ OR impair$ OR partial$ OR disab$ OR reduce$ OR diminish$ OR decrease$ OR abnormal$ OR blurred OR defect$ OR difficult$ OR dim OR disturbed OR hazy OR interference OR poor OR tunnel OR weak$ OR defect $ OR deficienc$ OR disorder$ OR disturb$ OR problem$) AND (vision OR visual$ OR sight$)) OR "vision loss" OR "visual loss" OR "sight loss" OR blindness OR cataract$ OR (macula$ degenerat$) OR (macula$ dystroph$) OR maculopath$ OR AMD OR ARMD OR glaucoma$ OR "diabetic retinopathy" OR "refractive error" OR near-sighted$ OR nearsighted$ OR short-sighted$ OR shortsighted$ OR hyperopia OR farsighted$ OR far-sighted$ OR long-sighted$ OR longsighted$ OR astigmatism OR presbyopia$ OR onchocerciasis OR onchocerciases OR LASIK OR LASEK OR orthoptic$ OR "punctal plug" OR glasses OR eyeglasses OR spectacle$) AND (MH:I01.800$ OR MH:K01.752.400.750$ OR MH:N06.850.505.400.425.837$ OR MH:E05.318.308.985.450.875$ OR MH:E05.318.740.100.750$ OR MH:N01.224.935.464.750$ OR MH:N06.850.505.400.975.450.750$ OR MH:N06.850.520.308.985.450.875$ OR MH:SP5.467.413.880.109$ OR MH:K01.752.400.900$ OR MH:SP9.242.315.305.741$ OR MH:I01.240.425$ OR MH:N01.224.425$ OR MH:N06.850.505.400.425$ OR MH:SP5.312.109.693.495.256.733$ OR MH:E05.318.308.980.438.475.730$ OR MH:N05.715.360.300.800.438.375.730$ OR MH:N06.850.520.308.980.438.475.730$ OR MH:E01.370.400$ OR MH:E02.760.169.063.500.067$ OR MH:E02.831.067$ OR MH:I03.050$ OR MH:N02.421.784.110$ OR MH:N03.219.151.125$ OR MH:SP4.202.220.100$ OR MH:E05.318.308.980$ OR MH:N05.715.360.300.800$ OR MH:N06.850.520.308.980$ OR MH:E05.318.308.980.438$ OR MH:N05.715.360.300.800.438$ OR MH:N06.850.520.308.980.438$ OR MH:SP5.312.507.332$ OR MH:F04.711.780$ OR (quality life) OR "disability adjusted life" or qaly$ or qald$ or qale$ or qtime$ or daly$ or euroqol or "euro qol" or eq5d or "eq 5d" or hql or hqol or "h qol" or hrqol or "hr qol" or hye or hyes or (health$ year$ equivalent$) or hui or hui1 or hui2 or hui3 or "willingness to pay" or "standard gamble" or QOL or HRQL or wellbeing or "well being" or WHOQOL or "WHO QOL" or "healthy days measures" or "EQ VAS" or "EQ 15D" or "36 Item Short Form Survey" or "SF 36" or "12 item Short Form Survey" or "SF 12" or "Visual Function Questionnaire" or "NEI VFQ" or "VFQ 25" or "IND VFQ 33" or "VA LV VFQ" or "VFQ 48" or "VFQ 20" or "14 item Visual Functioning" or "VF 14" or "11 item Visual Functioning" or "VF 11" or "Impact of Vision Impairment" or IVI or "glaucoma utility index" or catquest or "Activities of Daily Vision Scale" or ADVS or "Cataract Symptom Scale" or "Daily Living Tasks Dependent Upon Vision" or DLTV or "Measure of Outcome in Ocular Disease" or "Refractive Status and Vision Profile" or "Vision Specific Sickness Impact Profile" or SIPV or "Visual Activities Questionnaire" or VAQ or "Visual Disability Assessment" or VDA or "Visual Disabilities Questionnaire" or "Glaucoma symptom scale" or "Symptom Impact Glaucoma Score" or GHPI or "Glaucoma Health Perceptions index" or "activity inventory" or "LVQOL" or "Geriatric Depression Scale" or "GDS" or "patient health questionnaire" or "PHQ 9" or "GAD 7" or EQ15D or EQVAS or SF12 or SF36 or NEIVFQ or VFQ or VFQ25 or INDVFQ23 or VALVVFQ or VFQ48 or VFQ20 or VF14 or VF11 or "LV QOL" OR "health utility" OR "health disutility" OR "health state" OR "health status") AND (MH:N02.421.784.760$ OR MH:F01.752.747.792.700$ OR MH:E02.900$ OR MH:I03.050.563$ OR MH:N02.421.784.680$ OR MH:E02.319.890$ OR MH:E02.900.890$ OR MH:F01.752.747.792.537$ OR MH:F01.752.747.792$ OR MH:E07.796$ OR MH:SP2.770.750.158.782$ OR MH:VS2.006.001.002$ OR MH:F01.100.150.750.500.600$ OR MH:F01.145.488.887.500.600$ OR MH:N05.300.150.800.500.600$ OR MH:I02.233.332.500$ OR MH:N02.421.726.407.680$ OR MH:F01.100.150.750.500.620$ OR MH:F01.145.488.887.500.620$ OR MH:N02.421.143.212.300$ OR MH:N03.540.245.360.300$ OR MH:N05.300.150.800.500.620$ OR MH:I02.233.332.186$ OR MH:N02.421.726.407.229$ OR MH:F01.100.150$ OR MH:N05.300.150$ OR MH:F01.145.488$ OR MH:F01.100.150.500 OR MH:N05.300.150.410 OR MH:I02.233.332.445 OR MH:N02.421.726.407.579 OR MH:SP2.840.385.522 OR MH:VS1.001.004.001 OR MH:F01.829.458$ OR MH:N04.590.607$ OR MH:F01.145.699$ OR MH:F01.058$ OR MH:F01.658 OR MH:F01.752.543.500.750 OR MH:F01.658.500 OR MH:F02.463.425.725$ OR MH:F02.463.785.810$ OR MH:F02.463.785.373$ OR MH:N03.349.300 OR MH:F04.754.137$ OR MH:N03.540.782$ OR MH:F04.754.715$ OR MH:I01.880.853.500.600.500$ OR ((MH:E02.760.169.063.500.489$ OR MH:E02.831.489$ OR MH:H02.010.500$) AND (MH:I01.880.853.450.641$ OR MH:I01.880.853.500.450$ OR MH:N01.224.791.300$ OR MH:N01.824.308.250$ OR MH:N06.230.278$ OR MH:N06.850.505.400.800.300$ OR MH:N04.452.758.307$ OR MH:SP2.140.443$)) OR "self manage" OR "self management" OR "self care" OR "self monitor" OR "self monitoring" OR "self efficacy" OR "self administer" OR "self administration" OR "self medication" OR "self-instill" OR "self instillation" OR "self help" OR "health promotion" OR "health education" OR "health behavior" OR "risk reduction behavior" OR educat$ OR instruct$ OR trained OR training$ OR "behavior change" OR "behavioural change" OR "behavior therapy" OR "behavious therapy" OR "behavior skills" OR "behavioural skills" OR "behavior intervention" OR "behavioural intervention" OR "behavior activation" OR "behavioural activation" OR "problem solving" OR "goal setting" OR "decision making" OR "support group" OR "action plan" OR "action plans" OR "action planning" OR "goal plan" OR "goal planning" OR "skills plan" OR "skills planning" OR "guided intervention" OR empowerment OR coping OR "psychological support" OR "psychological intervention" OR "psychosocial support" OR "psychosocial intervention" OR "psycho-social support" OR "psycho-social intervention" OR ((occupational therap$) AND (home$ OR

house$)) OR "low vision intervention" OR "low vision device" OR "low vision aid" OR "low vision aids" OR "low vision technology" OR "vision impairment intervention" OR "vision impairment device" OR "vision impairment aid" OR "vision impairment aids" OR "vision impairment technology" OR "visual function intervention" OR "visual function device" OR "visual function aid" OR "visual function aids" OR "visual function technology" OR "visual functioning intervention" OR "visual functioning device" OR "visual functioning aid" OR "visual functioning aids" OR "visual functioning technology" OR "assistive technology" OR "assistive technologies" OR "assistive device" OR "assistive devices" OR magnifier$ OR "reading glasses" OR "screen reader" OR "screen readers")

## Appendix 6. ClinicalTrials.gov search strategy

("vision disorder" OR "refractive error" OR "macular degeneration" OR ARMD OR "diabetic retinopathy" OR cataract OR glaucoma OR "visually impaired" OR "low vision" OR orthoptics OR "subnormal vision" OR "impaired vision" OR "partial vision" OR "reduced vision" OR "diminished vision" OR "decreased vision" OR "abnormal vision" OR "blurred vision" OR "vision defect" OR "difficult vision" OR "dim vision" OR "disturbed vision" OR "hazy vision" OR "poor vision" OR "weak vision" OR "defective vision" OR "vision loss" OR "visual loss" OR "sight loss" OR blindness OR "near sighted" OR nearsighted OR "short sighted" OR shortsighted OR hyperopia OR "far sighted" OR farsighted OR "long sighted" OR longsighted OR astigmatism OR presbyopia OR onchocerciasis OR onchocerciases OR LASIK OR LASEK OR orthoptic OR "punctal plug" OR glasses OR eyeglasses OR spectacle) AND ("quality of life" OR "quality adjusted life years" OR "value of life" OR "health status" OR "sickness impact profile" OR "disability evaluation" OR "activities of daily living" OR "cost benefit analysis" OR psychometrics OR "disability adjusted life" OR qaly OR qald OR qale OR qtime OR daly OR euroqol OR "euro qol" OR eq5d OR "eq 5d" OR hql OR hqol OR "h qol" OR hrqol OR "hr qol" OR hye OR hyes OR "health year equivalent" OR hui OR hui1 OR hui2 OR hui3 OR "willingness to pay" OR "standard gamble" OR QOL OR HRQL OR wellbeing OR "well being" OR WHOQOL OR "WHO QOL" OR "healthy days measures" OR "EQ VAS" OR "EQ 15D" OR "36 Item Short Form Survey" OR "SF 36" OR "12 item Short Form Survey" OR "SF 12" OR "Visual Function Questionnaire" OR "NEI VFQ" OR "VFQ 25" OR "IND VFQ 33" OR "VA LV VFQ" OR "VFQ 48" OR "VFQ 20" OR "14 item Visual Functioning" OR "VF 14" OR "11 item Visual Functioning" OR "VF 11" OR "Impact of Vision Impairment" OR IVI OR "glaucoma utility index" OR catquest OR "Activities of Daily Vision Scale" OR ADVS OR "Cataract Symptom Scale" OR "Daily Living Tasks Dependent Upon Vision" OR DLTV OR "Measure of Outcome in Ocular Disease" OR "Refractive Status and Vision Profile" OR "Vision Specific Sickness Impact Profile" OR SIPV OR "Visual Activities Questionnaire" OR VAQ OR "Visual Disability Assessment" OR VDA OR "Visual Disabilities Questionnaire" OR "Glaucoma symptom scale" OR "Symptom Impact Glaucoma Score" OR GHPI OR "Glaucoma Health Perceptions index" OR "activity inventory" OR "LVQOL" OR "Geriatric Depression Scale" OR "GDS" OR "patient health questionnaire" OR "PHQ 9" OR "GAD 7" OR EQ15D OR EQVAS OR SF12 OR SF36 OR NEIVFQ OR VFQ OR VFQ25 OR INDVFQ23 OR VALVVFQ OR VFQ48 OR VFQ20 OR VF14 OR VF11 OR "LV QOL") AND ("self manage" OR "self management" OR "self efficacy" OR "self care" OR "self administration" OR "self assessment" OR "self concept" OR "self help" OR "patient compliance" OR "patient education" OR "patient training" OR "patient instruction" OR "consumer health" OR "attitude to health" OR "health behavior" OR lifestyle OR "disease management" OR "risk reduction" OR "psychological adaptation" OR motivation OR goals OR "problem solving" OR "decision making" OR "health plan implementation" OR "behavior therapy" OR "psychosocial intervention" OR "psychosocial support" OR ("occupational therapy" AND (home OR house)) OR "patient participation" OR "patient behavior" OR "patient compliance" OR "patient centered" OR "patient centric" OR "patient focused" OR "behavior change" OR "behavior therapy" OR "behavior skills" OR "behavior intervention" OR "behavior activation" OR "goal setting" OR "support group" OR "action plan" OR "goal plan" OR "skills plan" OR "guided intervention" OR empowerment OR coping)

## Appendix 7. ICTRP search strategy

visual impairment AND quality of life AND self management OR vision loss AND quality of life AND self management OR visual disorder AND quality of life AND self management OR low vision AND quality of life AND self management OR refractive error AND quality of life AND self management OR macular degeneration AND quality of life AND self management OR diabetic retinopathy AND quality of life AND self management OR cataract AND quality of life AND self management OR glaucoma AND quality of life AND self management

visual impairment AND quality of life AND self care OR vision loss AND quality of life AND self care OR visual disorder AND quality of life AND self care OR low vision AND quality of life AND self care OR refractive error AND quality of life AND self care OR macular degeneration AND quality of life AND self care OR diabetic retinopathy AND quality of life AND self care OR cataract AND quality of life AND self care OR glaucoma AND quality of life AND self care

visual impairment AND quality of life AND problem solving OR vision loss AND quality of life AND problem solving OR visual disorder AND quality of life AND problem solving OR low vision AND quality of life AND problem solving OR refractive error AND quality of life AND problem solving OR macular degeneration AND quality of life AND problem solving OR diabetic retinopathy AND quality of life AND problem solving OR cataract AND quality of life AND problem solving OR glaucoma AND quality of life AND problem solving

visual impairment AND quality of life AND goal setting OR vision loss AND quality of life AND goal setting OR visual disorder AND quality of life AND goal setting OR low vision AND quality of life AND goal setting OR refractive error AND quality of life AND goal setting OR macular degeneration AND quality of life AND goal setting OR diabetic retinopathy AND quality of life AND goal setting OR cataract AND quality of life AND goal setting OR glaucoma AND quality of life AND goal setting

visual impairment AND quality of life AND decision making OR vision loss AND quality of life AND decision making OR visual disorder AND quality of life AND decision making OR low vision AND quality of life AND decision making OR refractive error AND quality of life AND decision making OR macular degeneration AND quality of life AND decision making OR diabetic retinopathy AND quality of life AND decision making OR cataract AND quality of life AND decision making OR glaucoma AND quality of life AND decision making

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## CONTRIBUTIONS OF AUTHORS

All protocol authors contributed to the conception and design of the study.

- MKS co-ordinated the review and drafted the protocol with assistance from all authors, who also provided critical commentary.
- AQ and HE organized the references and citations.
- AM and AD provided additional data about papers and subject matter expertise.
- All authors contributed to refinement of the protocol and approved the final version.

## DECLARATIONS OF INTEREST

Mary Kate Walters is employed by the University of Houston College of Optometry and is an advisory board member for the Lighthouse for the Blind of Fort Worth and a member of the Texas Optometric Association.

Alexis Malkin: received honoraria from Eschenbach Optik and travel stipends from Designs for Vision and Eschenbach Optik. Dr Malkin is on multiple grants including NIDLLR Grant 90DPGE0012-01-00, the Titan Project through Iris Vision, and NEI/NIH Grant 1R21EY029883-01.

Ashley Deemer: received honoraria from Envision Inc and travel funds from the American Academy of Optometry. Dr Deemer has prior involvement in multiple grants including NEI Grant U01 EY018819, Multiple District 22 Lions Vision Research Foundation Fellowship Grant, Reader's Digest Partners for Sight Foundation Grant, NEI Grant R01EY026617, and NEI Grant R44EY028077. She serves as an editorial board member of Translational Vision Science & Technology.

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Adrienne C Quan: none

Jenna Koskey: none

Heather Edmonds: consulted for the American Optometric Association's Evidence-based Optometry Clinical Resources Group.

John G Lawrenson: none

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