26-001

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HEALTH FACILITIES & SERVICES REVIEW BOARD

ILLINOIS HEALTH FACILITIES AND SERVICES REVIEW BOARD
APPLICATION FOR PERMIT

SECTION I. IDENTIFICATION, GENERAL INFORMATION, AND CERTIFICATION

This Section must be completed for all projects.

Facility/Project Identification

Facility Name: Eye Surgery Specialists, LLC		
Street Address: 847 N. Green Mount Road		
City and Zip Code: Shiloh 62221		
County: St. Clair	Health Service Area: 011	Health Planning Area: 163

Applicant(s) [Provide for each applicant (refer to Part 1130.220)]

Exact Legal Name: Eye Surgery Specialists, LLC
Street Address: 8415 State Route 160, P.O. Box 54
City and Zip Code: New Baden 62265
Name of Registered Agent: Whitney TK Marlow, M.D.
Registered Agent Street Address: 8415 State Route 160, P.O. Box 54
Registered Agent City and Zip Code: New Baden 62265
Name of President: Whitney TK Marlow, M.D.
President Street Address: 8415 State Route 160, P.O. Box 54
President City and Zip Code: New Baden 62265
President Telephone Number: (618) 391-1660

Type of Ownership of Applicants

☐	Non-profit Corporation	☐	Partnership		
☐	For-profit Corporation	☐	Governmental		
☒	Limited Liability Company	☐	Sole Proprietorship	☐	Other

- Corporations and limited liability companies must provide an **Illinois certificate of good standing.**
- Partnerships must provide the name of the state in which they are organized and the name and address of each partner specifying whether each is a general or limited partner.

APPEND DOCUMENTATION AS ATTACHMENT 1, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Primary Contact [Person to receive ALL correspondence or inquiries]

Name: Juan Morado, Jr. and Mark J. Silberman
Title: CON Counsel
Company Name: Benesch Friedlander Coplan & Aronoff, LLP
Address: 71 S. Wacker Drive, Suite 1600, Chicago, IL 60606
Telephone Number: 312-212-4967 and 312-212-4952
E-mail Address: JMorado@beneschlaw.com and MSilberman@beneschlaw.com
Fax Number: 312-767-9192

Post Permit Contact [Person to receive all correspondence after permit issuance-**THIS PERSON MUST BE EMPLOYED BY THE LICENSED HEALTH CARE FACILITY AS DEFINED AT 20 ILCS 3960]**

Name: Whitney TK Marlow, M.D.
Title: Medical Director
Company Name: Eye Surgery Specialists, LLC
Address: 847 N. Green Mount Road, Shiloh, IL 62221
Telephone Number: 618-391-1660
E-mail Address: drmarlow@idealeyesurgery.com
Fax Number: N/A

Site Ownership [Provide this information for each applicable site]

Exact Legal Name of Site Owner: Whitney TK Marlow, M.D., Sole Member of BWCJ Properties, LLC
Address of Site Owner: 847 N. Green Mount Road, Shiloh, IL 62221
Street Address or Legal Description of the Site: **Proof of ownership or control of the site is to be provided as Attachment 2. Examples of proof of ownership are property tax statements, tax assessor's documentation, deed, notarized statement of the corporation attesting to ownership, an option to lease, a letter of intent to lease, or a lease.**
APPEND DOCUMENTATION AS ATTACHMENT 2, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Operating Identity/Licensee [Provide this information for each applicable facility and insert after this page]

Exact Legal Name: Eye Surgery Specialists, LLC
Address: 847 N. Green Mount Road, Shiloh, IL 62221

☐	Non-profit Corporation	☐	Partnership		
☐	For-profit Corporation	☐	Governmental		
☒	Limited Liability Company	☐	Sole Proprietorship	☐	Other

- Corporations and limited liability companies must provide an Illinois Certificate of Good Standing.
- Partnerships must provide the name of the state in which organized and the name and address of each partner specifying whether each is a general or limited partner.
- **Persons with 5 percent or greater interest in the licensee must be identified with the % of ownership.**

APPEND DOCUMENTATION AS ATTACHMENT 3, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Organizational Relationships

Provide (for each applicant) an organizational chart containing the name and relationship of any person or entity who is related (as defined in Part 1130.140). If the related person or entity is participating in the development or funding of the project, describe the interest and the amount and type of any financial contribution.
APPEND DOCUMENTATION AS ATTACHMENT 4, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Flood Plain Requirements [Refer to application instructions]

Provide documentation that the project complies with the requirements of Illinois Executive Order #2006-5 pertaining to construction activities in special flood hazard areas. As part of the flood plain requirements, please provide a map of the proposed project location showing any identified floodplain areas. Floodplain maps can be printed at **www.FEMA.gov** or **www.illinoisfloodmaps.org**. **This map must be in a readable format**. In addition, please provide a statement attesting that the project complies with the requirements of Illinois Executive Order #2006-5 (**http://www.hfsrb.illinois.gov**). **NOTE:** A SPECIAL FLOOD HAZARD AREA AND 500-YEAR FLOODPLAIN DETERMINATION FORM has been added at the conclusion of this Application for Permit that must be completed to deem a project complete.

APPEND DOCUMENTATION AS ATTACHMENT 5, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Historic Resources Preservation Act Requirements [Refer to application instructions]

Provide documentation regarding compliance with the requirements of the Historic Resources Preservation Act.

APPEND DOCUMENTATION AS ATTACHMENT 6, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

DESCRIPTION OF PROJECT

1. Project Classification

[Check those applicable - refer to Part 1110.20 and Part 1120.20(b)]

Part 1110 Classification :

☒ Substantive

☐ Non-substantive

2. Narrative Description

In the space below, provide a brief narrative description of the project. Explain **WHAT** is to be done in **State Board defined terms**, **NOT WHY** it is being done. If the project site does NOT have a street address, include a legal description of the site. Include the rationale regarding the project's classification as substantive or non-substantive.

Eye Surgery Specialists, LLC, located at 847 N. Green Mount Road, Shiloh, IL 62221 ("Applicant") seeks to operate a single-specialty ambulatory surgical treatment center ("ASTC") that will provide ophthalmology surgical services.

This project is classified as substantive, in that it involves the establishment of an ambulatory surgical treatment center pursuant to 77 Ill. Admin. Code 1110.20(c)(1)(A)(i).

Project Costs and Sources of Funds

Complete the following table listing all costs (refer to Part 1120.110) associated with the project. When a project or any component of a project is to be accomplished by lease, donation, gift, or other means, the fair market or dollar value (refer to Part 1130.140) of the component must be included in the estimated project cost. If the project contains non-reviewable components that are not related to the provision of health care, complete the second column of the table below. Note, the use and sources of funds must be equal.

Project Costs and Sources of Funds			
USE OF FUNDS	**CLINICAL**	**NONCLINICAL**	**TOTAL**
Preplanning Costs	-	-	-
Site Survey and Soil Investigation	-	-	-
Site Preparation	-	-	-
Off Site Work	-	-	-
New Construction Contracts	$2,240,459	$1,140,278	$3,380,737
Modernization Contracts	-	-	-
Contingencies	$215,000	$113,000	$328,000
Architectural/Engineering Fees	$215,000	$150,000	$365,000
Consulting and Other Fees	$50,000	$50,000	$100,000
Movable or Other Equipment (not in construction contracts)	$500,000	$300,000	$800,000
Bond Issuance Expense (project related)	-	-	-
Net Interest Expense During Construction (project related)	$50,000	$25,000	$75,000
Fair Market Value of Leased Space or Equipment	-	-	-
Other Costs to Be Capitalized			
Acquisition of Building or Other Property (excluding land)	-	-	-
TOTAL USES OF FUNDS	$3,270,459	$1,778,278	$5,048,737
SOURCE OF FUNDS	**CLINICAL**	**NONCLINICAL**	**TOTAL**
Cash and Securities	$100,000	$50,000	$150,000
Pledges			
Gifts and Bequests			
Bond Issues (project related)			
Mortgages	$3,170,459	$1,728,278	$4,898,737
Leases (fair market value)			
Governmental Appropriations			
Grants			
Other Funds and Sources			
TOTAL SOURCES OF FUNDS	**$3,270,459**	**$1,778,278**	**$5,048,737**
NOTE: ITEMIZATION OF EACH LINE ITEM MUST BE PROVIDED AT ATTACHMENT 7, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.			

Related Project Costs

Provide the following information, as applicable, with respect to any land related to the project that will be or has been acquired during the last two calendar years:

Land acquisition is related to project ☐ Yes ☒ No

Purchase Price: $500,000

Fair Market Value: $500,000

The project involves the establishment of a new facility or a new category of service

☒ Yes ☐ No

If yes, provide the dollar amount of all **non-capitalized** operating start-up costs (including operating deficits) through the first full fiscal year when the project achieves or exceeds the target utilization specified in Part 1100.

Estimated start-up costs and operating deficit cost is $ 2,392,416

Project Status and Completion Schedules

For facilities in which prior permits have been issued please provide the permit numbers.

Indicate the stage of the project's architectural drawings:

☐ None or not applicable ☐ Preliminary

☒ Schematics ☐ Final Working

Anticipated project completion date (refer to Part 1130.140): July 1, 2027

Indicate the following with respect to project expenditures or to financial commitments (refer to Part 1130.140):

☐ Purchase orders, leases or contracts pertaining to the project have been executed.

☐ Financial commitment is contingent upon permit issuance. Provide a copy of the contingent "certification of financial commitment" document, highlighting any language related to CON Contingencies

☒ Financial Commitment will occur after permit issuance.

APPEND DOCUMENTATION AS ATTACHMENT 8, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

State Agency Submittals [Section 1130.620(c)]

Are the following submittals up to date as applicable?

☐ Cancer Registry **NOT APPLICABLE**

☐ APORS **NOT APPLICABLE**

☐ All formal document requests such as IDPH Questionnaires and Annual Bed Reports been submitted **NOT APPLICABLE**

☐ All reports regarding outstanding permits **NOT APPLICABLE**

Failure to be up to date with these requirements will result in the application for permit being deemed incomplete.

Cost Space Requirements

Provide in the following format, the **Departmental Gross Square Feet (DGSF)** or the **Building Gross Square Feet (BGSF)** and cost. The type of gross square footage either **DGSF** or **BGSF** must be identified. The sum of the department costs **MUST** equal the total estimated project costs. Indicate if any space is being reallocated for a different purpose. Include outside wall measurements plus the departments or area's portion of the surrounding circulation space. **Explain the use of any vacated space.**

Not Reviewable Space [i.e., non-clinical]: *means an area for the benefit of the patients, visitors, staff, or employees of a health care facility and not directly related to the diagnosis, treatment, or rehabilitation of persons receiving services from the health care facility. "Non-clinical service areas" include, but are not limited to, chapels; gift shops; newsstands; computer systems; tunnels, walkways, and elevators; telephone systems; projects to comply with life safety codes; educational facilities; student housing; patient, employee, staff, and visitor dining areas; administration and volunteer offices; modernization of structural components (such as roof replacement and masonry work); boiler repair or replacement; vehicle maintenance and storage facilities; parking facilities; mechanical systems for heating, ventilation, and air conditioning; loading docks; and repair or replacement of carpeting, tile, wall coverings, window coverings or treatments, or furniture. Solely for the purpose of this definition, "non-clinical service area" does not include health and fitness centers.* [20 ILCS 3960/3]

		Gross Square Feet		Amount of Proposed Total Gross Square Feet That Is:			
Dept. / Area	**Cost**	**Existing**	**Proposed**	**New Const.**	**Modernized**	**As Is**	**Vacated Space**
REVIEWABLE							
ASTC	$3,270,459	-	4,973	4,973	-	-	-
Total Clinical	$3,270,459	-	4,973	4,973	-	-	-
NON-REVIEWABLE							
Administrative	$1,778,278	-	2,531	2,531	-	-	-
Total Non-clinical	$1,778,278	-	2,531	2,531	-	-	-
TOTAL	**$5,048,737**	**-**	**7,504**	**7,504**	**-**	**-**	**-**

APPEND DOCUMENTATION AS ATTACHMENT 9, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

Facility Bed Capacity and Utilization- NOT APPLICABLE

Complete the following chart, as applicable. Complete a separate chart for each facility that is a part of the project and insert the chart after this page. Provide the existing bed capacity and utilization data for the latest **Calendar Year for which data is available. Include observation days in the patient day totals for each bed service.** Any bed capacity discrepancy from the Inventory will result in the application being deemed **incomplete**.

FACILITY NAME:		**CITY:**			
REPORTING PERIOD DATES:	**From:**		**to:**		
Category of Service	**Authorized Beds**	**Admissions**	**Patient Days**	**Bed Changes**	**Proposed Beds**
Medical/Surgical					
Obstetrics					
Pediatrics					
Intensive Care					
Comprehensive Physical Rehabilitation					
Acute/Chronic Mental Illness					
Neonatal Intensive Care					
General Long-Term Care					
Specialized Long-Term Care					
Long Term Acute Care					
Other (identify)					
TOTALS:					

CERTIFICATION

The Application must be signed by the authorized representatives of the applicant entity. Authorized representatives are:

- in the case of a corporation, any two of its officers or members of its Board of Directors.
- in the case of a limited liability company, any two of its managers or members (or the sole manager or member when two or more managers or members do not exist).
- in the case of a partnership, two of its general partners (or the sole general partner, when two or more general partners do not exist).
- in the case of estates and trusts, two of its beneficiaries (or the sole beneficiary when two or more beneficiaries do not exist); and
- in the case of a sole proprietor, the individual that is the proprietor.

This Application is filed on the behalf of Eye Surgery Specialists, LLC in accordance with the requirements and procedures of the Illinois Health Facilities Planning Act. The undersigned certifies that he or she has the authority to execute and file this Application on behalf of the applicant entity. The undersigned further certifies that the data and information provided herein, and appended hereto, are complete and correct to the best of his or her knowledge and belief. The undersigned also certifies that the fee required for this application is sent herewith or will be paid upon request.

SIGNATURE

Whitney TK Marlow
PRINTED NAME

Sole Proprietor
PRINTED TITLE

Notarization:
Subscribed and sworn to before me
this 23rd day of March 2026

Signature of Notary

Seal

OFFICIAL SEAL
KEVIN D KOHLBRECHER
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 4/22/2027

SIGNATURE

PRINTED NAME

PRINTED TITLE

Notarization:
Subscribed and sworn to before me
this _____ day of _____

Signature of Notary

Seal

SECTION III. BACKGROUND, PURPOSE OF THE PROJECT, AND ALTERNATIVES - INFORMATION REQUIREMENTS

This Section is applicable to all projects except those that are solely for discontinuation with no project costs.

1110.110(a) – Background of the Applicant

READ THE REVIEW CRITERION and provide the following required information:

BACKGROUND OF APPLICANT

1. A listing of all health care facilities owned or operated by the applicant, including licensing, and certification if applicable.
2. A listing of all health care facilities currently owned and/or operated in Illinois, by any corporate officers or directors, LLC members, partners, or owners of at least 5% of the proposed health care facility.
3. For the following questions, please provide information for each applicant, including corporate officers or directors, LLC members, partners, and owners of at least 5% of the proposed facility. A health care facility is considered owned or operated by every person or entity that owns, directly or indirectly, an ownership interest.
    a. A certified listing of any adverse action taken against any facility owned and/or operated by the applicant, directly or indirectly, during the three years prior to the filing of the application.
    b. A certified listing of each applicant, identifying those individuals that have been cited, arrested, taken into custody, charged with, indicted, convicted, or tried for, or pled guilty to the commission of any felony or misdemeanor or violation of the law, except for minor parking violations; or the subject of any juvenile delinquency or youthful offender proceeding. Unless expunged, provide details about the conviction, and submit any police or court records regarding any matters disclosed.
    c. A certified and detailed listing of each applicant or person charged with fraudulent conduct or any act involving moral turpitude.
    d. A certified listing of each applicant with one or more unsatisfied judgements against him or her.
    e. A certified and detailed listing of each applicant who is in default in the performance or discharge of any duty or obligation imposed by a judgment, decree, order or directive of any court or governmental agency.
4. Authorization permitting HFSRB and DPH access to any documents necessary to verify the information submitted, including, but not limited to official records of DPH or other State agencies; the licensing or certification records of other states, when applicable; and the records of nationally recognized accreditation organizations. **Failure to provide such authorization shall constitute an abandonment or withdrawal of the application without any further action by HFSRB.**
5. If, during a given calendar year, an applicant submits more than one application for permit, the documentation provided with the prior applications may be utilized to fulfill the information requirements of this criterion. In such instances, the applicant shall attest that the information was previously provided, cite the project number of the prior application, and certify that no changes have occurred regarding the information that has been previously provided. The applicant can submit amendments to previously submitted information, as needed, to update and/or clarify data.

APPEND DOCUMENTATION AS ATTACHMENT 11, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM. EACH ITEM (1-4) MUST BE IDENTIFIED IN ATTACHMENT 11.

Criterion 1110.110(b) & (d)

PURPOSE OF PROJECT

1. Document that the project will provide health services that improve the health care or well-being of the market area population to be served.
2. Define the planning area or market area, or other relevant area, per the applicant's definition.
3. Identify the existing problems or issues that need to be addressed as applicable and appropriate for the project.
4. Cite the sources of the documentation.
5. Detail how the project will address or improve the previously referenced issues, as well as the population's health status and well-being.
6. Provide goals with quantified and measurable objectives, with specific timeframes that relate to achieving the stated goals **as appropriate**.

For projects involving modernization, describe the conditions being upgraded, if any. For facility projects, include statements of the age and condition of the project site, as well as regulatory citations, if any. For equipment being replaced, include repair and maintenance records.

NOTE: Information regarding the "Purpose of the Project" will be included in the State Board Staff Report.

APPEND DOCUMENTATION AS ATTACHMENT 12, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM. EACH ITEM (1-6) MUST BE IDENTIFIED IN ATTACHMENT 12.

ALTERNATIVES

1) Identify **ALL** the alternatives to the proposed project:

   Alternative options **must** include:

   A) Proposing a project of greater or lesser scope and cost.

   B) Pursuing a joint venture or similar arrangement with one or more providers or entities to meet all or a portion of the project's intended purposes; developing alternative settings to meet all or a portion of the project's intended purposes.

   C) Utilizing other health care resources that are available to serve all or a portion of the population proposed to be served by the project; and

   D) Provide the reasons why the chosen alternative was selected.

2) Documentation shall consist of a comparison of the project to alternative options. The comparison shall address issues of total costs, patient access, quality, and financial benefits in both the short-term (within one to three years after project completion) and long-term. This may vary by project or situation. FOR EVERY ALTERNATIVE IDENTIFIED, THE TOTAL PROJECT COST AND THE REASONS WHY THE ALTERNATIVE WAS REJECTED MUST BE PROVIDED.

3) The applicant shall provide empirical evidence, including quantified outcome data that verifies improved quality of care, as available.

APPEND DOCUMENTATION AS ATTACHMENT 13, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION IV. PROJECT SCOPE, UTILIZATION, AND UNFINISHED/SHELL SPACE

Criterion 1110.120 - Project Scope, Utilization, and Unfinished/Shell Space

READ THE REVIEW CRITERION and provide the following information:

SIZE OF PROJECT:

1. Document that the amount of physical space proposed for the proposed project is necessary and not excessive. **This must be a narrative and it shall include the basis used for determining the space and the methodology applied.**
2. If the gross square footage exceeds the BGSF/DGSF standards in Appendix B, justify the discrepancy by documenting one of the following:
    a. Additional space is needed due to the scope of services provided, justified by clinical or operational needs, as supported by published data or studies and certified by the facility's Medical Director.
    b. The existing facility's physical configuration has constraints or impediments and requires an architectural design that delineates the constraints or impediments.
    c. The project involves the conversion of existing space that results in excess square footage.
    d. Additional space is mandated by governmental or certification agency requirements that were not in existence when Appendix B standards were adopted.

Provide a narrative for any discrepancies from the State Standard. A table must be provided in the following format with Attachment 14.

SIZE OF PROJECT				
DEPARTMENT/SERVICE	**PROPOSED BGSF/DGSF**	**STATE STANDARD**	**DIFFERENCE**	**MET STANDARD?**
ASTC (2 Operating Rooms)	**4,973 GSF**	**2,750 GSF (per operating room)**	**-527 GSF**	**YES**

APPEND DOCUMENTATION AS ATTACHMENT 14, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

PROJECT SERVICES UTILIZATION:

This criterion is applicable only to projects or portions of projects that involve services, functions, or equipment for which HFSRB has established utilization standards or occupancy targets in 77 Ill. Adm. Code 1100.

Document that in the second year of operation, the annual utilization of the service or equipment shall meet or exceed the utilization standards specified in 1110.Appendix B. **A narrative of the rationale that supports the projections must be provided.**

A table must be provided in the following format with Attachment 15.

UTILIZATION					
	DEPARTMENT /SERVICE	**HISTORICAL UTILIZATION (PATIENT DAYS) (TREATMENTS) ETC.**	**PROJECTED UTILIZATION**	**STATE STANDARD**	**MEET STANDARD?**
YEAR 1	**ASTC**	**10,493**	**2,399**	**>1500 Hours**	**YES**
YEAR 2	**ASTC**	**10,493**	**2,471**	**>1500 Hours**	**YES**

APPEND DOCUMENTATION AS ATTACHMENT 15, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

UNFINISHED OR SHELL SPACE:

Provide the following information:

1. Total gross square footage (GSF) of the proposed shell space.
2. The anticipated use of the shell space, specifying the proposed GSF to be allocated to each department, area, or function.
3. Evidence that the shell space is being constructed due to:
    a. Requirements of governmental or certification agencies; or
    b. Experienced increases in the historical occupancy or utilization of those areas proposed to occupy the shell space.
4. Provide:
    a. Historical utilization for the area for the latest five-year period for which data is available; and
    b. Based upon the average annual percentage increase for that period, projections of future utilization of the area through the anticipated date when the shell space will be placed into operation.

APPEND DOCUMENTATION AS ATTACHMENT 16, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

ASSURANCES:

Submit the following:

1. Verification that the applicant will submit to HFSRB a CON application to develop and utilize the shell space, regardless of the capital thresholds in effect at the time or the categories of service involved.
2. The estimated date by which the subsequent CON application (to develop and utilize the subject shell space) will be submitted; and
3. The anticipated date when the shell space will be completed and placed into operation.

APPEND DOCUMENTATION AS ATTACHMENT 17, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

G. Non-Hospital Based Ambulatory Surgery

Applicants proposing to establish, expand and/or modernize the Non-Hospital Based Ambulatory Surgery category of service must submit the following information.

ASTC Service
☐ Cardiovascular
☐ Colon and Rectal Surgery
☐ Dermatology
☐ General Dentistry
☐ General Surgery
☐ Gastroenterology
☐ Neurological Surgery
☐ Nuclear Medicine
☐ Obstetrics/Gynecology
☒ Ophthalmology
☐ Oral/Maxillofacial Surgery
☐ Orthopedic Surgery
☐ Otolaryngology
☐ Pain Management
☐ Physical Medicine and Rehabilitation
☐ Plastic Surgery
☐ Podiatric Surgery
☐ Radiology
☐ Thoracic Surgery
☐ Urology
☐ Other

3. READ the applicable review criteria outlined below and **submit the required documentation for the criteria:**

APPLICABLE REVIEW CRITERIA	Establish New ASTC or Service	Expand Existing Service
1110.235(c)(2)(B) – Service to GSA Residents	X	X
1110.235(c)(3) – Service Demand – Establishment of an ASTC or Additional ASTC Service	X	
1110.235(c)(4) – Service Demand – Expansion of Existing ASTC Service		X
1110.235(c)(5) – Treatment Room Need Assessment	X	X
1110.235(c)(6) – Service Accessibility	X	
1110.235(c)(7)(A) – Unnecessary Duplication/Maldistribution	X	
1110.235(c)(7)(B) – Maldistribution	X	
1110.235(c)(7)(C) – Impact to Area Providers	X	
1110.235(c)(8) – Staffing	X	X
1110.235(c)(9) – Charge Commitment	X	X
1110.235(c)(10) – Assurances	X	X
APPEND DOCUMENTATION AS ATTACHMENT 25, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.		

The following Sections DO NOT need to be addressed by the applicants or co-applicants responsible for funding or guaranteeing the funding of the project if the applicant has a bond rating of A- or better from Fitch's or Standard and Poor's rating agencies, or A3 or better from Moody's (the rating shall be affirmed within the latest 18-month period prior to the submittal of the application):

- **Section 1120.120 Availability of Funds – Review Criteria**
- **Section 1120.130 Financial Viability – Review Criteria**
- **Section 1120.140 Economic Feasibility – Review Criteria, subsection (a)**

SECTION VII. 1120.120 - AVAILABILITY OF FUNDS

The applicant shall document those financial resources shall be available and be equal to or exceed the estimated total project cost plus any related project costs by providing evidence of sufficient financial resources from the following sources, as applicable **[Indicate the dollar amount to be provided from the following sources]:**

$150,000	a) Cash and Securities – statements (e.g., audited financial statements, letters from financial institutions, board resolutions) as to: 1) the amount of cash and securities available for the project, including the identification of any security, its value and availability of such funds; and 2) interest to be earned on depreciation account funds or to be earned on any asset from the date of applicant's submission through project completion.
_____	b) Pledges – for anticipated pledges, a summary of the anticipated pledges showing anticipated receipts and discounted value, estimated timetable of gross receipts and related fundraising expenses, and a discussion of past fundraising experience.
_____	c) Gifts and Bequests – verification of the dollar amount, identification of any conditions of use, and the estimated timetable of receipts.
$4,898,737	d) Debt – a statement of the estimated terms and conditions (including the debt time, variable or permanent interest rates over the debt time, and the anticipated repayment schedule) for any interim and for the permanent financing proposed to fund the project, including: 1) For general obligation bonds, proof of passage of the required referendum or evidence that the governmental unit has the authority to issue the bonds and evidence of the dollar amount of the issue, including any discounting anticipated. 2) For revenue bonds, proof of the feasibility of securing the specified amount and interest rate. 3) For mortgages, a letter from the prospective lender attesting to the expectation of making the loan in the amount and time indicated, including the anticipated interest rate and any conditions associated with the mortgage, such as, but not limited to, adjustable interest rates, balloon payments, etc. 4) For any lease, a copy of the lease, including all the terms and conditions, including any purchase options, any capital improvements to the property and provision of capital equipment. 5) For any option to lease, a copy of the option, including all terms and conditions.
_____	e) Governmental Appropriations – a copy of the appropriation Act or ordinance accompanied by a statement of funding availability from an official of the governmental unit. If funds are to be made available from subsequent fiscal years, a copy of a resolution or other action of the governmental unit attesting to this intent.
_____	f) Grants – a letter from the granting agency as to the availability of funds in terms of the amount and time of receipt.
_____	g) All Other Funds and Sources – verification of the amount and type of any other funds that will be used for the project.
$5,048,737	**TOTAL FUNDS AVAILABLE**

APPEND DOCUMENTATION AS ATTACHMENT 34, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION VIII. 1120.130 - FINANCIAL VIABILITY

All the applicants and co-applicants shall be identified, specifying their roles in the project funding, or guaranteeing the funding (sole responsibility or shared) and percentage of participation in that funding.

Financial Viability Waiver

The applicant is not required to submit financial viability ratios if:

1. "A" Bond rating or better
2. All the project's capital expenditures are completely funded through internal sources
3. The applicant's current debt financing or projected debt financing is insured or anticipated to be insured by MBIA (Municipal Bond Insurance Association Inc.) or equivalent
4. The applicant provides a third-party surety bond or performance bond letter of credit from an A rated guarantor.

See Section 1120.130 Financial Waiver for information to be provided

APPEND DOCUMENTATION AS ATTACHMENT 35, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

The applicant or co-applicant that is responsible for funding or guaranteeing funding of the project shall provide viability ratios for the latest three years for which **audited financial statements are available and for the first full fiscal year at target utilization, but no more than two years following project completion.** When the applicant's facility does not have facility specific financial statements and the facility is a member of a health care system that has combined or consolidated financial statements, the system's viability ratios shall be provided. If the health care system includes one or more hospitals, the system's viability ratios shall be evaluated for conformance with the applicable hospital standards.

	Historical 3 Years			Projected
Enter Historical and/or Projected Years:				
Current Ratio				
Net Margin Percentage				
Percent Debt to Total Capitalization				
Projected Debt Service Coverage				
Days Cash on Hand				
Cushion Ratio				

Provide the methodology and worksheets utilized in determining the ratios detailing the calculation and applicable line item amounts from the financial statements. Complete a separate table for each co-applicant and provide worksheets for each.

Variance

Applicants not in compliance with any of the viability ratios shall document that another organization, public or private, shall assume the legal responsibility to meet the debt obligations should the applicant default.

APPEND DOCUMENTATION AS ATTACHMENT 36, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION IX. 1120.140 - ECONOMIC FEASIBILITY

This section is applicable to all projects subject to Part 1120.

A. Reasonableness of Financing Arrangements

The applicant shall document the reasonableness of financing arrangements by submitting a notarized statement signed by an authorized representative that attests to one of the following:

1) That the total estimated project costs and related costs will be funded in total with cash and equivalents, including investment securities, unrestricted funds, received pledge receipts and funded depreciation; or

2) That the total estimated project costs and related costs will be funded in total or in part by borrowing because:

   A) A portion or all the cash and equivalents must be retained in the balance sheet asset accounts to maintain a current ratio of at least 2.0 times for hospitals and 1.5 times for all other facilities; or

   B) Borrowing is less costly than the liquidation of existing investments, and the existing investments being retained may be converted to cash or used to retire debt within a 60-day period.

B. Conditions of Debt Financing

This criterion is applicable only to projects that involve debt financing. The applicant shall document that the conditions of debt financing are reasonable by submitting a notarized statement signed by an authorized representative that attests to the following, as applicable:

1) That the selected form of debt financing for the project will be at the lowest net cost available.

2) That the selected form of debt financing will not be at the lowest net cost available but is more advantageous due to such terms as prepayment privileges, no required mortgage, access to additional indebtedness, term (years), financing costs and other factors.

3) That the project involves (in total or in part) the leasing of equipment or facilities and that the expenses incurred with leasing a facility or equipment are less costly than constructing a new facility or purchasing new equipment.

C. Reasonableness of Project and Related Costs

Read the criterion and provide the following:

1) Identify each department or area impacted by the proposed project and provide a cost and square footage allocation for new construction and/or modernization using the following format (insert after this page).

COST AND GROSS SQUARE FEET BY DEPARTMENT OR SERVICE

Department (List below)	A	B	C	D	E	F	G	H	Total Cost (G + H)
	Cost/Square Foot New	Cost/Square Foot Mod.	Gross Sq. Ft. New	Gross Sq. Ft. Circ.*	Gross Sq. Ft. Mod.	Gross Sq. Ft. Circ.*	Const. $ (A x C)	Mod. $ (B x E)	
ASTC	$2,240,459	-	4,973	-	-	-	$450.52	-	$2,240,459
Contingency	$215,000	-	4,973	-	-	-	$43.23	-	$215,000
TOTALS	$2,455,459	-	4,973	-	-	-	$493.75	-	$2,455,459

* Include the percentage (%) of space for circulation

D. Projected Operating Costs

The applicant shall provide the projected direct annual operating costs (in current dollars per equivalent patient day or unit of service) for the first full fiscal year at target utilization but no more than two years following project completion. Direct cost means the fully allocated costs of salaries, benefits and supplies for the service.

E. Total Effect of the Project on Capital Costs

The applicant shall provide the total projected annual capital costs (in current dollars per equivalent patient day) for the first full fiscal year at target utilization but no more than two years following project completion.

APPEND DOCUMENTATION AS ATTACHMENT 37, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION X. SAFETY NET IMPACT STATEMENT

SAFETY NET IMPACT STATEMENT that describes all the following must be submitted for ALL SUBSTANTIVE PROJECTS AND PROJECTS TO DISCONTINUE HEALTH CARE FACILITIES [20 ILCS 3960/5.4]:

1. The project's material impact, if any, on essential safety net services in the community, ***including the impact on racial and health care disparities in the community,*** to the extent that it is feasible for an applicant to have such knowledge.

2. The project's impact on the ability of another provider or health care system to cross-subsidize safety net services, if reasonably known to the applicant.

3. How the discontinuation of a facility or service might impact the remaining safety net providers in each community, if reasonably known by the applicant.

Safety Net Impact Statements shall also include all the following:

1. For the 3 fiscal years prior to the application, a certification describing the amount of charity care provided by the applicant. The amount calculated by hospital applicants shall be in accordance with the reporting requirements for charity care reporting in the Illinois Community Benefits Act. Non-hospital applicants shall report charity care, at cost, in accordance with an appropriate methodology specified by the Board.

2. For the 3 fiscal years prior to the application, a certification of the amount of care provided to Medicaid patients. Hospital and non-hospital applicants shall provide Medicaid information in a manner consistent with the information reported each year to the Illinois Department of Public Health regarding "Inpatients and Outpatients Served by Payor Source" and "Inpatient and Outpatient Net Revenue by Payor Source" as required by the Board under Section 13 of this Act and published in the Annual Hospital Profile.

3. Any information the applicant believes is directly relevant to safety net services, including information regarding teaching, research, and any other service.

A table in the following format must be provided as part of Attachment 37.

Safety Net Information per PA 96-0031			
CHARITY CARE			
Charity (# of patients)	**2020**	**2021**	**2022**
Inpatient	-	-	-
Outpatient	-	-	-
Total	-	-	-
Charity (cost in dollars)			
Inpatient	-	-	-
Outpatient	-	-	-
Total	-	-	-
MEDICAID			
Medicaid (# of patients)	**2022**	**2022**	**2022**
Inpatient	-	-	-
Outpatient	-	-	-
Total	-	-	-
Medicaid (revenue)	-	-	-
Inpatient	-	-	-
Outpatient	-	-	-
Total	-	-	-

APPEND DOCUMENTATION AS ATTACHMENT 38, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION X. CHARITY CARE INFORMATION

Charity Care information MUST be furnished for ALL projects [1120.20(c)].

1. All applicants and co-applicants shall indicate the amount of charity care for the latest three **audited** fiscal years, the cost of charity care and the ratio of that charity care cost to net patient revenue.
2. If the applicant owns or operates one or more facilities, the reporting shall be for each individual facility located in Illinois. If charity care costs are reported on a consolidated basis, the applicant shall provide documentation as to the cost of charity care; the ratio of that charity care to the net patient revenue for the consolidated financial statement; the allocation of charity care costs; and the ratio of charity care cost to net patient revenue for the facility under review.
3. If the applicant is not an existing facility, it shall submit the facility's projected patient mix by payer source, anticipated charity care expense and projected ratio of charity care to net patient revenue by the end of its second year of operation.

Charity care" means care provided by a health care facility for which the provider does not expect to receive payment from the patient or a third-party payer (20 ILCS 3960/3). Charity Care must be provided at cost.

A table in the following format must be provided for all facilities as part of Attachment 39.

CHARITY CARE			
	2020	2021	2022
Net Patient Revenue	-	-	-
Amount of Charity Care (charges)	-	-	-
Cost of Charity Care	-	-	-

APPEND DOCUMENTATION AS ATTACHMENT 39, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

SECTION XI. SPECIAL FLOOD HAZARD AREA AND 500-YEAR FLOODPLAIN DETERMINATION FORM

In accordance with Executive Order 2006-5 (EO 5), the Health Facilities & Services Review Board (HFSRB) must determine if the site of the CRITICAL FACILITY, as defined in EO 5, is in a mapped floodplain (Special Flood Hazard Area) or a 500-year floodplain. All state agencies are required to ensure that before a permit, grant or a development is planned or promoted, the proposed project meets the requirements of the Executive Order, including compliance with the National Flood Insurance Program (NFIP) and state floodplain regulation.

1. Applicant: Eye Surgery Specialists, LLC, (Name) 847 N. Green Mount Road (Address)

Shiloh (City) Illinois (State) 62221 (ZIP Code) (618) 391-1660 (Telephone Number)

2. Project Location: 847 N. Green Mount Road (Address) Shiloh (City) Illinois (State)

St. Clair (County) St. Clair (Township) (Section)

3. You can create a small map of your site showing the FEMA floodplain mapping using the FEMA Map Service Center website (https://msc.fema.gov/portal/home) by entering the address for the property in the Search bar. If a map, like that shown on page 2 is shown, select the ***Go to NFHL Viewer*** tab above the map. You can print a copy of the floodplain map by selecting the icon in the top corner of the page. Select the pin tool icon and place a pin on your site. Print a FIRMETTE size image.

   If there is no digital floodplain map available select the **View/Print FIRM** icon above the aerial photo. You will then need to use the Zoom tools provided to locate the property on the map and use the **Make a FIRMette** tool to create a pdf of the floodplain map.

IS THE PROJECT SITE LOCATED IN A SPECIAL FLOOD HAZARD AREA: Yes___ No _X_

IS THE PROJECT SITE LOCATED IN THE 500-YEAR FLOOD PLAIN? NO

If you are unable to determine if the site is in the mapped floodplain or 500-year floodplain, contact the county or the local community building or planning department for assistance.

If the determination is being made by a local official, please complete the following:

FIRM Panel Number:_____ Effective Date:_____

Name of Official:_____ Title: _____

Business/Agency:_____ Address:_____

_____
(City) (State) (ZIP Code) (Telephone Number)

Signature:_____ Date:_____

NOTE: This finding only means that the property in question is or is not in a Special Flood Hazard Area or a 500-year floodplain as designated on the map noted above. It does not constitute a guarantee that the property will or will not be flooded or be subject to local drainage problems.

If you need additional help, contact the Illinois Statewide Floodplain Program at 217/782-4428

After paginating the entire completed application indicate, in the chart below, the page numbers for the included attachments:

INDEX OF ATTACHMENTS

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14	Size of the Project	77
15	Project Service Utilization	78-79
16	Unfinished or Shell Space	80
17	Assurances for Unfinished/Shell Space	81
18	Mater Design and Related Projects	N/A
	Service Specific:	
19	Medical Surgical Pediatrics, Obstetrics, ICU	N/A
20	Comprehensive Physical Rehabilitation	N/A
21	Acute Mental Illness	N/A
22	Open Heart Surgery	N/A
23	Cardiac Catheterization	N/A
24	In-Center Hemodialysis	N/A
25	Non-Hospital Based Ambulatory Surgery	82-103
26	Selected Organ Transplantation	N/A
27	Kidney Transplantation	N/A
28	Subacute Care Hospital Model	N/A
29	Community-Based Residential Rehabilitation Center	N/A
30	Long Term Acute Care Hospital	N/A
31	Clinical Service Areas Other than Categories of Service	N/A
32	Freestanding Emergency Center Medical Services	N/A
33	Birth Center	N/A
	Financial and Economic Feasibility:	
34	Availability of Funds	104-105
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ATTACHMENT 1
Type of Ownership of Applicant

Included with this attachment are:

1. The Certificate of Good Standing for the applicant, Eye Surgery Specialists, LLC.

ATTACHMENT 1
Certificate of Good Standing
Eye Surgery Specialists, LLC

File Number 1612742-6

To all to whom these Presents Shall Come, Greeting:

I, **Alexi Giannoulias,** *Secretary of State of the State of Illinois, do hereby certify that I am the keeper of the records of the Department of Business Services. I certify that*

EYE SURGERY SPECIALISTS, LLC, HAVING ORGANIZED IN THE STATE OF ILLINOIS ON APRIL 22, 2025, APPEARS TO HAVE COMPLIED WITH ALL PROVISIONS OF THE LIMITED LIABILITY COMPANY ACT OF THIS STATE, AND AS OF THIS DATE IS IN GOOD STANDING AS A DOMESTIC LIMITED LIABILITY COMPANY IN THE STATE OF ILLINOIS.

In Testimony Whereof, *I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this* 29TH *day of* SEPTEMBER *A.D.* 2025 .

Authentication #: 2527202116 verifiable until 09/29/2026
Authenticate at: https://www.ilsos.gov

Alexi Giannoulias
SECRETARY OF STATE

ATTACHMENT 2
Site Ownership

Attached as evidence of control over the site is a copy of a letter of intent entered into between the current owner, and Whitney TK Marlow, M.D., sole member of BWCJ Properties, LLC. Ulitmately BWJC Properties, LLC will be the owner of the property. Additionally, included with this attachment is the current owner's property tax statement for 2024. The tax document reflects that Providence Bank is the current site owner.

ATTACHMENT 2
Site Ownership

COUNTY COLLECTOR
ST. CLAIR COUNTY
10 PUBLIC SQUARE
BELLEVILLE, IL 62220
www.scctreasurer.com

2024 REAL ESTATE TAXES
BASED ON ASSESSED VALUE
AS OF JANUARY 1, 2024

PARCEL NO. 08-01.0-407-107
Pay on-line: www.scctreasurer.com
E-Mail: treasurer@co.st-clair.il.us

TAXING INFORMATION

FAIR PROPERTY VALUE		162,415
1977 BASE		0
SENIOR FREEZE BASE		0
ASSESSORS VALUE		53,386
BD OF REVIEW VALUE		53,386
TOWNSHIP MULTIPLIER	X	1.0140
LOCAL VALUE*	=	54,133
HE/DAV VALUE	-	0
VALUE TO BE EQUALIZED		54,133
STATE MULTIPLIER	X	1.0000
STATE EQUALIZED VALUE	=	54,133
OWNER OCCUPIED EXEMPTION	-	0
SENIOR FREEZE	-	0
SR. HOMESTEAD EXEMPTION	-	0
RETURNING VET EXEMPTION	-	0
VET/DISABILITY EXEMPTION	-	0
FARM ASSESSMENT	+	0
TAXABLE VALUE	=	54,133
TOTAL TAX RATE	X	6.8903
TOTAL TAX DUE =		$3,729.94

*ESTIMATED 1/3 OF FAIR PROPERTY VALUE

TWP: ST CLAIR
TAX CODE: 07074
UNIT: 0050

DISTRIBUTION OF 2024 TAXES

Taxing Body	2023 Rate	2023 Tax	2024 Rate	2024 Tax	Difference	% of Total
BELLEVILLE HS #201	1.96330	$1,048.13	1.88940	$1,028.20	$-19.93	27.57
WHITESIDE DIST #115	2.90850	$1,601.31	2.90310	$1,620.25	$18.94	43.44
SWIC DIST #522	0.40280	$215.04	0.37020	$205.27	$-9.77	5.50
VILLAGE OF SHILOH	0.12920	$68.97	0.12270	$66.42	$-2.55	1.78
ST CLAIR CO GEN	0.25000	$133.47	0.25000	$135.34	$1.87	3.63
ST CLAIR CO OTHER	0.77360	$413.00	0.70350	$380.84	$-32.16	10.21
ST CLAIR TWP	0.03590	$19.17	0.03330	$18.03	$-1.14	0.48
ST CLAIR ROAD	0.22820	$121.83	0.22350	$120.99	$-0.84	3.24
OFAL-SHI-CASEY FIRE	0.33800	$180.44	0.28560	$154.60	$-25.84	4.14
Totals	7.1205	$3,801.36	6.89030	$3,729.94	($71.42)	

08-01.0-407-107
PROVIDENCE BANK
PROVIDENCE BANK
PO BOX 105288
JEFFERSON CITY MO 65110-

Dear Taxpayer:
Please read your bill carefully. On or before the installment due date, pay the first amount shown on payment coupon. After the due date pay the amount that includes penalty. The dates below are important to you. Please read them carefully.
First Installment due date: 07/02/2025
Second Installment due date: 09/02/2025
Last day to pay and avoid publication: 9/19/2025
The schedule for the electronic payment systems is on the back side of this bill.

Notice of tax sale by certified mail: 9/26/25
Publication of unpaid taxes: 10/01/2025-10/10/2025
LAST DAY TO PAY TAXES: 10/31/2025

POSTMARK WILL NOT BE HONORED ON THESE DATES:
9/19/2025 & 10/31/2025
AND PAYMENTS MUST BE RECEIVED BEFORE 4:30 PM
9:00 AM Tax Sale of all unpaid taxes: 11/03 - 11/06/2025
No payment will be taken during tax sale.

If your taxes are paid through escrow, it is your responsibility to forward your bill to your Mortgage Company.

Legal Description
6519
GREYSTONE ESTATES COMMERCIAL PLAZA
LOT 1 A02283431
Location of Property
847 N GREEN MOUNT RD
BELLEVILLE, IL 62221

DUPLICATE

ACRES
1.92

YOUR CANCELLED CHECK WILL SERVE AS YOUR RECEIPT. PLEASE KEEP FOR YOUR RECORDS

1st INST:		2nd INST:	
DATE PAID:	Paid on 06/06/2025	DATE PAID:	Paid on 06/06/2025
AMT. PAID:	$1,864.97	AMT. PAID:	$1,864.97

DETACH AND RETURN THIS COUPON WITH SECOND INSTALLMENT PAYMENT

Parcel No. 08-01.0-407-107

IF PAID	AMOUNT DUE
on or before 09/02	0.00
09/03 THRU 09/19	0.00
09/20 THRU 10/02	0.00*
10/03 THRU 10/31	0.00*

*INCLUDES $10.00 CERTIFIED MAIL COST

PROVIDENCE BANK
PROVIDENCE BANK
PO BOX 105288
JEFFERSON CITY MO 65110-

Collector Use Only $3,729.94

Don't forget to pay your property taxes!
To enroll in the E-reminder program, go to www.scctreasurer.com and click on the "E-Reminder For Tax Bills" link. This will set you up to receive a friendly reminder a few days prior to each due date.

2 IMPORTANT: Please submit both stubs if paying both installments at the same time.

2nd INSTALLMENT DUE: 09/02/2025
2nd INSTALLMENT AMOUNT: $0.00

DUPLICATE

DO NOT MARK BELOW THIS LINE

ATTACHMENT 2
Site Ownership

CARR

July 24, 2025

RE: Letter of Intent to Purchase

Mike,

Our client would consider pursuing a purchase agreement based upon the following terms:

Buyer	Whitney Marlow, MD
Premises	**847 N Green Mount Rd, Shiloh, IL 62221**
Size	Approximately 1.92 AC (Acres)
Purchase Price	$500,000
Earnest Money	$9,600 (2%) to be deposited with Title Company. To become non-refundable after the expiration of the 90 day inspection period.
Inspection Period	90 days from mutual execution of purchase agreement. To include the following contingencies: Appraisal, Title, Survey, Off Record Matters, Sellers Property Disclosure, Insurance, Inspection, Loan, and Environmental if required.
Seller to Provide	Seller agrees to provide, any and all existing due diligence materials in their possession, including but not limited to: current ALTA survey, title commitment, environmental reports (including Phase 1), geotechnical/soil reports, zoning verification, utility information, site plans, and any permits or entitlements obtained or in process.
Closing	14 Days following expiration of Inspection Period
Financing	Buyer has received preliminary approval from her lender.
Contingencies	The Buyer's obligation to close shall be contingent upon completion of its due diligence to its sole satisfaction, including but not limited to: zoning verification, receipt of all necessary entitlements and approvals for Buyer's intended use including A certificate of need (CON), satisfactory environmental and geotechnical conditions, verification of utility availability, and clear and marketable title.
Broker Commission	TBD Per Separate Agreement

ATTACHMENT 2
Site Ownership

Please contact me with any questions at sam.caldarazzo@carr.us or (630) 818-7262. Thank you.

Sam Caldarazzo
CARR - Healthcare Real Estate
(630) 818-7262
sam.caldarazzo@carr.us

Mike Durbin
Barber Murphy
(618)960- 8675
miked@barbermurphy.com

AGENCY / RELATIONSHIP DISCLOSURE: CARR is a commercial real estate firm that is exclusively representing the real estate needs of the Buyer / Tenant in this proposed transaction. CARR is NOT representing the Seller / Landlord or acting as the agent of the Seller / Landlord in any capacity. CARR owes no legal duty to the Seller / Landlord of the Property except as may be expressly defined by state law. Seller / Landlord is advised to consult with their own broker, agent or legal counsel regarding this proposed transaction.

Seller / Landlord acknowledges receipt of this disclosure which is intended to be effective upon delivery.

NON-BINDING DISCLOSURE: This document is non-binding and is solely for discussion purposes only. It does not create any legally binding rights or obligations on any party, and no such rights or obligations shall be created unless and until the parties enter into and execute a definitive agreement memorializing the specific terms of a transaction. This document has not been approved by any real estate commission or other governmental body.

By:_____ By:_____

Title:_____ Title:_____

Date: _____ Date: _____

Signature: _____ Signature: _____

ATTACHMENT 3
Operating Entity/Licensee

Eye Surgery Specialists, LLC will be licensed by the Illinois Department of Public Health and will be the licensee upon approval of this project by the Board. Attached as evidence of the owner entity's good standing is a Certificate of Good Standing issued by Illinois Secretary of State.

ATTACHMENT 3
Operating Entity/Licensee
Certificate of Good Standing
Eye Surgery Specialists, LLC

File Number 1612742-6

STATE OF ILLINOIS
OFFICE OF
THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

I, Alexi Giannoulias, *Secretary of State of the State of Illinois, do hereby certify that I am the keeper of the records of the Department of Business Services. I certify that*

EYE SURGERY SPECIALISTS, LLC, HAVING ORGANIZED IN THE STATE OF ILLINOIS ON APRIL 22, 2025, APPEARS TO HAVE COMPLIED WITH ALL PROVISIONS OF THE LIMITED LIABILITY COMPANY ACT OF THIS STATE, AND AS OF THIS DATE IS IN GOOD STANDING AS A DOMESTIC LIMITED LIABILITY COMPANY IN THE STATE OF ILLINOIS.

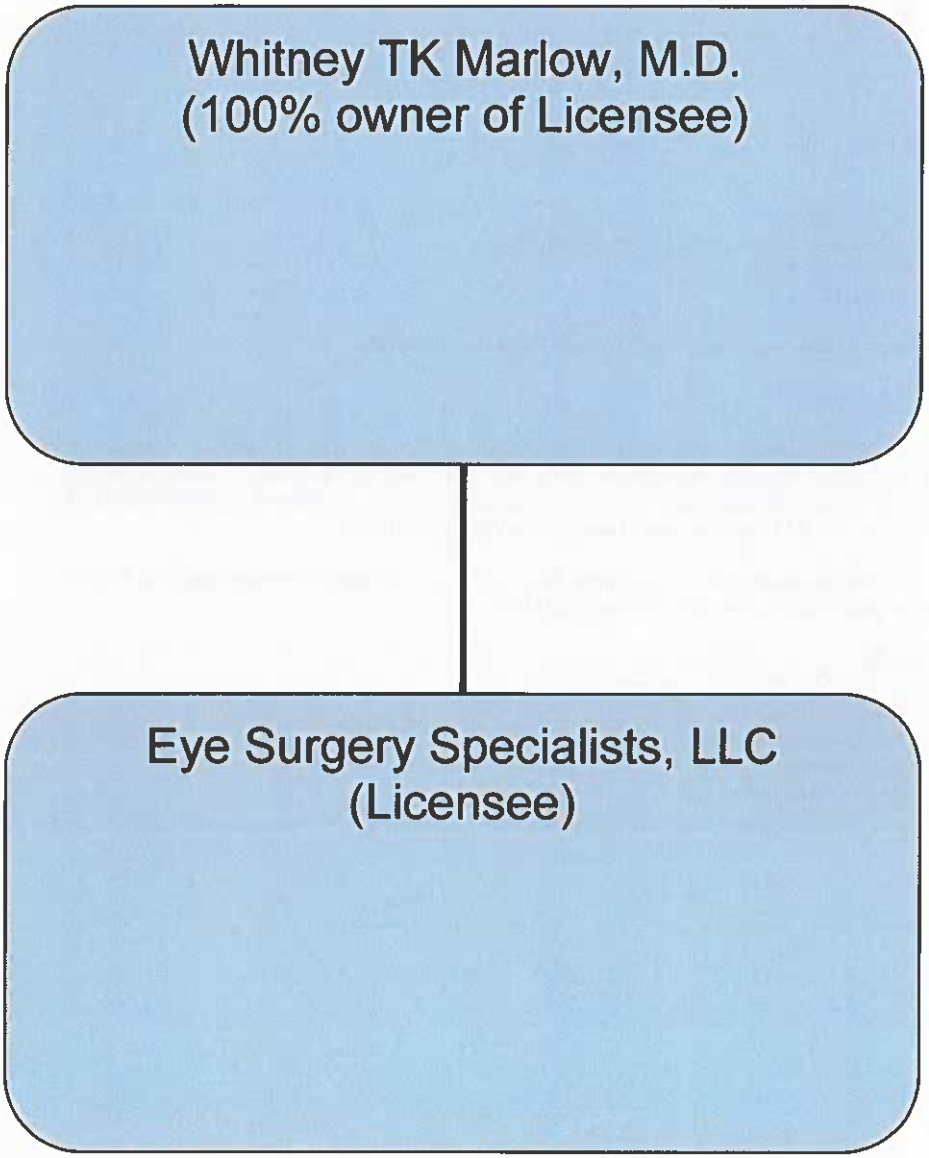
In Testimony Whereof, *I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this* 29TH *day of* SEPTEMBER *A.D.* 2025 .

Authentication #: 2527202116 verifiable until 09/29/2026
Authenticate at: https://www.ilsos.gov

SECRETARY OF STATE

ATTACHMENT 4
Organizational Relationships

The facility will be owned by Whitney TK Marlow, M.D., as identified in the organizational chart below.



ATTACHMENT 5
Flood Plain Requirements

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W Jefferson Street, Floor 2
Springfield, IL 62761

Re: Eye Surgery Specialists, LLC - Flood Plain Requirements

Dear Mr. Kniery:

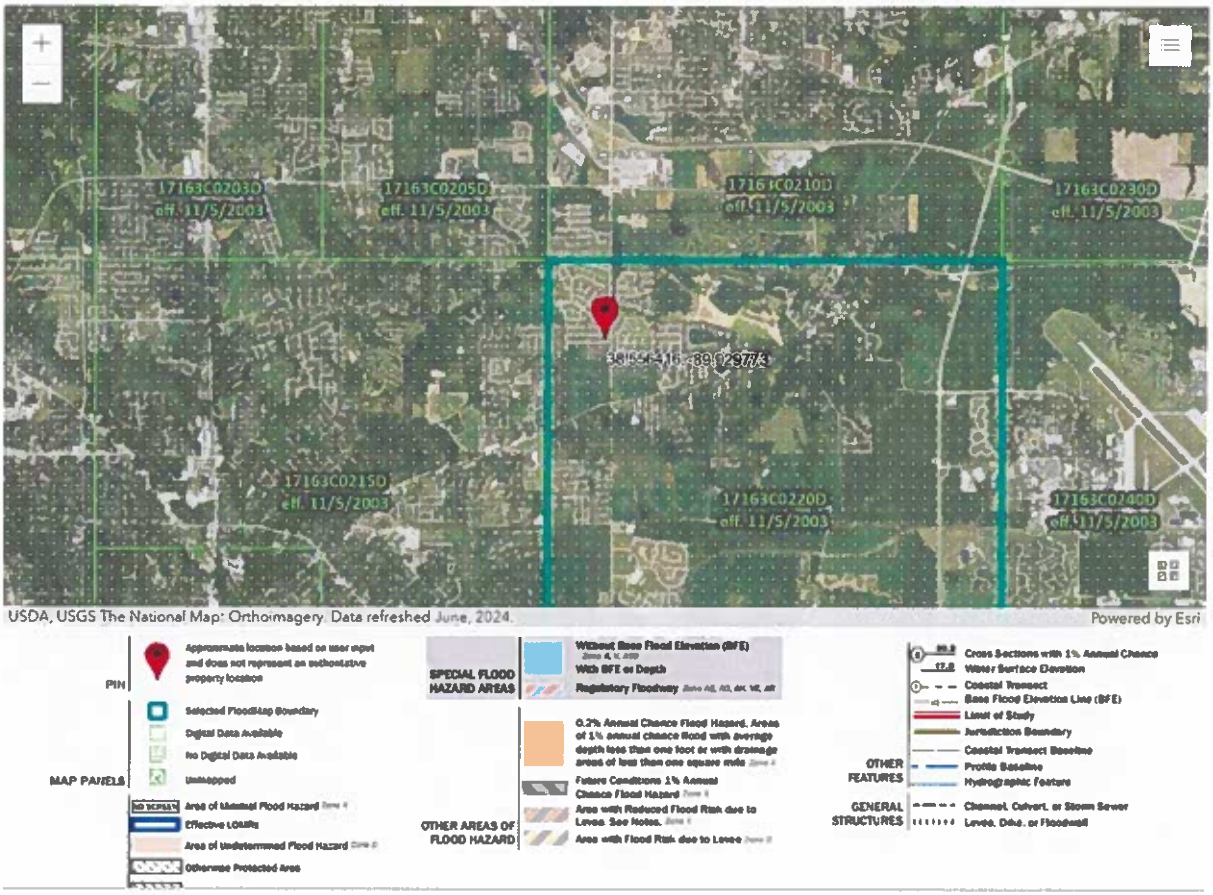
As representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, affirm that our facility complies with Illinois Executive Order #2005-5. The facility location at 847 N. Green Mount Rd., Shiloh, IL 62221 is not located in a flood plain, as evidence please find enclosed a map from the Federal Emergency Management Agency ("FEMA").

I hereby certify this is true and is based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 5
Flood Plain Requirements



ATTACHMENT 6
Historic Preservation Act Requirements

The applicant submitted a request for determination to the Illinois Department of Natural Resources, Preservation Services Division on December 22, 2025. A final determination has not been received as of the filing of this application. The Applicant commits to not financially obligate the project until a clearance letter is received from the Department. A copy of the submission is included with this attachment.

ATTACHMENT 6
Historic Preservation Act Requirements

Juan Morado, Jr.
71 South Wacker Drive, Suite 1600
Chicago, Illinois 60606-4637
Direct Dial: 312.212.4967
Fax: 312.767.9192
jmorado@beneschlaw.com

December 22, 2025

VIA USPS

Jeffrey Kruchten
Chief Archaeologist
Preservation Services Division
Illinois Historic Preservation Office Illinois Department of Natural Resources
1 Natural Resources Way
Springfield, IL 62702
SHPO.Review@illinois.gov

Re: Certificate of Need Application for Ambulatory Surgical Treatment Center

Dear Jeffrey:

I am writing on behalf of my client, Eye Surgery Specialists, LLC, to request a review of the project area pursuant to Section 4 of the Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420/1 et seq.). Eye Surgery Specialists, LLC is in the process of submitting an application for a Certificate of Need to the Illinois Health Facilities and Services Review Board for the development of an ambulatory surgical treatment center specializing in ophthalmology to be located at 847 N. Green Mount Road, Shiloh, Illinois 62221.

The proposed ambulatory surgical treatment center will consist of two (2) operating rooms, associated recovery areas, and administrative space. For your reference, enclosed are photographs of the existing lot and topographic maps (Attachments 1–2) depicting the general location and project area.

We respectfully request your review of the project area and issuance of a determination letter at your earliest convenience. Thank you in advance for your time and consideration of this request.

Very truly yours,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP

Juan Morado, Jr.

ATTACHMENT 6
Historic Preservation Act Requirements

Page 2

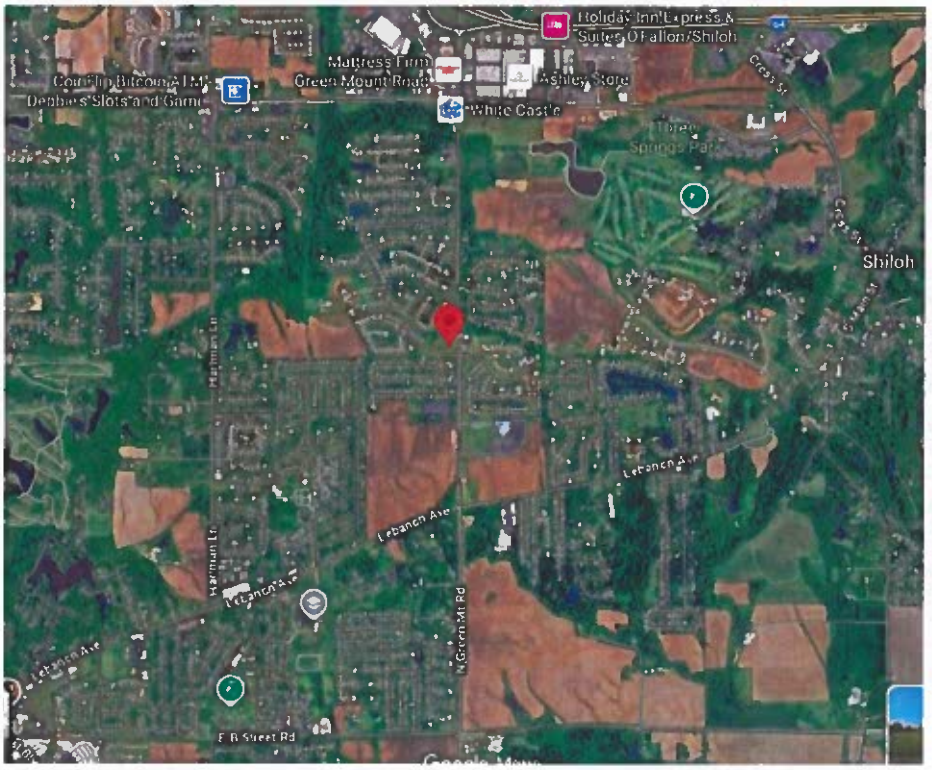
Historic Preservation Act Requirements

Topographic Map

ATTACHMENT 6
Historic Preservation Act Requirements

Page 3

3D Aerial Map



ATTACHMENT 6
Historic Preservation Act Requirements

Page 4

Street View

ATTACHMENT 7
Project Costs and Sources of Funds

Project Costs and Sources of Funds			
USE OF FUNDS	**CLINICAL**	**NONCLINICAL**	**TOTAL**
Preplanning Costs	-	-	-
Site Survey and Soil Investigation	-	-	-
Site Preparation	-	-	-
Off Site Work	-	-	-
New Construction Contracts	$2,240,459	$1,140,278	$3,380,737
Modernization Contracts	-	-	-
Contingencies	$215,000	$113,000	$328,000
Architectural/Engineering Fees	$215,000	$150,000	$365,000
Consulting and Other Fees	$50,000	$50,000	$100,000
Movable or Other Equipment (not in construction contracts)	$500,000	$300,000	$800,000
Bond Issuance Expense (project related)	-	-	-
Net Interest Expense During Construction (project related)	$50,000	$25,000	$75,000
Fair Market Value of Leased Space or Equipment	-	-	-
Other Costs to Be Capitalized			
Acquisition of Building or Other Property (excluding land)	-	-	-
TOTAL USES OF FUNDS	$3,270,459	$1,778,278	$5,048,737
SOURCE OF FUNDS	**CLINICAL**	**NONCLINICAL**	**TOTAL**
Cash and Securities	$100,000	$50,000	$150,000
Pledges			
Gifts and Bequests			
Bond Issues (project related)			
Mortgages	$3,170,459	$ 1,728,278	$4,898,737
Leases (fair market value)			
Governmental Appropriations			
Grants			
Other Funds and Sources			
TOTAL SOURCES OF FUNDS	**$3,270,459**	**$1,778,278**	**$5,048,737**
NOTE: ITEMIZATION OF EACH LINE ITEM MUST BE PROVIDED AT ATTACHMENT 7, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.			

ATTACHMENT 7
Project Costs and Sources of Funds

New Construction Contracts - The proposed project involves the construction and build-out of a new ambulatory surgical treatment center specializing in ophthalmology. New construction costs include general contractor services, labor, materials, and all work necessary to complete the clinical and non-clinical components of the facility, including operating rooms, recovery areas, support spaces, and administrative areas. Total new construction costs are estimated at $3,380,737, consisting of $2,240,459 in clinical space and $1,140,278 in non-clinical space. These costs are based on current market construction pricing for outpatient surgical facilities and reflect the specialized infrastructure required for ophthalmologic procedures.

Contingencies - Contingency costs are included to address unforeseen conditions or changes that may arise during construction and are not otherwise covered under the construction contracts. These costs provide flexibility to manage minor scope adjustments, material price fluctuations, or site-related issues without delaying project completion. Total contingency costs are estimated at $215,000 for the reviewable portion of the project, representing approximately 9.5% of total construction costs.

Architectural and Engineering Fees - Architectural and engineering fees include costs associated with design development, construction documents, engineering coordination, code compliance, and oversight throughout the construction process. These services ensure that the facility meets all applicable building, life safety, and health care design requirements. Total architectural and engineering fees for the reviewable portion of the project are $215,000, representing 9% of the total clinical construction and contingency costs.

Consulting and Other Fees - Consulting and other fees include project-related professional services and regulatory expenses necessary to advance the project to completion. These costs include Certificate of Need–related expenses, permitting, legal and consulting services, and other professional fees required for project development and compliance. Total consulting and other fees are estimated at $100,000, evenly allocated between clinical and non-clinical components of the project.

Movable or Other Equipment - Movable equipment costs include all clinical and non-clinical equipment necessary for the operation of the ambulatory surgical treatment center that is not included in the construction contracts. Clinical equipment includes ophthalmologic surgical equipment, instrumentation, procedure room equipment, and recovery area furnishings. Non-clinical equipment includes furniture, fixtures, information technology hardware, and administrative equipment. Total movable equipment costs are estimated at $800,000.

Net Interest Expense During Construction - Net interest expense during construction reflects financing costs incurred during the construction period prior to the facility becoming operational. These costs are directly attributable to the project and are capitalized in accordance with applicable accounting standards. It is estimated that total net interest expense during construction is estimated at $75,000.

ATTACHMENT 8
Project Status and Completion Schedules

The proposed project involves new construction on a vacant lot. The proposed project completion date is based on construction of the facility, successful completion of surveys and issuance of a license by the Illinois Department of Public Health of the facility to perform Ophthalmology Services. It is anticipated that the Applicant can complete these steps by July 1, 2027.

ATTACHMENT 9
Cost Space Requirements

		Gross Square Feet		Amount of Proposed Total Gross Square Feet That Is:			
Dept. / Area	**Cost**	**Existing**	**Proposed**	**New Const.**	**Modernized**	**As Is**	**Vacated Space**
REVIEWABLE							
ASTC	$3,270,459	-	4,973	4,973	-	-	-
Total Clinical	$3,270,459	-	4,973	4,973	-	-	-
NON-REVIEWABLE							
Administrative	$1,778,278	-	2,531	2,531	-	-	-
Total Non-clinical	$1,778,278	-	2,531	2,531	-	-	-
TOTAL	**$5,048,737**	**-**	**7,504**	**7,504**	**-**	**-**	**-**

APPEND DOCUMENTATION AS ATTACHMENT 9, IN NUMERIC SEQUENTIAL ORDER AFTER THE LAST PAGE OF THE APPLICATION FORM.

ATTACHMENT 11
Background of the Applicant

The following information is provided to illustrate the qualifications, background and character of the Applicant, and to assure the Health Facilities and Services Review Board that the new ASTC will provide a proper standard of health care services for the community.

1. The proposed project is brought forth by Eye Surgery Specialists, LLC. Whitney TK Marlow, M.D. is the sole and majority owner of Eye Surgery Specialists, LLC. The ownership of facility is reflected in Attachment 4.

2. Dr. Marlow does not have a direct ownership interest in any other health care facility in Illinois. The Applicant certifies that there have been no adverse actions taken during the three (3) years prior to filing of this application. A letter certifying to the above information is included at Attachment 11.

3. We have included a letter authorizing access to the HFSRB and IDPH to verify information contained in the application at Attachment 11.

Eye Surgery Specialists, LLC

The proposed project is brought forth by Eye Surgery Specialists, LLC, an Illinois limited liability company solely owned by Dr. Whitney TK Marlow, M.D. Dr. Marlow would serve as the sole owner and Medical Director of the proposed Ambulatory Surgical Treatment Center ("ASTC"), and would be responsible for the clinical oversight and operational direction of the facility.

Dr. Marlow is a board-certified ophthalmologist with the American Board of Ophthalmology and is a member of the American Academy of Ophthalmology and the American Society of Cataract and Refractive Surgeons. She practices comprehensive ophthalmology with a clinical focus on advanced cataract surgery technologies, including premium intraocular lenses and customized surgical approaches tailored to individual patient needs and lifestyles. In addition to cataract surgery, Dr. Marlow provides a broad range of ophthalmologic services, including minimally invasive glaucoma surgery (MIGS), corneal procedures such as superficial keratectomies, and oculoplastic procedures including the excision of benign eyelid lesions.

Dr. Marlow received her Doctor of Medicine degree from Southern Illinois University School of Medicine, where she was inducted into the Alpha Omega Alpha Medical Honor Society, recognizing academic excellence and professional integrity. She completed her preliminary internal medicine internship at SIU School of Medicine/HSHS St. John's Hospital before pursuing specialized training in ophthalmology at Saint Louis University School of Medicine. During her ophthalmology residency, Dr. Marlow served as Chief Resident and was awarded the S. Harrison Jerrold Award for Outstanding Resident, reflecting her clinical aptitude, leadership skills, and commitment to excellence in patient care.

While at Saint Louis University, Dr. Marlow was actively involved in academic instruction and curriculum development, including contributions to the ocular pathology curriculum and the medical student introduction to ophthalmology clinical course. She also participated in clinical research and scholarly presentations addressing a range of ophthalmologic conditions, including glaucoma, retinal disease, and complex anterior segment pathology, with presentations at national and regional professional meetings.

Following completion of her residency training, Dr. Marlow elected to return to southern Illinois, where she currently resides in New Baden, the community in which she was born and raised. Since joining Ideal Eye Surgery in May 2020, Dr. Marlow has been instrumental in expanding access to comprehensive ophthalmologic care throughout the region. Consistent with the Southern Illinois University School of Medicine's mission to optimize the health of the people of central and southern Illinois, she has helped establish and maintain multiple satellite clinic locations, allowing patients, particularly elderly and mobility limited individuals the opportunity to receive high-quality ophthalmologic evaluation and follow-up care closer to home.

ATTACHMENT 11
Background of the Applicant

Dr. Marlow's clinical practice has demonstrated sustained demand across a wide geographic area, with patients currently receiving surgical services at multiple hospitals and ambulatory surgical centers. The proposed ASTC represents a natural extension of this existing practice model and is intended to consolidate and enhance surgical care delivery by providing a dedicated, ophthalmology-focused surgical environment equipped with advanced technology.

In addition to her clinical responsibilities, Dr. Marlow is actively engaged in community leadership and public health service. She serves as a Vice Chair of the Clinton County Board of Health, where she contributes to public health planning and oversight. She is also a member of the New Baden Park Boosters, where she played a leading role in the successful design, fundraising, and construction of an inclusive community playground, serving as lead grant writer and helping secure funding exceeding $500,000. These roles reflect Dr. Marlow's longstanding commitment to community investment, collaboration, and service beyond the clinical setting.

Through her education, training, clinical experience, and deep ties to southern Illinois, Dr. Marlow brings the expertise, leadership, and community-based perspective necessary to successfully develop and operate the proposed ambulatory surgical treatment center. The project reflects her continued commitment to improving access to high-quality ophthalmologic care in rural and underserved communities and represents a logical and responsible evolution of services already being provided to the region.

ATTACHMENT 11
Background of the Applicant

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Illinois Health Facilities and Service Review Board
525 West Jefferson Street, 2nd Floor
Springfield, Illinois 62761

Re: Eye Surgery Specialists, LLC – Certification and Authorization

Dear Mr. Kniery,

As a representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, give authorization to the Health Facilities and Services Review Board and the Illinois Department of Public Health ("IDPH") to access documents necessary to verify the information submitted including, but not limited to: official records of IDPH or other state agencies, the licensing or certification records of other states, and the records of nationally recognized accreditation organizations.

I further verify that Eye Surgery Specialists, LLC, has no ownership interest in any other healthcare facility.

I hereby certify this is true and based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 11
Background of the Applicant

Whitney TK Marlow, M.D.
PO Box 54 · New Baden, IL 62265

Phone (618) 920-6605 · Email drmarlow@idealeyesurgery.com

Employment

May 18th, 2020 – Current

Ideal Eye Surgery

- Comprehensive Ophthalmologist

July 8, 2019 – February 13, 2020

Quantum Vision Centers

- Comprehensive Ophthalmologist

July 1, 2016 – June 30, 2019

Saint Louis University School of Medicine

- Resident Physician – Ophthalmology
- Chief Resident June 2018 – June 2019

SIU School of Medicine/HSHS St. John's Hospital, Springfield, Illinois

- Resident Physician – Preliminary Internal Medicine

June 2005 – April 2015

Lebanon Optometric Center

- Secretary, transcribed charts into electronic health records system

Education

July 1, 2016 – June 30, 2019

Saint Louis University Department of Ophthalmology

- Ophthalmology Residency

August 2011 – May 2015

Southern Illinois University School of Medicine

- Doctor of Medicine

August 2006 – May 2010

Illinois Wesleyan University, Bloomington, Illinois

- Bachelor of Science, Biology, Magna cum laude
- Minor in Psychology

ATTACHMENT 11
Background of the Applicant

Professional Memberships

American Board of Ophthalmology – Board Certified

American Academy of Ophthalmology

American Society of Cataract and Refractive Surgeons

Community Involvement

New Baden Park Boosters

- Member June 2020 to current
- Playground Committee – Successfully designed, fundraised for, and built an inclusive playground for children of all ability levels for the village of New Baden with total costs of just over $500,000
- Lead Grant Writer – September 2024 to current

Clinton County Board of Health

- Member - July 2023 to current
- Vice Chair - May 2024 to current

Awards

S. Harrison Jerrold Award for the Outstanding Resident, Saint Louis University Department of Ophthalmology

Alpha Omega Alpha Medical Honor Society – Selected senior year of medical school

Academic Scholarship – Illinois Wesleyan University

Phi Eta Sigma Honor Society – Illinois Wesleyan University

Research

Marlow, W., Patel, N., Shields, S., Pi, C., *Needle Revision of Filtering Blebs with Mitomycin C: Outcomes and Safety Profile*. Presented at Saint Louis University Alumni Day on June 15, 2019. Poster accepted to AGS 2020 National Meeting.

Marlow, W., Shields, S., *Myopia in Retinopathy of Prematurity and Association with Angle Closure Glaucoma.* Presented at Saint Louis University Alumni Day on June 16, 2018

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Marlow, W., Dodwell, D., *Efficacy, safety, and reinjection interval of 8 or more Ozurdex dexamethasone intravitreal implants for the treatment of macular edema secondary to retinal vein occlusion*. Poster presentation May 5, 2015 at ARVO Annual Meeting in Denver, Colorado.

Presentations

January 4, 2016 Saint Louis University Department of Ophthalmology Grand Rounds
Acute Angle Closure Glaucoma: A Review of Management Recommendations

May 12, 2017 Saint Louis University Department of Ophthalmology Grand Rounds
Atypical Orbital Pseudotumor; A Slow, Painless Presentation

October 11, 2017 Saint Louis University Department of Ophthalmology Grand Rounds
Telemedicine in Ophthalmology

November 6, 2017 Washington University Combined Neuro-Ophthalmology Rounds
Miller Fisher Syndrome

December 4, 2017 Washington University Combined Neuro-Ophthalmology Rounds
Oculopalatal Myoclonus

February 7, 2018 Saint Louis University Department of Ophthalmology Grand Rounds
Ophthalmologic Considerations in the Pregnant Patient

July 18, 2018 Saint Louis University Department of Ophthalmology Grand Rounds
Orbital Compartment Syndrome Following Rapid Correction of Hyperglycemia

October 31, 2018 Saint Louis University Department of Ophthalmology Grand Rounds
Choroidal Manifestations of Mycobacterium Chimaera Endocarditis

January 23, 2019 Saint Louis University Department of Ophthalmology Grand Rounds Dry Eye Syndrome: Expanding Management Options

ATTACHMENT 12
Purpose of the Project

The Applicants seek authority to establish a single-specialty, ophthalmology-focused ambulatory surgical treatment center ("ASTC") to serve the residents of the defined geographic service area. The proposed facility will be located at 847 N. Green Mount Road, Shiloh, Illinois, and will provide specialized ophthalmologic surgical care, including but not limited to cataract, glaucoma, corneal, and oculoplastic procedures.

The Geographic Service Area ("GSA"), as defined by 77 Ill. Adm. Code §1100.510(d), extends to a 17-mile radius from the proposed facility site. This area is centered on communities within St. Clair County, with delineated boundaries extending north to Glen Carbon (62034), east to Aviston (62216), south to Smithton (62285), and west to East Saint Louis (62201). This communities along with portions of the St. Louis metropolitan area make up the proposed facility's' market area.

Despite a significant and growing population with eye disease, the GSA currently lacks sufficient local surgical capacity for specialized ophthalmologic procedures. While routine cataract care is available, access to advanced corneal, glaucoma, and oculoplastic surgical services requires patients to travel outside the GSA, often to the St. Louis metropolitan area. These centers can be difficult for many patients to access due to limited transportation, personal mobility challenges, and the practical burdens of travel for elderly patients. This gap in local surgical care results in delayed treatment, potentially worsening visual outcomes and increasing the burden on patients, caregivers, and caregivers' families. The absence of local operating room availability appropriate for ophthalmologic surgery further exacerbates these barriers. The proposed project's location in Shiloh would be in close proximity to public transportation through the MetroBus 15 Belleville-Shiloh-O'Fallon line.

The lack of a dedicated ophthalmology-specific ASTC within the GSA limits the capacity for efficient, cost-effective surgical delivery. Hospital operating rooms are less accessible for routine and subspecialty ophthalmologic cases due to competing surgical priorities and scheduling limitations. This results in longer wait times for surgery and greater reliance on distant surgical facilities.

Currently, there is only a single oculoplastic surgeon practicing within the GSA, requiring patients to seek care outside the service area. Improved access to oculoplastic surgical services will enhance both visual function and overall quality of life for patients throughout the region. While eyelid and brow procedures are sometimes perceived as cosmetic, functional eyelid ptosis and brow droop can significantly restrict peripheral vision, interfere with daily activities, and increase safety risks, particularly with respect to driving. Currently, patients requiring some of these specialty services must travel to the St. Louis metropolitan area, where appointment availability is limited and travel itself presents a substantial barrier for elderly patients, many of whom are unable to drive in an urban environment. These factors contribute to delays in diagnosis and treatment of conditions that directly affect vision and safety.

Cataracts remain the leading cause of visual impairment worldwide and within the United States, with untreated cataracts resulting in progressive vision loss if surgery is delayed. Without surgery, most cataracts worsen over time, leading to diminished visual function and reduced quality of life. Early intervention through surgery is widely recognized as an effective means of restoring useful vision in over 85% of cases. These outcomes have important implications for individual health and healthcare resource utilization. Cataract surgery is widely recognized as a cost-effective intervention compared with many other medical and surgical procedures and yields measurable improvements in quality of life. Untreated visual impairment contributes to higher health system costs due to falls, emergency care, and disability, whereas timely surgical care can reduce these downstream expenditures.

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Purpose of the Project

Vision plays a critical role in an individual's ability to safely and effectively interact with their environment, and visual impairment has been consistently associated with adverse health outcomes among older adults. Numerous studies demonstrate a clear relationship between untreated cataracts, increased fall risk, and subsequent injury. An observational study by Palagyi et al. (2017) found that among patients with visually significant cataracts, fall rates declined by approximately 33% following surgical treatment of at least one eye, after controlling for confounding factors such as age, sex, activity level, and medication use. Additional research has identified a significantly increased risk of fall-related fractures among individuals with cataract-related visual impairment, with a reported hazard ratio of 1.28 (Tsang et al., 2024).

Beyond injury risk, untreated cataracts have also been linked to increased mortality. A large Medicare-based study demonstrated that patients who underwent cataract surgery experienced a 27% reduction in long-term mortality compared to those who did not receive surgical treatment (Tseng et al., 2016). These findings underscore the broader public health implications of timely access to cataract surgery, extending beyond vision restoration to include improvements in safety, functional independence, and overall survival.

Demographic trends further amplify the importance of expanding access to surgical eye care. The youngest members of the Baby Boomer generation will reach age 65 in 2029, signaling a substantial increase in the population at risk for cataract-related visual impairment. Without proactive expansion of surgical capacity, delays in care may increase, placing additional strain on patients, caregivers, and the healthcare system. The proposed project is intended to address this emerging demand by improving timely access to cataract surgery within the Geographic Service Area.

Glaucoma represents one of the leading causes of irreversible blindness in the United States and poses a particular burden on certain populations. African Americans are disproportionately affected, with significantly higher rates of diagnosis and earlier disease onset compared to other racial and ethnic groups. Within the GSA, access to advanced glaucoma care is severely constrained. There is only one fellowship-trained glaucoma specialist serving the area, who also represents the only such specialist south of Springfield, Illinois. This very real access issue combined with the overwhelming demand, has resulted in patients being referred to distant markets such as St. Louis or Peoria. Although Ideal Eye Surgery has recruited a fellowship-trained glaucoma specialist capable of providing advanced surgical interventions, the delivery of these services is currently limited by the lack of dedicated operating room availability within the GSA. Glaucoma surgery requires specialized instrumentation and staff training that are not readily accommodated in multi-specialty surgical environments, making a dedicated ophthalmology-focused ASTC the most effective and timely solution for addressing this unmet need.

Similarly, the provision of surgical correction of refractive error is constrained by the need for specialized training, technology, and surgical infrastructure. Reduction of visual impairment due to uncorrected refractive error is a stated priority of the U.S. Department of Health and Human Services' Healthy People 2030 initiative, and the proposed facility will directly support this objective. Surgeons utilizing the proposed ASTC will be able to employ a comprehensive range of refractive surgical techniques, including advanced intraocular lens implantation, image-guided astigmatism correction performed at the time of cataract surgery, phakic intraocular lenses, and laser vision correction procedures. Establishing local operative capacity for these services will reduce the need for patients to travel outside the GSA and will improve timely access to vision-restoring care within the Metro East and surrounding communities.

ATTACHMENT 12
Purpose of the Project

Furthermore, the facility intends to recruit a full-time cornea specialist to provide advanced corneal care, including corneal transplantation and other complex anterior segment procedures. This specialist will supplement the limited part-time corneal coverage currently available to the entire Metro East region and will substantially enhance local access to specialized corneal services that are otherwise unavailable within the GSA.

The delivery of ophthalmologic surgical services in an ambulatory surgical treatment center offers a cost-effective alternative to hospital-based outpatient surgery while maintaining high standards of quality and safety. For common ophthalmologic procedures such as cataract extraction (CPT 66984), Medicare reimbursement rates in 2025 are approximately 46.7% higher when the procedure is performed in a hospital outpatient department (HOPD) as compared to an ASTC. Similar reimbursement differentials exist across many private insurance plans.

Because patient cost-sharing obligations are directly tied to facility fees, procedures performed in an ASTC generally result in lower out-of-pocket costs for patients as well. As the population requiring cataract surgery continues to grow, ensuring adequate ASTC capacity is critical not only for patient convenience and access, but also for minimizing unnecessary healthcare expenditures. The proposed facility will allow cataract and other ophthalmologic procedures to be performed in a setting that is clinically appropriate, operationally efficient, and financially responsible, benefiting patients, payors, and the healthcare system as a whole.

The proposed ASTC will improve healthcare access, quality, and patient well-being in the GSA by increasing local access to specialized ophthalmologic surgical care. By creating a facility dedicated to eye surgery, patients will no longer be required to travel significant distances for subspecialty services such as advanced glaucoma surgery, corneal transplantation, and oculoplastic procedures. It will also reduce wait times for surgical procedures. A dedicated ASTC will streamline scheduling for high-volume procedures such as cataract extraction and will create capacity for subspecialty care that is not readily available within the service area. Finally, it will improve patient safety and health outcomes. Expedited access to cataract surgery has been shown to reduce the frequency of falls in older adults, a critical outcome given the high morbidity and mortality associated with fall-related injuries.

The project has the overarching goal of improving access to ophthalmologic surgical services and enhancing patient health outcomes within the GSA. Measurable objectives include decreasing out-of-state referrals for corneal and glaucoma procedures, reducing wait times from initial evaluation to first available surgical date for cataract and corneal surgical procedures.

ATTACHMENT 12
Purpose of the Project

List of Sources

- Palagyi A, Morlet N, McCluskey P, et al. Visual and refractive associations with falls after first-eye cataract surgery. Journal of Cataract & Refractive Surgery. 2017;43(10):1313–1321. doi:10.1016/j.jcrs.2017.07.029. Demonstrates a 33% reduction in fall rates following cataract surgery, supporting the public health benefit of timely access to cataract surgery.

- Tsang JY, Wright A, Carr MJ, et al. Risk of Falls and Fractures in Individuals With Cataract, Age-Related Macular Degeneration, or Glaucoma. JAMA Ophthalmology. 2024;142(2):96–106. doi:10.1001/jamaophthalmol.2023.5858. Identifies an increased risk of fall-related fractures in patients with cataract-related visual impairment (HR 1.28).

- Tseng VL, Yu F, Lum F, Coleman AL. Cataract surgery and mortality in the United States Medicare population. Ophthalmology. 2016. Shows a 27% reduction in long-term mortality among Medicare beneficiaries who underwent cataract surgery.

- U.S. Department of Health and Human Services. Healthy People 2030 – Vision Objectives. Establishes national priorities to reduce untreated cataracts and reduce visual impairment due to uncorrected refractive error, directly supporting the project's goals.

- Heslep G. Family History, Ethnicity Give Insights into Glaucoma. Mayo Clinic Health System, January 24, 2024. Documents the disproportionate burden of glaucoma among African Americans, supporting the need for expanded local glaucoma services.

- Medicare Physician Fee Schedule & Outpatient Prospective Payment System (2025). Supports the cost-efficiency argument demonstrating higher reimbursement for hospital outpatient departments compared to ASTCs for cataract surgery (CPT 66984).

- St. Clair County Community Health Improvement Plan (2018–2023).

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Purpose of the Project

Hindawi
Journal of Ophthalmology
Volume 2022, Article ID 3091695, 7 pages
https://doi.org/10.1155/2022/3091695

Research Article

Global Prevalence of Fuchs Endothelial Corneal Dystrophy (FECD) in Adult Population: A Systematic Review and Meta-Analysis

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[2]*McKnght Vision Research Centre, Bascom Palmer Eye Institute, University of Miami, Miami, FL, USA*

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Academic Editor: Michele Figus

Purpose. To evaluate the global prevalence of Fuchs endothelial corneal dystrophy (FECD). *Design.* Systematic review and meta-analysis. *Methods.* A systematic electronic literature search was conducted on PubMed/MedLine, Cochrane Library, and Google Scholar, in order to select papers analysing the prevalence rate of FECD. Two authors independently conducted the electronic search. After removal of duplicates, title and abstract screening, and full-text analysis, data from selected articles were archived in a customized Excel spreadsheet. Risk of bias assessment was performed using the Joanna Briggs Institute Prevalence Critical Appraisal Tool. Meta-analysis was conducted using R (version 1.4.1106, package "meta"). *Results.* A total of 6660 eligible articles were retrieved from the initial electronic search. Only 4 original works were included in the qualitative and quantitative analysis. Of the 4746 patients included in this meta-analysis (i.e., 2232 male (M) and 2322 female (F)), we retrieved 269 FECD cases (81 M; 188 F), with a pooled prevalence estimates of 7.33% (95% CI: 4.08–12.8%). Statistically significant gender-related differences in the prevalence of FECD emerged by the analysis (OR: 2.22; 95% CI: 1.66–2.96, $p < 0.0016$). While the total number of people aged >30 years with FECD is nowadays estimated at nearly 300 million, an increase of 41.7% in the number of FECD-affected patients is expected by 2050, when the overall figure is supposed to rise up to 415 million. *Conclusion.* This study provides a reliable figure of the present and future epidemiological burden of FECD globally, which might be useful for the design of FECD screening, treatment, rehabilitation, and related public health strategies.

1. Introduction

Fuchs endothelial corneal dystrophy (FECD) is a bilateral disease of the corneal endothelium. It is characterized by a progressive and accelerated loss of corneal endothelial cells accompanied by a number of degenerative processes of the Descemet membrane (DM) [1]. This primarily includes the accumulation of an aberrant extracellular matrix (ECM) and the formation of posterior focal excrescences called guttae [1, 2]. Changes in quantity and quality of vision can eventually result due to the aforementioned DM changes as well as to the disruption of the corneal endothelial pump function, leading to corneal oedema, bullae formation, and late subepithelial fibrosis [2, 3].

While two different types of FECD exist, the late-onset form represents the most common, which is usually inherited in an autosomal dominant fashion with variable penetrance and expressivity [1, 2]. In addition, numerous ophthalmic and systemic conditions have been described to variably correlate with the presence of FECD (i e., hearing loss, cardiovascular disease, keratoconus, ocular hypertension, and macular drusen), whose expression has been

ATTACHMENT 12
Purpose of the Project

eventually reported to be more common in the female gender [1, 2]. However, the evaluation of the global epidemiologic features of the disease has been rendered overtly tough, due to the vast heterogeneity in the available prevalence estimates of the disease [4–7].

Thus, the aim of this meta-analysis is to estimate the cumulative global prevalence rate of FECD in the adult population. Our analysis will use the latest publicly available data to even predict the number of actual and future FECD-affected patients worldwide.

2. Materials and Methods

This study was conducted in strict compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines supplementary (S0) [8]. Neither institutional review board approval nor informed consent were required for this study, since all the reported data were obtained from the available published literature. The review protocol was submitted, revised, accepted, and published by the International Prospective Register of Systematic Reviews (PROSPERO) (ID: CRD42021284423).

2.1. Inclusion and Exclusion Criteria. The PICOS framework was used in developing the literature search strategy [9]. Specifically, the PICOS scheme was structured as follows: patients (P), male and female adults worldwide (>30 years); investigated condition (I), FECD defined as the presence of corneal guttae by slit lamp and/or by specular microscopy examination; comparator (C), healthy control; outcome (O), prevalence rate; study type (S), randomized controlled trials and large observational studies (i e., both prospective and retrospective).

Studies were excluded if they (a) were not in English, (b) were not available in full-text form, (c) < 70% of included patient assessments were directly performed by the investigators, (d) represented a subgroup analysis of patients from a larger study, (e) the article type was either a conference abstract, a review, a case report, a book chapter, or a letter to the editor. No publication date was imposed, but articles had to be published in a peer-reviewed journal.

2.2. Data Source and Study Searching. An electronic search was performed on PubMed/MEDLINE, Cochrane Library, and Google Scholar using relevant keywords, phrases, and medical subject headings (MeSH) terms. The search strategy applied for both databases was: "Fuchs Dystrophy" AND "prevalence." The "cited by" tool on Google Scholar was used to minimize the risk of missing relevant papers. The reference list of each selected article was checked to screen for additional potentially relevant studies (i e., snowballing method). The last search was carried out on December 1, 2021.

2.3. Data Extraction. Two reviewers independently conducted the electronic literature search (F.C. and F.A.). The reference lists from the 3 databases (i e., PubMed/MEDLINE, Cochrane Library, and Google Scholar) were merged and the duplicates removed using the reference management software EndNote X9 (version X9.3.3). Titles and abstracts of the remaining papers were screened. Whenever appropriate, the full texts of relevant articles underwent subsequent evaluation for eligibility. In the presence of eventual discrepancies, a third reviewer (C.N.) was consulted to solve the conundrum.

Per each study, the following outcome measures were retrieved: author and year of publication; country of origin; total number of screened subjects; number of FECD patients; and corresponding demographic features including age and sex. Data extracted from selected papers were archived by two independent reviewers (F.C. and F.A.) in a customized Excel (Microsoft Corp, Seattle, Washington, USA) spreadsheet with forced choice entry criteria. Corresponding authors of related articles were contacted in an attempt to obtain missing data. Whenever any outcome measure was not available, the relative study was excluded from the pooled analysis for that endpoint.

2.4. Risk of Bias and Study Quality Assessment. The Joanna Briggs Institute Prevalence Critical Appraisal Tool (JBI-PCAT) was used to evaluate the quality of the included studies by 3 reviewers (F.C., F.A., and G.G.A.) [10]. As recently proposed by the Prevalence Estimates Review-Systematic Review Methodology Group (PERSyst), the JBI-PCAT represents the most appropriate tool in assessing the methodological quality of prevalence studies [11].

2.5. Data Synthesis and Statistical Analysis. The analysis was performed using the R software for statistical computing (R 1.4.1106; "meta" package). Cochran's-Q was calculated as a measure of heterogeneity and checked by p value. We also reported I^2 statistic results, which quantify heterogeneity regardless of the number of included studies. Due to the high level of expected heterogeneity, the random-effects model was used, whose results are presented on forest plot graphs.

The maximum-likelihood estimator was used to estimate the between-study variance (τ^2).

Influence analysis was performed using the "InfluenceAnalysis" function in R, and a Baujat plot was consequently created.

Logit transformation (PLOGIT) of the data and a random intercept logistic regression model (GLMM) were carried out for the analysis of overall proportions, which were expressed in association with a 95% Clopper–Pearson confidence interval. Statistical significance was defined as $p < 0.01$.

According to the continent in which the study had been conducted, the included studies were classified into 5 groups: America, Asia, Europe, Africa, and Antarctica.

The population projection figures were retrieved from the United Nation World Population Prospects (UNWPP) [12], which consist of the latest results of national population surveys from countries worldwide and consider mortality and fertility rates in its projection of world population

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numbers. The estimated numbers of FECD patients were calculated by multiplying the age- and region-specific prevalence from our random-effects model and the corresponding population number.

3. Results

3.1. Electronic Database Search Results. Overall, 6660 eligible papers (i.e., 190 from PubMed/MedLine, 0 from Cochrane Library, and 6470 from Google Scholar) were retrieved from the preliminary search on electronic databases. Once the duplicates had been automatically removed and both titles and abstracts were screened, 20 full-text manuscripts were assessed for eligibility being considered appropriate for the present meta-analysis. Four articles were finally included in the qualitative and in the quantitative analysis, being conformed to the aforementioned eligibility criteria (Figure 1) [4–7]. The reasons justifying the exclusion of 16 studies are reported in Figure 1. The full list of the included studies and their general features are reported in Table 1.

3.2. Methodological Quality and Risk of Bias of Included Studies. A moderate-to-high quality of the included studies was generally evaluated by using the JBI-PCAT tool, as shown in supplementary S1. Globally, the studies showed an unclear description of the randomization protocol and an imprecise description of the recruited sample.

3.3. General Features of the Analysed Population. Globally, 4746 patients were included in this meta-analysis, of whom 2232 males (M) and 2322 female (F) (M/F = 1/1) (Table 1). All included studies (100%) provided data regarding mean age (standard deviation), which was globally assessed to be as high as 61.9 years old (95% CI: 58.8–65.2). Similarly, the gender-specific FECD prevalence figures were reported by the analysed papers, while the age-specific prevalence data could have been extracted by 2 studies only [4, 5]. In addition, one of the included studies [7] was found to evaluate FECD prevalence rates in 2 geographically distinct regions. Hence, we decided to split the results according to the different populations analysed, to provide a more accurate analysis and to simplify the presentation of the results.

3.4. FECD Prevalence Rate. Overall, 269 patients in our sample were found to be affected by FECD (81 males; 188 females). Globally, FECD prevalence rate, as assessed by this analysis, peaked up to 7.33% (95% CI: 4.08–12.8%). The heterogeneity variance among different studies was estimated at $\tau^2 = 0.463$, with an I^2 value of 95.5% (95% CI 92.2%–97.5%). Pooled results are reported in the forest plot presented in Figure 2. Age-weighted prevalence rates are summarized in Table 2. The funnel plot generated, which shows a high asymmetry, is shown in supplementary S2. The Peter's test was not run because of the low number of studies included [13]. Results deriving from the Baujat plot and the sensitivity analysis are reported in supplementary S3 and in supplementary S4.

3.5. Gender and Geographical Variation. Among the included articles, 4/4 (100%) reported FECD prevalence data by gender. Prevalence rates of FECD in male and female were registered to be as high as 4.58 (95% CI: 2.37–8.66) (supplementary S5) and 9.84 (95% CI: 5.95–15.83) (supplementary S6), respectively. In the included studies, female gender appears to be more commonly affected by FECD than male. Statistically significant gender-related differences in the prevalence of FECD emerged from the analysis (OR: 2.22; 95% CI: 1.66–2.96, $p = 0.0016$) (Figure 3).

Meaningful differences emerged from the analysis of prevalence data differences according to geographical localization, with the American continent featuring the highest prevalence rate of FECD (supplementary S7).

3.6. Number of People with FECD Worldwide from 2020 to 2050. As per the prevalence rate of FECD obtained by our random-effects model (7.33% (95% CI: 4.08–12.8%)) and the corresponding population number reported by the UNWPP data in 2020 (i.e., more than 4 billion), the total number of people aged >30 years with FECD is estimated at nearly 300 million. However, an increase of 41.7% in the number of people (aged >30 years) with FECD is expected by 2050, when the overall figure is supposed to rise up to 415 million.

4. Discussion

To the best of our knowledge, this work represents the first meta-analysis trying to ascertain the global prevalence of FECD in the adult population. Specifically, it is intended to provide comprehensive, up-to-date estimations on the current global FECD prevalence as well as to forecast projection figures of the number of FECD-affected patients in 2050.

Overall, we unfortunately found a modest number of epidemiological studies on the subject, the majority of whom were conducted in Asia. A full and representative coverage of all countries was not achieved. While this evidence substantially affects the reliability of our results, it must be also considered that our work, representing the first meta-analysis on the topic, is the only available one trying to define the effective worldwide prevalence and epidemiological burden of the disease.

Overall, we estimated the global prevalence of FECD to be as high as 7.33%, with the highest figures reported in North America, where the prevalence rate of the disease is reported to peak up to 21.62% (supplementary S7). However, this result is eventually biased by the specific setting chosen by Eghrari et al. in their study [4]. In fact, they conducted their analysis in Tangier, an island in Virginia, with a population of over 500 related individuals [4]. Hence, the overtly major prevalence of the disease in such a context might be easily explained by the highly conserved pedigree of the selected population as well as considering the genetic inheritance pattern of FECD [1, 2]. Coherently, the influence analysis shows Eghrari et al.'s study to substantially contribute to the overall heterogeneity of the proposed results, which appears to not reside when the same report is

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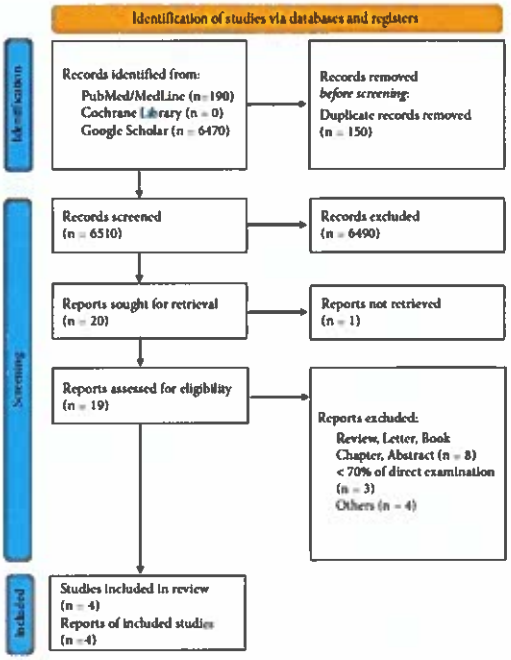

FIGURE 1: Preferred Reporting Items for Systematic Review and Meta-Analysis flowchart. Reasons for exclusion are step-by-step reported on the right.

TABLE 1: General features of the articles included in the qualitative and quantitative analysis.SD, standard deviation; FECD, Fuchs Endothelial Corneal Dystrophy; USA United States of America.

Author	Age (mean ± SD)	FECD patients	Patients (total)	FECD (male)	Male (total)	FECD (female)	Female (total)	Country
Eghrari et al. [4]	57	32	148	9	64	23	91	USA (Tangier island)
Higa et al. [5]	59.1 ± 14.9	124	3060	37	1513	87	1423	Japan
Zoega et al. [6]	70	71	774	24	315	47	384	Iceland
Kitagawa et al. [7]	62.1 ± 7.6	31	465	9	205	22	260	Singapore
Kitagawa et al. [7]	64.4 ± 8.1	11	299	2	135	9	164	Japan

removed from the pooled analysis (supplementary S4). These data strongly suggest that external modifiable and unmodifiable external factors are mainly responsible for the vast evidenced heterogeneity. As an example, the diverse genetic background specific for different population might eventually explain the possibility of regional variation in the number of FECD-affected patients, of whom few is known due to the paucity of available large epidemiologic studies on the topic.

With a total of 4 studies and more than four thousand pooled patients, our model was sufficiently powered to detect a difference between gender- and age-groups. In fact, our finding provides substantial evidence that females have a double the risk to develop FECD than the counterpart. Furthermore, we demonstrated that the odds for FECD tended to increase by a 1.2 factor when moving from the 30–50 to the 50–70 age group. Both these data are in absolute accordance with both the available genetic and pathophysiological mechanisms responsible for FECD genesis and development [1, 2]. In fact, as reported by Liu et al. in a murine in vivo model of FECD, the greater susceptibility of females than males to the development of the disease might

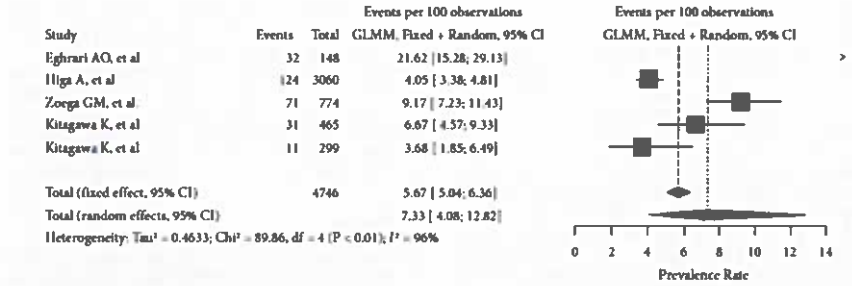

FIGURE 2: Forest plot reassuming the pooled estimate of Fuchs Endothelial Corneal Dystrophy prevalence rate. Both fixed and random-effects models are represented. GLMM, generalized linear mixed model.

TABLE 2: Age-weighted prevalence rates of Fuchs endothelial corneal dystrophy.

Group	Age (years)	No. of studies	FECD prevalence (%)	95% CI (%)
1	<50	2	7.17	1.79–24.70
2	50 to 69	2	9.20	2.40–29.47
3	>70	2	10.92	4.64–23.63

No., number; FECD, Fuchs endothelial corneal dystrophy; CI, confidence interval.

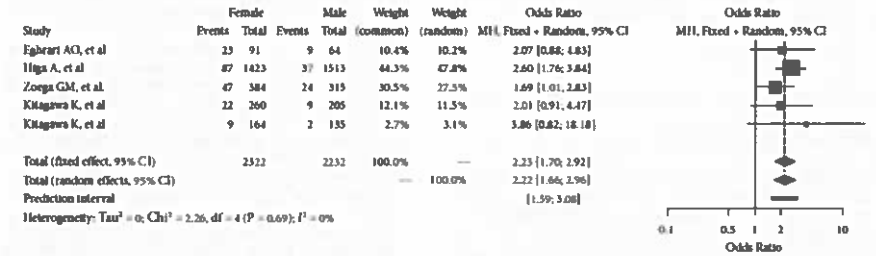

FIGURE 3: Gender-related prevalence rate of Fuchs endothelial corneal dystrophy in the adult population (>30 years old). Odds ratio is calculated and both fixed and random-effects models are represented. GLMM, generalized linear mixed model.

be at least explained by the higher levels of oestrogen DNA adducts in the former, responsible for the blockage of mitochondrial both metabolic and replicative processes [14, 15].

The number of people with FECD worldwide (>30 years) will increase from 300 million in 2020 to 415 million in 2050. This mainly results from the expected growth in the number of aged people, which is anticipated to variably affect all continents. In fact, while the United Nations probabilistic projections report only minor variations in the global amount of elderly people in Europe and in North America, the same population group is expected to increase more dramatically in Asia and in Africa because of the increased life expectancy in these regions [12]. Unfortunately, due to the modest number of studies included in this meta-analysis, we believed it was not useful to try to ascertain regional variation in the expected figures of FECD.

The strengths of our meta-analysis include a critical appraisal of study quality by the rigorously validated JBI-PCAT, strict application of inclusion and exclusion criteria and the application of a statistical significance criterium of 0.01 for a more conservative approach to the proposed results. Of note, only studies with a direct examination operated by the investigators >70% were included. Unfortunately, a reasonable coverage of all world regions was not possible, due to the spurious number of large epidemiological studies on the topic. A vast intercase heterogeneity eventually derived, which is in line with different other systematic reviews and meta-analysis of prevalence [15, 16]. Second, we excluded not-in-English publications in this review. Nevertheless, all not-in-English publications did not meet our inclusion criteria. Thus, exclusion of such publications is unlikely to result in a significant publication bias in our analysis.

Finally, in our projection of FECD numbers, the overall prevalence of the disease was assumed to remain constant over time. Nevertheless, the change of prevalence over time is difficult to quantify as it depends on changes of risk exposure and other external factors, such as public awareness of the condition, screening campaign, and diagnostic technological improvements which might in turn modify the clinical approach to the condition. As a fact, the recent implementation of deep learning algorithms has highlighted the potential of these tools in identifying early FECD cases, based on the analysis of one anterior segment-optical coherence scan without additional imaging modalities (e g., pachymetry, specular microscopy, and confocal microscopy) or other information [16]. The future adoption of such software in clinical practice might in turn determine an increase in the number of people with a diagnosis of FECD, due to the higher sensitivity of our diagnostic toolkit.

In conclusion, our study provides estimates that reflect the present and future burden of FECD globally. The findings of our analysis might be useful for the design of FECD screening, treatment, rehabilitation, and related public health strategies worldwide.

Data Availability

Previously reported data were used to support this study and are cited at relevant places within the text.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Supplementary Materials

Supplementary S0: PRISMA guidelines checklist. Specific page and lines are outlined per each specific item. Supplementary S1: risk of bias assessment according to the Joanna Briggs Institute Prevalence Critical Appraisal tool. (a) Was the sample frame appropriate to address the target population? (b) Were study participants recruited in an appropriate way? (c) Was the sample size adequate? (d) Were the study subjects and setting described in detail? (e) Was data analysis conducted with sufficient coverage of the identified sample? (f) Were valid methods used for the identification of the condition? (g) Was the condition measured in a standard, reliable way for all participants? (h) Was there appropriate statistical analysis? (I) Was the response rate adequate? and if not, was the low response rate managed appropriately? Supplementary S2: color-enhanced funnel plot demonstrating a marked asymmetry. Supplementary S3: Baujat plot representing single-study influence analysis on pooled results. Supplementary S4: results obtained by the influence analysis. Only a slight reduction in heterogeneity derives from removal of highly influent studies. FECD, Fuchs endothelial corneal dystrophy; CI, confidence interval. Supplementary S5: prevalence rate of Fuchs endothelial corneal dystrophy in the adult male population (>30 years old). Both fixed and random-effects models are represented. GLMM, generalized linear mixed model. Supplementary S6: prevalence rate of Fuchs endothelial corneal dystrophy in the adult female population (>30 years old). Both fixed and random effect models are represented. GLMM, generalized linear mixed model. Supplementary S7: geographic variation of Fuchs endothelial corneal dystrophy prevalence rate. As evident, an unequal distribution of studies across the 5 continents exists. Both fixed and random-effects models are represented. GLMM, generalized linear mixed model. (*Supplementary Materials*)

References

[1] S. Ong Tone, V. Kocaba, M. Böhm, A. Wylegala, T. L. White, and U. V. Jurkunas, "Fuchs endothelial corneal dystrophy: the vicious cycle of Fuchs pathogenesis," *Progress in Retinal and Eye Research*, vol. 80, Article ID 100863, 2021.

[2] M. Matthaei, A. Hribek, T. Clahsen, B. Bachmann, C. Cursiefen, and A. S. Jun, "Fuchs endothelial corneal dystrophy: clinical, genetic, pathophysiologic, and therapeutic aspects," *Annual Review of Vision Science*, vol. 5, no. 1, pp. 151–175, 2019.

[3] N. Okumura, R. Minamiyama, L. T. Ho et al., "Involvement of ZEB1 and Snail1 in excessive production of extracellular matrix in Fuchs endothelial corneal dystrophy," *Laboratory Investigation*, vol. 95, no. 11, pp. 1291–1304, 2015.

[4] A. O. Eghrari, E. J. McGlumphy, B. W. Iliff et al., "Prevalence and severity of fuchs corneal dystrophy in Tangier Island," *American Journal of Ophthalmology*, vol. 153, no. 6, pp. 1067–1072, 2012.

[5] A. Higa, H. Sakai, S. Sawaguchi et al., "Prevalence of and risk factors for cornea guttata in a population-based study in a southwestern island of Japan," *Archives of Ophthalmology*, vol. 129, no. 3, pp. 332–336, 2011.

[6] G. M. Zoega, A. Fujisawa, H. Sasaki et al., "Prevalence and risk factors for cornea guttata in the Reykjavik Eye Study," *Ophthalmology*, vol. 113, no. 4, pp. 565–569, 2006.

[7] K. Kitagawa, M. Kojima, H. Sasaki et al., "Prevalence of primary cornea guttata and morphology of corneal endothelium in aging Japanese and Singaporean subjects," *Ophthalmic Research*, vol. 34, no. 3, pp. 135–138, May-Jun 2002.

[8] M. J. Page, J. E. McKenzie, P. M. Bossuyt et al., "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews," *BMJ*, vol. 372, p. n71, 2021.

[9] M. B. Eriksen and T. F. Frandsen, "The impact of patient, intervention, comparison, outcome (PICO) as a search strategy tool on literature search quality: a systematic review," *Journal of the Medical Library Association*, vol. 106, no. 4, pp. 420–431, 2018.

[10] Z. Munn, S. Moola, D. Riitano, and K. Lisy, "The development of a critical appraisal tool for use in systematic reviews addressing questions of prevalence," *International Journal of Health Policy and Management*, vol. 3, no. 3, pp. 123–128, 2014.

[11] C. B. Migliavaca, C. Stein, V. Colpani, Z. Munn, and M. Falavigna, "Quality assessment of prevalence studies: a systematic review," *Journal of Clinical Epidemiology*, vol. 127, pp. 59–68, 2020.

[12] United Nations-Department of Economic and Social Affairs, "World population Prospects," 2019.

[13] J. L. Peters, A. J. Sutton, D. R. Jones, K. R. Abrams, and L. Rushton, "Comparison of two methods to detect publication bias in meta-analysis," *JAMA*, vol. 295, no. 6, pp. 676–680, 2006.

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[14] C. Liu, T. Miyajima, G. Melangath et al., "Ultraviolet a light induces DNA damage and estrogen-DNA adducts in Fuchs endothelial corneal dystrophy causing females to be more affected," *Proceedings of the National Academy of Sciences*, vol. 117, no. 1, pp. 573–583, 2020.

[15] A. Halilovic, T. Schmedt, A. S. Benischke et al., "Menadione-induced DNA damage leads to mitochondrial dysfunction and fragmentation during rosette formation in fuchs endothelial corneal dystrophy," *Antioxidants and Redox Signaling*, vol. 24, no. 18, pp. 1072–1083, 2016.

[16] T. Eleiwa, A. Elsawy, E. Ozcan, and M. Abou Shousha, "Automated diagnosis and staging of Fuchs' endothelial cell corneal dystrophy using deep learning," *Eye and Vision*, vol. 7, no. 1, p. 44, 2020.

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Grant Heslep, M.D.
Ophthalmology & Optometry (Eyes)

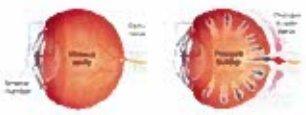
SPEAKING OF HEALTH | WEDNESDAY, JANUARY 24, 2024

Family history, ethnicity give insights into glaucoma

Glaucoma has been called the silent thief of sight because its onset can be so gradual that you may not notice changes in your vision until the disease is in its later stages. About 3 million people in the U.S. have glaucoma. Half of those people don't know they have the condition.

How glaucoma affects your vision

Glaucoma is a group of eye conditions that damages the optic nerve, which sends visual information from your eye to your brain and is vital for good vision. Damage to the optic nerve often is related to high pressure in your eye.



There are six common types of glaucoma:

1. Open-angle is the most common type. There are no symptoms in the early stages, but patchy blind spots may begin

2. Acute angle-closure glaucoma can be marked by severe headaches, eye pain, blurred vision, halos or colored rings around lights, eye redness and nausea.
3. Normal-tension glaucoma doesn't have symptoms in the early stages, and there is no indication as to why the optic nerve is damaged despite normal pressure. Peripheral vision decreases and side vision can be lost.
4. Pigmentary glaucoma symptoms include halos around lights, blurred vision with exercise and loss of side vision. It can affect young, healthy people who are nearsighted.
5. Glaucoma also occurs in children, including infants. Babies may have dull or cloudy eyes, increased blinking and tears without crying. Older children may experience blurred vision, nearsightedness that gets worse and headaches.
6. Pseudoexfoliative glaucoma is more common in people from northern Europe. White, powdery deposits can form on the lens and iris of those affected by this type of glaucoma.

Who is at risk for glaucoma?

Anyone can get glaucoma, but African Americans over age 40, all people over age 60 and those with a family history of glaucoma or diabetes are at higher risk.

After cataracts, glaucoma is the leading cause of blindness among African Americans, who are six to eight times more likely to get the disease than white people. African Americans also tend to get glaucoma about 10 years sooner than other ethnic groups. That's why it's crucial for them to get a comprehensive eye exam to check for glaucoma after age 35 or sooner if they have diabetes.

Risk factors for African Americans include those who:

- Are over 40
- Are extremely nearsighted
- Have diabetes
- Have high blood pressure
- Use steroids, such as those for controlling asthma, for a prolonged time

Other ethnic groups, including Hispanics and Asians, also are at greater risk for the disease.

In African Americans, genetic factors may be associated with their higher prevalence of glaucoma, as well as cultural factors such as lower rates of regular eye exams and less access to vision care.

How glaucoma is detected

A regular comprehensive eye exam can detect glaucoma in its early stages before significant damage to the optic nerve occurs. Your age and the presence of symptoms determine the frequency of eye exams.

Here's the recommended timing for having an eye exam:

- Under age 40 — every 5–10 years
- Ages 40–54 — every 2–4 years
- Ages 55–64 — every 1–3 years
- Age 65 and older — every 1–2 years

Diagnosing glaucoma isn't always easy, so your eye care professional will look at many factors before making decisions

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A typical comprehensive eye exam includes five tests that determine your eye health by:

1. Checking the complete field of vision, including side and central vision.
2. Evaluating the shape and color of the optic nerve by dilating the pupil.
3. Measuring the angle in the eye where the iris meets the cornea.
4. Measuring the inner eye pressure.
5. Measuring the thickness of the cornea.

Treating and preventing glaucoma

If you have glaucoma, the primary treatment is prescription eye drops or laser treatment that can stop the condition from progressing and preserve your vision. If you've been prescribed eye drops, be sure to take them even if you don't have symptoms.

While there's no cure for glaucoma, you can take steps to prevent this condition, including:

- Know your family history. Since glaucoma tends to run in families, you may need more frequent eye exams.
- Schedule regular eye exams based on your age and symptoms.
- Wear eye protection, because glaucoma can be caused by a serious eye injury, especially from sports, such as baseball or boxing.

Consider enrolling in a glaucoma clinical trial, especially if you're African American, to help determine its causes and spur the development of new treatments and technologies.

Grant Heslep, M.D., is an ophthalmologist in Owatonna, Minnesota.

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Visual and refractive associations with falls after first-eye cataract surgery

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Affiliations + expand

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Abstract

Purpose: To clarify the effect of first-eye cataract surgery on the incidence of falls and identify components of visual function associated with fall risk.

Setting: Eight public hospital eye clinics in Sydney, Melbourne, and Perth, Australia.

Design: Prospective cohort study.

Methods: The study recruited patients who had bilateral cataract, were aged 65 years or older, and were on public hospital cataract surgery waiting lists. Comprehensive assessments of vision, physical function, and exercise activity were performed before and after first-eye cataract surgery. Falls were reported prospectively for up to 2 years and associations with falls were assessed using generalized linear mixed models.

Results: Of the 329 patients recruited, 196 (66.6%) completed first-eye surgery within the study period. First-eye cataract surgery reduced incident falls by 33% (adjusted incidence rate ratio 0.67; 95% confidence interval [CI], 0.49-0.92; P = .01). Poorer dominant-eye visual acuity was associated with falls during the study timeline (incidence rate ratio, 2.20; 95% CI, 1.02-4.74; P = .04). Patients with larger than a spherical equivalent of ±0.75 diopter change in the spectacle lens (operated eye) had a 2-fold greater incidence of falls in the period after first-eye cataract surgery than those with less or no change in lens power (incidence rate ratio, 2.17; 95% CI, 1.23-3.85; P = .008).

Conclusions: First-eye cataract surgery significantly reduced incident falls. Major changes in the dioptric power of spectacle correction of the operated eye after surgery increased the fall risk. Cautious postoperative refractive management is important to maximize the benefit of cataract surgery as a fall-prevention measure.

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JAMA Ophthalmology | Original Investigation

Risk of Falls and Fractures in Individuals With Cataract, Age-Related Macular Degeneration, or Glaucoma

Jung Yin Tsang, MRes; Alison Wright, PhD; Matthew J. Carr, PhD; Christine Dickinson, PhD; Robert A. Harper, PhD; Evangelos Kontopantelis, PhD; Tjeerd Van Staa, MD; Luke Munford, PhD; Thomas Blakeman, PhD; Darren M. Ashcroft, PhD

Invited Commentary page 106

Supplemental Content

IMPORTANCE Three leading disease causes of age-related visual loss are cataract, age-related macular degeneration (AMD), and glaucoma. Although all 3 eye diseases have been implicated with falls and fracture risk, evidence is mixed, with the contribution of different eye diseases being uncertain.

OBJECTIVE To examine whether people with cataract, AMD, or glaucoma have higher risks of falls or fractures than those without.

DESIGN, SETTING, AND PARTICIPANTS This cohort study was a population-based study in England using routinely collected electronic health records from the Clinical Practice Research Datalink (CPRD) GOLD and Aurum primary care databases with linked hospitalization and mortality records from 2007 to 2020. Participants were people with cataract, AMD, or glaucoma matched to comparators (1:5) by age, sex, and general practice. Data were analyzed from May 2021 to June 2023.

EXPOSURES For each eye disease, we estimated the risk of falls or fractures using separate multivariable Cox proportional hazards regression models.

MAIN OUTCOMES Two primary outcomes were incident falls and incident fractures derived from general practice, hospital, and mortality records. Secondary outcomes were incident fractures of specific body sites.

RESULTS A total of 410 476 people with cataract, 75 622 with AMD, and 90 177 with glaucoma were matched (1:5) to 2 034 194 (no cataract), 375 548 (no AMD), and 448 179 (no glaucoma) comparators. The mean (SD) age was 73.8 (11.0) years, 79.4 (9.4) years, and 69.8 (13.1) years for participants with cataract, AMD, or glaucoma, respectively. Compared with comparators, there was an increased risk of falls in those with cataract (adjusted hazard ratio [HR], 1.36; 95% CI, 1.35-1.38), AMD (HR, 1.25; 95% CI, 1.23-1.27), and glaucoma (HR, 1.38; 95% CI, 1.35-1.41). Likewise for fractures, there were increased risks in all eye diseases, with an HR of 1.28 (95% CI, 1.27-1.30) in the cataract cohort, an HR of 1.18 (95% CI, 1.15-1.21) for AMD, and an HR of 1.31 (95% CI, 1.27-1.35) for glaucoma. Site-specific fracture analyses revealed increases in almost all body sites (including hip, spine, forearm, skull or facial bones, pelvis, ribs or sternum, and lower leg fractures) compared with matched comparators.

CONCLUSIONS AND RELEVANCE The results of this study support recognition that people with 1 or more of these eye diseases are at increased risk of both falls and fractures. They may benefit from improved advice, access, and referrals to falls prevention services.

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Three leading disease causes of age-related visual loss are cataract, age-related macular degeneration (AMD), and glaucoma, affecting more than 500 million people worldwide.[1] Visual loss increases morbidity and mortality, including physical injuries, disability, poor cognition, and decreased mental health, leading to a reduction in activities of daily living and a loss of independence.[2,3] The majority of these eye diseases are preventable or treatable, which may in turn reduce the risk of falls and related injuries, carrying important resource implications for global health and individual health systems dealing with an aging society.[2,4,5] Falls are a major global health concern, particularly as the second leading cause of unintentional deaths due to injury worldwide.[6] Annually, there are more than 650 000 deaths due to falls and more than 170 million falls resulting in short-term or long-term disability.[5] This translates to an estimated cost of $23.3 billion annually in the United States and $1.6 billion in the United Kingdom.[7]

Poor vision is one of many risk factors for falls, but links to specific eye diseases remain inadequately defined. Visual function is vital for avoiding falls, with even relatively mild impairments in visual information affecting balance, posture, and gait.[2,8] Yet in early stages of eye disease, patients are often asymptomatic and unaware of visual impairment.[9] Both cataract and AMD mostly start affecting a single eye with a gradual onset in visual loss.[8] In glaucoma, there is often insidious peripheral visual field loss, but the brain perceptually compensates for the missing areas by artificially completing the visual field.[10] Although all 3 eye diseases have been implicated with falls and fracture risk, evidence is mixed, with current findings mainly derived from cross-sectional observations and having limited adjustment for established risk factors contributing to fall and fracture risk.[11-14] Though smaller studies have reported an increased risk of falls and fractures, both the magnitude and contribution of each individual eye disease to these risks remain uncertain.[8,15-18] Therefore, this study sought to determine the association of 3 leading age-related eye diseases with falls and fractures, adjusting for influential risk factors. The overarching aim was to investigate whether individuals with cataract, AMD, or glaucoma are at higher relative risk of falls or fractures compared with individuals without these eye diseases.

Key Points

Question Do people with cataract, age-related macular degeneration (AMD), or glaucoma have higher risks of falls or fractures?

Findings In this cohort study including 3 434 196 adults, we found an increased risk of falls in those with cataract, AMD, and glaucoma. For fractures, there was also an increased risk for those with cataract, AMD, and glaucoma.

Meaning The results of this study support recognition that people with 1 or more of these eye diseases are at increased risk of falls or fractures.

Methods

Study Design and Data Sources

This study was a population-based retrospective cohort study using the Clinical Practice Research Datalink (CPRD) GOLD and Aurum UK primary care databases.[19,20] These contain anonymized longitudinal medical records from 2 of the most widely used clinical information systems in the United Kingdom, named Vision (GOLD) and EMIS Web (Aurum). The study was approved by CPRD's independent scientific advisory committee and the Medicines and Healthcare products Regulatory Agency independent scientific advisory committee. Given the retrospective use of anonymized data, no informed consent was required. This study was conducted according to the guidelines of the Declaration of Helsinki, and the reporting followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline.

Setting

In the United Kingdom, the National Health Service is free at the point of care, with primary care functioning as gatekeepers of access to specialty care. Electronic records are adopted across all primary care practices, and data are collected daily from voluntarily enrolled practices by CPRD, which is then integrated with existing records and subjected to multiple quality checks.[21,22] The data are nationally representative in terms of age, sex, and race and ethnicity, collated from more than 2200 primary care practices and including 18 million active patients across the United Kingdom, approximately 25% of the UK population.[19,20,23] The patient-level data include detailed information on demographics, clinical events, prescriptions, and specialist referrals.

CPRD GOLD and Aurum data sets were combined for analyses as per previous studies.[23,24] As there was a small overlap of practices that migrated clinical information software over time, a bridging file was used to drop practices who migrated from GOLD to Aurum to avoid double counting. Patient records were only included if deemed of acceptable quality for research (via a CPRD quality metric in GOLD). All included records were derived from practices based in England and linked at the patient level to Hospital Episode Statistics for hospitalization data, to the Office for National Statistics for mortality data, and by small area to the Index of Multiple Deprivation (IMD) 2015 stratified as quintiles.

Participants and Cohort Delineation

Our study population included 3 separate cohorts (Figure 1) of adults 18 years and older, with cases defined as having a recorded diagnosis of cataract, AMD, or glaucoma (allowing concurrent eye disease within each cohort). These were identified from each database using Read codes (and additional SNOMED Clinical Terms EMIS-specific codes for CPRD Aurum) between April 1, 2007, and March 31, 2020, with previous studies demonstrating high validity in eye disease coding (eTable 1 in Supplement 1 contains lists of codes).[25,26] However, we were unable to ascertain whether the eye disease was a monocular or binocular diagnosis.

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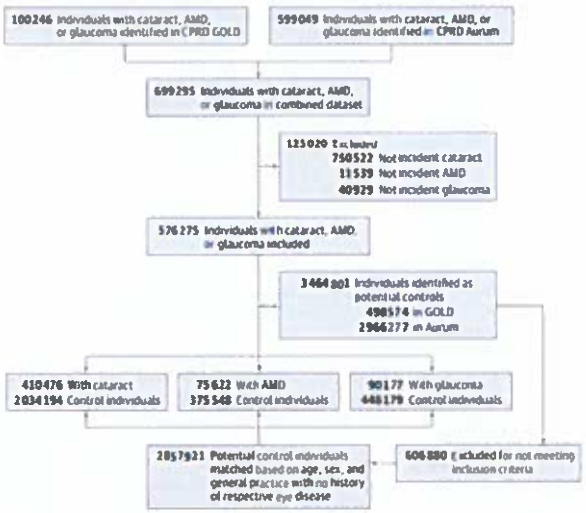
Figure 1. Study Flowchart Showing Cohorts Identified From the UK Clinical Practice Research Datalink (CPRD) GOLD and Aurum



AMD indicates age-related macular degeneration.

Each case was matched with up to 5 corresponding comparators on age, sex, and general practice using incidence density sampling (99% cases were successfully matched with 5 comparators), with no recorded diagnosis of primary eye disease (ie, comparators were allowed to have a past diagnosis of the 2 other eye diseases). Study entry was defined as the first recorded eye-disease diagnosis date (at any point within the follow-up period but with at least 1-year registration within a general practice), with the end of follow-up defined as the earliest of death date, study end date (March 31, 2020), date of deregistration from a practice, or last data collection by the practice.

Outcomes and Covariates

The 2 primary outcomes were rates of incident falls and incident fractures. These were identified using a predefined list of Read codes from primary care and *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*, codes from linked secondary care records.[27] Diagnostic codes for pathological fractures were excluded to focus on trauma-related fractures. A secondary analysis examining the rate of site-specific fractures was also performed. This included all body sites of coded fractures with classifications guided by the National Institute for Health and Care Excellence guidelines on osteoporosis and previous studies.[28,30]

Covariates included racial and ethnic group as reported by patients (Asian, Black, White, other, and unknown), patient-level deprivation score, Charlson Comorbidity Index, smoking history, and heavy alcohol use.[31,32] The deprivation score was formed by reversing CPRD quintiles to be consistent with definitions of IMD quintiles (1 = most deprived), providing an area-level measure of approximately 1500 people and a composite score across 7 domains, such as income, employment, education, etc. Any history of other eye disease, osteoporosis, fractures, and falls before the index date was also included.

We examined specific medication groups known to increase the risk of falls and fracture risk, including benzodiazepines, antidepressants, cardiovascular drugs (including antihypertensives and α-blockers), antidiabetes drugs (with a separate category for insulin), anticholinergics (only those with anticholinergic burden 2 or 3 were included, from Richardson et al[34]), and systemic steroids.[35,36] These medication group covariates were measured before the index diagnosis date, including any history within 12 months prior, and treated as binary variables.

Statistical Analyses

Incident rates are presented in age-standardized rates per 100 000 population using the Global Burden of Diseases population structure.[37] Multivariable Cox proportional hazards regression was used to estimate the risk of incident falls and incident fractures (constituting events within separate models) in cases compared with comparators and to examine associations with covariates. To account for our matched cohort design, all Cox models were stratified by matched sets. The proportional hazards assumption was assessed visually via log-log plots. Missing data for IMD and race and ethnicity were coded by creating a missing category. Missing smoking status was imputed with the multivariate imputation by a chained-equations algorithm using 10 complete data sets.

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Table 1. Baseline Characteristics for Matched Study Cohorts

Characteristic	Cataract, No. (%)		AMD, No. (%)		Glaucoma, No. (%)	
	Cases (n = 410 476)	Controls (n = 2 034 194)	Cases (n = 75 622)	Controls (n = 375 548)	Cases (n = 90 177)	Controls (n = 448 179)
Follow-up, median (IQR), y	4.0 (2.1-6.9)	4.0 (2.0-6.9)	3.8 (1.9-6.5)	3.6 (1.8-6.5)	4.5 (2.3-7.6)	4.2 (2.1-7.4)
Age, mean (SD)	73.8 (11.0)	73.8 (11.0)	79.4 (9.6)	79.3 (9.5)	69.8 (13.1)	69.8 (13.1)
Age category, y						
18-44	6703 (1.6)	33 352 (1.6)	311 (0.4)	1553 (0.4)	3615 (4.0)	17 968 (4.0)
45-64	65 949 (16.1)	328 174 (16.1)	5136 (6.8)	25 597 (6.8)	24 261 (26.9)	120 662 (26.9)
≥65	337 824 (82.3)	1 672 668 (82.2)	70 175 (92.8)	348 398 (92.8)	62 301 (69.1)	309 549 (69.1)
Deaths (all causes)	78 570 (19.1)	362 517 (17.8)	19 601 (25.9)	97 822 (26.1)	13 125 (14.6)	68 063 (15.2)
Sex						
Male	176 018 (42.9)	871 002 (42.8)	28 699 (38.0)	142 113 (37.8)	43 425 (48.2)	215 681 (48.1)
Female	234 458 (57.1)	1 163 192 (57.2)	46 923 (62.1)	233 435 (62.2)	46 752 (51.8)	232 498 (51.9)
Race and ethnicity[a]						
Asian	16 377 (4.0)	36 130 (1.8)	1103 (1.5)	4999 (1.3)	3370 (3.7)	10 799 (2.4)
Black	10 227 (2.5)	28 789 (1.4)	400 (0.5)	3569 (1.0)	4151 (4.6)	8544 (1.9)
White	362 322 (88.3)	1 631 553 (80.2)	71 009 (93.9)	325 072 (86.6)	75 233 (83.4)	346 985 (77.4)
Other	2660 (0.7)	20 887 (1.0)	290 (0.4)	2745 (0.7)	697 (0.8)	5456 (1.2)
Unknown	18 890 (4.6)	316 835 (15.6)	2820 (3.7)	39 163 (10.4)	6726 (7.5)	76 395 (17.1)
IMD						
1 (Most deprived)	16 (15.8)	305 975 (15.0)	11 061 (14.6)	54 872 (14.6)	13 723 (15.2)	67 583 (15.1)
2	74 740 (18.2)	367 573 (18.1)	13 306 (17.6)	65 705 (17.5)	16 150 (17.9)	80 710 (18.0)
3	82 422 (20.1)	413 527 (20.3)	15 276 (20.2)	75 869 (20.2)	17 774 (19.7)	90 730 (20.2)
4	88 259 (21.5)	444 586 (21.9)	16 933 (22.4)	84 500 (22.5)	19 803 (22.0)	97 602 (21.8)
5 (Least deprived)	100 036 (24.4)	500 431 (24.6)	18 999 (25.1)	94 200 (25.1)	22 679 (25.2)	111 189 (24.8)
Unknown	246 (0.1)	2102 (0.1)	47 (0.1)	402 (0.1)	48 (0.1)	365 (0.1)
CCI category						
None	177 983 (43.4)	1 827 218 (89.8)	27 541 (36.4)	304 401 (81.1)	48 675 (54.0)	396 212 (88.4)
Mild (1-2)	142 315 (34.7)	124 426 (6.1)	27 307 (36.1)	40 436 (10.8)	27 137 (30.1)	30 439 (6.8)
Moderate (3-4)	64 973 (15.8)	60 543 (3.0)	14 639 (19.4)	21 950 (5.8)	10 463 (11.6)	15 280 (3.4)
Severe (≥5)	25 205 (6.1)	22 007 (1.1)	6135 (8.1)	8761 (2.3)	3902 (4.3)	6248 (1.4)
Previous eye disease						
Cataract	NA	NA	49 405 (65.3)	148 755 (39.6)	39 446 (43.7)	109 983 (24.5)
AMD	41 039 (10.0)	91 816 (4.5)	NA	NA	6481 (7.2)	20 666 (4.6)
Glaucoma	50 191 (12.2)	112 015 (5.5)	9796 (13.0)	33 364 (8.9)	NA	NA
Medical history[b]						
Cardiovascular disease	107 768 (26.3)	332 275 (16.3)	23 450 (31.0)	85 065 (22.7)	17 176 (19.1)	68 383 (15.3)
Hypertension	171 979 (41.9)	159 275 (7.8)	35 667 (47.2)	54 921 (14.6)	32 218 (35.7)	38 607 (8.6)
Type 1 diabetes	13 149 (3.2)	7927 (0.4)	2325 (3.1)	3385 (0.9)	1954 (2.2)	2515 (0.6)
Type 2 diabetes	84 438 (20.6)	53 253 (2.6)	13 916 (18.4)	19 924 (5.3)	13 226 (14.7)	17 342 (3.9)
Asthma/COPD	19 532 (1.0)	58 932 (14.4)	8260 (2.2)	8189 (10.8)	6940 (1.6)	9259 (10.3)
Neurological condition	3132 (0.2)	9687 (2.4)	1279 (0.3)	1268 (1.7)	1052 (0.2)	1854 (2.1)
Liver disease	677 (0.0)	2783 (0.7)	218 (0.1)	322 (0.4)	266 (0.1)	377 (0.4)
Kidney disease	22 532 (1.1)	53 606 (13.1)	11 747 (3.1)	9744 (12.9)	7655 (1.7)	6977 (7.7)
Thyroid disease	11 547 (0.6)	29 534 (7.2)	4597 (1.2)	4457 (5.9)	3331 (0.7)	4499 (5.0)
Connective tissue disease	15 125 (0.7)	40 633 (9.9)	5789 (1.5)	5584 (7.4)	4710 (1.1)	6213 (6.9)
Cancer	21 718 (1.1)	51 756 (12.6)	9594 (2.6)	8543 (11.3)	6777 (1.5)	7898 (8.8)
Mental health condition	34 608 (1.7)	95 158 (23.2)	12 586 (3.4)	12 609 (16.7)	10 109 (2.3)	17 601 (19.5)
Dementia	2706 (0.1)	6342 (1.6)	2794 (0.7)	1387 (1.8)	1424 (0.3)	1024 (1.1)
Osteoporosis	41 810 (10.2)	40 356 (2.0)	10 375 (13.7)	16 829 (4.5)	6716 (7.5)	10 374 (2.3)
Current smoker	207 660 (50.6)	901 758 (44.3)	39 467 (52.2)	153 449 (40.9)	42 365 (47.0)	200 560 (44.8)
Heavy alcohol use	27 176 (6.6)	17 735 (0.9)	4107 (5.4)	4847 (1.3)	5550 (6.15)	4928 (1.1)
Fall history	88 742 (21.6)	138 892 (6.8)	20 922 (27.7)	47 497 (12.7)	15 331 (17.0)	31 667 (7.1)
Fracture history	44 827 (10.9)	110 346 (5.4)	9931 (13.1)	32 152 (8.6)	7909 (8.8)	22 277 (5.0)

(continued)

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Table 1. Baseline Characteristics for Matched Study Cohorts (continued)

Characteristic	Cataract, No. (%)		AMD, No. (%)		Glaucoma, No. (%)	
	Cases (n = 410 476)	Controls (n = 2 034 194)	Cases (n = 75 622)	Controls (n = 375 548)	Cases (n = 90 177)	Controls (n = 448 179)
Medication use						
Antidepressants	86 303 (21.0)	95 502 (4.7)	14 827 (19.6)	20 216 (5.4)	14 950 (16.6)	15 047 (3.4)
Benzodiazepines	25 906 (6.3)	20 725 (1.0)	5506 (7.3)	7121 (1.9)	4745 (5.3)	5161 (1.2)
Antihypertensives	269 556 (65.7)	235 195 (11.6)	54 024 (71.4)	81 673 (21.8)	48 741 (54.1)	59 648 (13.3)
Antidiabetes drugs	67 377 (16.4)	39 851 (2.0)	10 360 (13.7)	14 809 (3.9)	10 189 (11.3)	13 362 (3.0)
Insulin	21 003 (5.1)	8932 (0.4)	2870 (3.8)	3801 (1.0)	3326 (3.7)	3750 (0.8)
Systemic steroids	46 593 (11.4)	32 189 (1.6)	8217 (10.9)	11 721 (3.1)	7376 (8.2)	8665 (1.9)
High ACB drugs (ACB 2 or 3)	76 843 (18.7)	59 042 (2.9)	14 689 (19.4)	20 722 (5.5)	14 352 (15.9)	15 502 (3.5)

Abbreviations: ACB, anticholinergic burden; AMD, age-related macular degeneration; CCI, Charlson Comorbidity Index; COPD, chronic obstructive pulmonary disease; IMD, Index of Multiple Deprivation 2015; NA, not applicable.

[a] The race and ethnicity category other includes patients who reported races or ethnicities that were not Asian, Black, or White.

[b] Medical history has been grouped for ease of presentation. Cardiovascular disease includes coronary heart disease, heart failure, peripheral vascular disease, and cerebrovascular disease. Neurological condition includes epilepsy, multiple sclerosis, and Parkinson disease. Mental health condition includes anxiety, depression, eating disorder, bipolar disorder, and schizophrenia. Connective tissue disease includes rheumatoid arthritis, psoriatic arthritis, polyarthritis, and spondyloarthropathies.

Sensitivity analyses were performed using propensity scores to account for covariate imbalance between the cohorts within further Cox proportional hazard models.[18] Variables related to each outcome at $P < .05$ were selected for inclusion in propensity weights, identified through various regression analyses with each covariate.[19] Inverse-weighted probability models included more than 50 confounders covering demographics, long-term conditions, falls-risk–inducing medications, eye medications, and interaction terms for composite measures such as Charlson Comorbidity Index. Further sensitivity analyses were also performed for populations with a single eye disease only (ie, without concurrent history of the other eye diseases) to assess effects on outcomes. We also performed an additional analysis by separating populations for CPRD GOLD and Aurum to observe any differences between the databases (eTable 7 in Supplement 1).

Data were analyzed from May 2021 to June 2023. All analyses were performed using Stata version 16.1 (StataCorp). All *P* values were 2-sided, and there were no adjustments for multiple analyses.

Results

Baseline Characteristics

The delineation of each study cohort is specified in Figure 1 with baseline characteristics described in Table 1. All cohorts mainly consisted of older adults, with a mean (SD) age of 74.3 (11.5) years (mean [SD] ages of 73.8 [11.0] years, 79.4 [9.4] years, and 69.8 [13.1] years for cataract, AMD, and glaucoma, respectively) and a slightly higher proportion of females (57.2%, 62.2%, and 51.9% respectively). The cataract cohort included 410 476 cases to 2 034 194 comparators and a median (IQR) follow-up of 4.02 years (2.07-6.86 years) in cases vs 3.91 years (1.97-6.86 years) in comparators. The AMD cohort had 75 622 cases to 375 548 comparators and a median (IQR) follow-up of 3.76 years (1.91-6.49 years) in cases vs 3.61 years (1.76-6.45 years) in comparators. The glaucoma cohort consisted of 90 177 cases to 448 179 comparators and a median (IQR) follow-up of 4.46 years (2.29-7.55 years) in cases vs 4.24 (2.10-7.36 years) in controls.

At baseline, all eye disease populations had poorer health and a higher level of comorbidity, including a greater prevalence of all multiple long-term conditions compared with comparators in both physical health (eg, cardiovascular disease, respiratory conditions, osteoporosis) and mental health diagnoses (eg, depression, bipolar, dementia). This finding was also reflected in medication usage, with notably higher proportions of cases taking benzodiazepines, antidepressants, antihypertensives, antidiabetes medications, systemic steroids, and medications with a high anticholinergic burden. A higher proportion of people with eye disease had a history of both falls (approximately 3-fold for cataract and 2-fold for AMD and glaucoma) and fractures. People with eye disease were also more likely to have a history of the other 2 eye diseases compared with comparators.

Incident Falls and Incident Fractures

During the study period, there was an increased incidence of both falls and fractures experienced by people with eye disease compared with their matched comparators. eTable 2 in Supplement 1 shows the proportions and crude rates for the primary and secondary outcomes, and eTable 3 in Supplement 1 shows the age-standardized incidence rates. Overall, a greater proportion of people with eye disease compared with comparators experienced falls (cataract, 29.7% vs 13.9%; AMD, 37.1% vs 20.7%; glaucoma, 25.0% vs 12.8%) and fractures (cataract, 14.4% vs 8.2%; AMD, 17.8% vs 11.6%; glaucoma, 12.2% vs 7.3%). The age-standardized incidence rates per 100 000 person-years for falls were 2217.5 (95% CI, 2144.5-2296.1) cases for individuals with cataract compared with 625.0 (95% CI, 611.2-639.6) in comparators, 2551.4 (95% CI, 2246.8-2956.6) in those with AMD compared with 848.1 (95% CI, 788.7-927.2) in comparators, and 1802.0 (95% CI, 1708.8-1903.8) for glaucoma compared with 621.3 (95% CI, 601.0-643.3) in comparators.

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Table 2. Multivariable Hazard Ratios for Incident Falls With Adjustment for Covariates

Covariate	HR (95% CI)		
	Cataract	AMD	Glaucoma
Case	1.36 (1.35-1.38)	1.25 (1.23-1.27)	1.38 (1.36-1.41)
Age[a]	NA	NA	NA
Sex[a]	NA	NA	NA
Race[b]			
Asian	0.86 (0.83-0.88)	0.82 (0.76-0.89)	0.80 (0.75-0.86)
Black	0.59 (0.57-0.62)	0.59 (0.54-0.65)	0.60 (0.56-0.65)
Other	0.73 (0.69-0.77)	0.66 (0.59-0.74)	0.70 (0.63-0.78)
Unknown	0.23 (0.23-0.24)	0.27 (0.26-0.29)	0.25 (0.24-0.26)
IMD[b]			
2	0.94 (0.93-0.96)	0.96 (0.93-0.99)	0.94 (0.91-0.97)
3	0.90 (0.89-0.92)	0.92 (0.90-0.95)	0.88 (0.85-0.91)
4	0.88 (0.87-0.90)	0.91 (0.88-0.94)	0.85 (0.82-0.88)
5 (Least deprived)	0.86 (0.85-0.88)	0.88 (0.86-0.91)	0.84 (0.81-0.87)
Unknown	0.90 (0.78-1.05)	0.78 (0.59-1.05)	1.02 (0.72-1.45)
Previous eye disease			
Cataract	NA	1.25 (1.23-1.27)	1.31 (1.28-1.33)
AMD	1.07 (1.06-1.09)	NA	1.05 (1.02-1.08)
Glaucoma	1.16 (1.15-1.18)	1.12 (1.10-1.15)	NA
CCI score[b]			
1	1.40 (1.37-1.42)	1.30 (1.26-1.34)	1.34 (1.30-1.39)
2	1.28 (1.26-1.29)	1.18 (1.15-1.22)	1.22 (1.18-1.26)
3	1.37 (1.34-1.39)	1.30 (1.26-1.34)	1.33 (1.28-1.39)
4	1.37 (1.34-1.40)	1.30 (1.25-1.35)	1.33 (1.26-1.39)
5	1.45 (1.41-1.49)	1.34 (1.28-1.41)	1.34 (1.26-1.43)
6	1.47 (1.42-1.53)	1.43 (1.34-1.53)	1.54 (1.42-1.67)
7	1.60 (1.51-1.70)	1.66 (1.50-1.84)	1.38 (1.21-1.56)
8	1.72 (1.57-1.90)	1.65 (1.41-1.93)	2.16 (1.78-2.61)
9	1.80 (1.57-2.08)	1.68 (1.31-2.15)	2.46 (1.80-3.36)
10	1.97 (1.53-2.54)	2.02 (1.30-3.14)	2.10 (1.29-3.41)
11	2.39 (1.64-3.48)	0.92 (0.46-1.86)	1.57 (0.77-3.22)
≥12	1.84 (1.16-2.91)	1.28 (0.58-2.79)	1.84 (1.17-2.91)
Medical history			
Current smoker	1.07 (1.04-1.10)	1.04 (1.00-1.10)	1.00 (0.93-1.08)
Heavy alcohol use	1.42 (1.38-1.45)	1.24 (1.18-1.31)	1.40 (1.33-1.48)
Osteoporosis	1.50 (1.48-1.52)	1.46 (1.42-1.50)	1.48 (1.43-1.53)
Fall history	1.80 (1.78-1.82)	1.75 (1.72-1.79)	1.83 (1.79-1.88)
Medication use			
Antidepressants	1.27 (1.25-1.28)	1.32 (1.29-1.36)	1.38 (1.33-1.43)
Benzodiazepines	1.20 (1.18-1.23)	1.17 (1.13-1.22)	1.12 (1.07-1.17)
Antihypertensives	1.31 (1.30-1.32)	1.28 (1.26-1.31)	1.23 (1.20-1.26)
Antidiabetes drugs	1.18 (1.16-1.20)	1.12 (1.09-1.15)	1.17 (1.13-1.22)
Insulin	1.34 (1.30-1.38)	1.25 (1.18-1.32)	1.37 (1.29-1.46)
ACB-2 drugs	1.58 (1.51-1.66)	1.47 (1.35-1.61)	1.78 (1.61-1.98)
ACB-3 drugs	1.19 (1.17-1.21)	1.11 (1.08-1.15)	1.15 (1.11-1.19)
Systemic steroids	1.25 (1.23-1.27)	1.17 (1.13-1.21)	1.24 (1.19-1.29)

Abbreviations: ACB, anticholinergic burden; AMD, age-related macular degeneration; CCI, Charlson Comorbidity Index; HR, hazard ratio; IMD, index of multiple deprivation; NA, not applicable.

[a] As cases and controls were matched on age and sex, there were no differences between the 2 groups in the Cox models.

[b] Race categories were compared with White, IMD compared with 1 (most deprived), and CCI score compared with 0.

Table 2 and Table 3 show the results of the multivariable Cox regression analysis for falls and fractures, with Figure 2 illustrating a comparison of the adjusted hazard ratios (HRs) for each eye disease cohort. Overall, there was an increased risk of falls in those with cataract (HR, 1.36; 95% CI, 1.35-1.38), AMD (HR, 1.25; 95% CI, 1.23-1.27), and glaucoma (HR, 1.38; 92% CI, 1.35-1.41) compared with matched comparators. Likewise for fractures, there also was an increased risk in all eye diseases, with an HR of 1.28 (95% CI, 1.27-1.30) in the cataract cohort, HR of 1.18 (95% CI, 1.15-1.21) for AMD, and HR of 1.31 (95% CI, 1.27-1.35) for glaucoma. As observed, HRs were slightly higher for glaucoma and cataract compared with AMD for both falls and fractures.

Results of our sensitivity analyses are presented in eTables 4 and 5 in Supplement 1. The inverse probability treatment weight models showed very similar HRs compared with

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Table 3. Multivariable Hazard Ratios for Incident Fractures With Adjustment for Covariates

Covariate	HR (95% CI)		
	Cataract	AMD	Glaucoma
Case	1.28 (1.27-1.30)	1.18 (1.15-1.21)	1.31 (1.27-1.35)
Age[a]	NA	NA	NA
Sex[a]	NA	NA	NA
Race[b]			
Asian	0.74 (0.71-0.78)	0.87 (0.78-0.97)	0.67 (0.61-0.73)
Black	0.34 (0.32-0.36)	0.35 (0.29-0.41)	0.38 (0.34-0.43)
Other	0.71 (0.67-0.76)	0.58 (0.50-0.68)	0.63 (0.55-0.73)
Unknown	0.20 (0.20-0.21)	0.22 (0.20-0.23)	0.21 (0.20-0.23)
IMD[b]			
2	0.96 (0.94-0.98)	0.95 (0.91-0.98)	0.96 (0.92-1.00)
3	0.91 (0.90-0.93)	0.94 (0.90-0.97)	0.91 (0.87-0.95)
4	0.89 (0.87-0.91)	0.92 (0.88-0.96)	0.86 (0.82-0.90)
5 (Least deprived)	0.88 (0.86-0.90)	0.90 (0.86-0.94)	0.85 (0.81-0.89)
Unknown	0.94 (0.78-1.14)	0.81 (0.56-1.18)	0.82 (0.51-1.30)
Previous eye disease			
Cataract	NA	1.11 (1.08-1.13)	1.20 (1.17-1.23)
AMD	0.99 (0.98-1.01)	NA	1.00 (0.96-1.04)
Glaucoma	1.07 (1.05-1.08)	1.03 (1.00-1.06)	NA
CCI score[b]			
1	1.23 (1.21-1.26)	1.18 (1.13-1.22)	1.22 (1.16-1.27)
2	1.15 (1.13-1.17)	1.07 (1.03-1.11)	1.07 (1.03-1.12)
3	1.21 (1.18-1.24)	1.14 (1.09-1.20)	1.13 (1.07-1.19)
4	1.22 (1.19-1.26)	1.18 (1.12-1.24)	1.16 (1.08-1.24)
5	1.23 (1.18-1.28)	1.11 (1.03-1.19)	1.09 (1.00-1.20)
6	1.28 (1.21-1.35)	1.25 (1.13-1.37)	1.20 (1.06-1.35)
7	1.38 (1.27-1.51)	1.32 (1.14-1.52)	1.13 (0.94-1.36)
8	1.60 (1.40-1.82)	1.36 (1.08-1.71)	1.55 (1.16-2.05)
9	1.48 (1.22-1.80)	1.66 (1.15-2.37)	2.11 (1.35-3.28)
10	2.36 (1.71-3.28)	1.41 (0.74-2.70)	1.81 (0.89-3.66)
11	2.03 (1.21-3.40)	1.52 (0.64-3.61)	1.32 (0.48-3.62)
≥12	1.13 (0.56-2.26)	0.64 (0.17-2.47)	1.13 (0.56-2.26)
Medical history			
Current smoker	1.07 (1.04-1.10)	1.02 (0.96-1.10)	1.03 (0.94-1.14)
Heavy alcohol use	1.52 (1.47-1.57)	1.25 (1.17-1.34)	1.44 (1.34-1.55)
Osteoporosis	1.52 (1.49-1.55)	1.49 (1.44-1.54)	1.57 (1.50-1.65)
Fracture history	1.97 (1.93-2.00)	1.80 (1.74-1.86)	2.02 (1.94-2.11)
Medication use			
Antidepressants	1.23 (1.21-1.25)	1.25 (1.20-1.30)	1.34 (1.28-1.41)
Benzodiazepines	1.14 (1.10-1.17)	1.13 (1.07-1.18)	1.06 (1.00-1.13)
Antihypertensives	1.01 (1.00-1.03)	1.02 (1.00-1.05)	1.02 (0.98-1.05)
Antidiabetes drugs	1.06 (1.04-1.09)	1.02 (0.98-1.07)	1.06 (1.00-1.11)
Insulin	1.45 (1.39-1.51)	1.35 (1.24-1.46)	1.52 (1.39-1.66)
ACB-2 drugs	1.51 (1.42-1.61)	1.43 (1.28-1.60)	1.61 (1.40-1.84)
ACB-3 drugs	1.09 (1.07-1.11)	1.03 (0.99-1.08)	1.07 (1.02-1.12)
Systemic steroids	1.27 (1.24-1.30)	1.20 (1.15-1.25)	1.30 (1.24-1.37)

Abbreviations: ACB, anticholinergic burden; AMD, age-related macular degeneration; CCI, Charlson Comorbidity Index; HR, hazard ratio; IMD, index of multiple deprivation; NA, not applicable.

[a] As cases and controls were matched on age and sex, there were no differences between the 2 groups in the Cox models.

[b] Race categories were compared with White, IMD compared with 1 (most deprived), and CCI score compared with 0.

standard Cox models. Further increased HRs were observed for both falls and fractures for all cases with single eye disease (ie, without history of concurrent eye disease) compared with comparators. For falls, the risks in the cataract-only group showed an HR of 1.44 (95% CI, 1.43-1.46); for AMD only, an HR of 1.91 (95% CI, 1.78-2.05); and for glaucoma only, an HR of 2.40 (95% CI, 2.28-2.54). For fractures, the risks for cataract only were an HR of 1.36 (95% CI, 1.33-1.38); for AMD only, an HR of 1.72 (95% CI, 1.57-1.88); and for glaucoma only, an HR of 2.17 (95% CI, 2.02-2.33).

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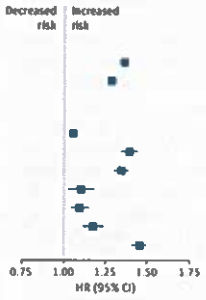
Figure 2. Multivariable Hazard Ratios (HRs) for Falls, Fractures, and Body Site-Specific Fractures

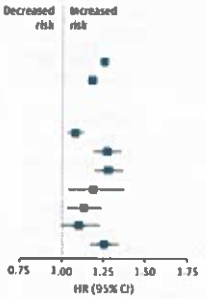
A Cataract cohort

Source	No. of events: Individuals with cataract	No. of events: Control individuals	HR (95% CI)
Primary outcome			
Incident falls	121855	283274	1.36 (1.35-1.38)
Incident fractures	58954	67715	1.28 (1.27-1.30)
Secondary outcome (incident fractures by body site)			
Hip	11933	52332	1.28 (1.27-1.30)
Spine	7478	15257	1.39 (1.34-1.44)
Forearm/wrist	7571	20084	1.34 (1.30-1.39)
Skull/facial bones	1604	5843	1.11 (1.03-1.19)
Pelvis	3121	11401	1.10 (1.05-1.16)
Ribs/sternum	2994	8938	1.18 (1.12-1.25)
Lower limb	9628	22988	1.46 (1.41-1.51)



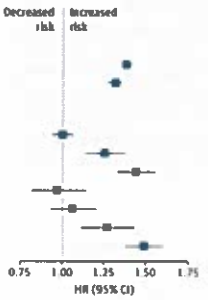
B Age-related macular degeneration cohort

Source	No. of events: Individuals with AMD	No. of events: Control individuals	HR (95% CI)
Primary outcome			
Incident falls	121855	283274	1.25 (1.23-1.27)
Incident fractures	58954	67715	1.18 (1.15-1.21)
Secondary outcome (incident fractures by body site)			
Hip	11933	52332	1.06 (1.04-1.09)
Spine	7478	15257	1.26 (1.18-1.35)
Forearm/wrist	7571	20084	1.27 (1.19-1.36)
Skull/facial bones	1604	5843	1.19 (1.03-1.37)
Pelvis	3121	11401	1.13 (1.03-1.24)
Ribs/sternum	2994	8938	1.10 (0.99-1.23)
Lower limb	9628	22988	1.25 (1.17-1.34)



C Glaucoma cohort

Source	No. of events: Individuals with glaucoma	No. of events: Control individuals	HR (95% CI)
Primary outcome			
Incident falls	22553	57531	1.38 (1.36-1.41)
Incident fractures	11032	32898	1.31 (1.27-1.35)
Secondary outcome (incident fractures by body site)			
Hip	2012	9383	1.00 (0.94-1.07)
Spine	1217	3142	1.25 (1.14-1.37)
Forearm/wrist	1459	3976	1.44 (1.33-1.56)
Skull/facial bones	293	1131	0.97 (0.82-1.15)
Pelvis	550	2071	1.06 (0.93-1.21)
Ribs/sternum	575	1859	1.26 (1.11-1.44)
Lower limb	2026	4982	1.49 (1.38-1.61)



Multivariable-adjusted HRs for primary and secondary outcomes in individuals with cataract, age-related macular degeneration (AMD), or glaucoma compared with matched comparators without eye disease.

Incident Fractures by Body Site

The results of the multivariable Cox regression analysis for body site-specific fractures are shown in Figure 2 and eTable 6 in Supplement 1. Overall, all populations with eye disease had an increased risk of fractures of almost all body sites (including hip, spine, forearm, skull or facial bones, pelvis, ribs or sternum, and lower leg fractures) compared with comparators. The exceptions were for hip, pelvic, and skull and facial bone fractures in the glaucoma cohort and rib and sternal fractures for the AMD cohort, where no differences were found.

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Discussion

In this large population-based cohort study, we observed an increased risk of both falls and fractures for people with cataract, AMD, or glaucoma. This took into account a higher level of comorbidity in the population with eye disease, including multiple long-term conditions and increased medication usage. The highest effect sizes of covariates observed were higher levels of comorbidity, though not the extremes (ie, Charlson Comorbidity Index ≥12), or a history of fall or fracture. Site-specific analyses revealed an increased risk of almost all body sites, with particularly high risks for forearm and lower leg fractures. Our findings further build the evidence base demonstrating that all 3 eye diseases are important risk factors for falls and fractures. Our sensitivity analyses reported a further elevated risk within subgroup analyses of participants with single eye diseases only. Correspondingly, we found a higher risk of falls resulting in injury and have demonstrated an increased risk of both higher-impact (eg, skull and facial bones or pelvic fractures) and lower-impact fractures (eg, spinal fractures) via site-specific analyses. These findings contribute observational evidence supporting higher risks of falls or injuries for these populations and suggests a need to assess the medical and rehabilitation needs of at-risk individuals in future research.

Our findings contrast earlier cross-sectional studies reporting that only certain eye diseases are significant predictors of falls, although these all had self-reported falls outcomes that were potentially subject to recall bias.[40] For example, a cross-sectional survey including 3280 older adults in East Asia reported a 4-fold increase in odds of falling in those with glaucoma, 1.5 times for cataract, but only 0.3 times for AMD. However, other small observation studies in France and Canada have found almost twice the risk of injurious falls in people with AMD.[41,42] In practice, our HRs represent an increased risk over the study duration (median follow-up was approximately 4 years) but does not guarantee that the relative risk remains constant over this time. Further evidence is still needed examining the subsequent effect of increased risk of falls and fractures, potentially through examining linked outcomes such as related hospitalization and reductions in quality of life or quantifying financial effects through economic analyses. This may help further define which patients are particularly higher risk and need to access fall services and treatments more urgently.

Limitations

Although drawing from routine electronic health data allowed a large sample size, its retrospective nature is limited by imperfect data relying on coding and irregular follow-up. There is likely a small proportion of misclassification bias, as patients who have eye disease but have yet to be assessed by an ophthalmologist (eg, early cataracts or waiting lists) may have been misclassified as not having disease. Also, we were unable to assess visual function objectively within the analysis or whether the diagnosis was monocular or binocular. Furthermore, a key limitation is that we were unable to examine treatments during follow-up because of potential inaccuracies in coding, such as cataract surgery or medication for AMD or glaucoma, which may have overestimated our HRs. This is particularly the case for the cataract cohort, where surgery can restore normal vision promptly, with cases having artificially longer follow-up. Yet this may still carry subsequent risks, including posttreatment risks such as spectacle imbalance and posterior capsule opacification. For these reasons, our analyses may be more reflective of the typical patient experience, as we theorized that a diagnosis of any eye disease may be itself a marker of increased risk.

Previous studies have reported good validity in the reporting of fractures, but there remains potential biases for our outcomes.[43-46] As we captured all-cause traumatic fractures, a proportion may have not related to falls, but we were unable to ascertain whether this was the case. Despite this, our analysis for fractures is likely to be more accurate than for falls because of the multifactorial nature of falls. First, there may be an underestimation of falls risk as people may only present having sustained a serious fall, with injurious falls more likely to be coded. Second, other factors affecting exposure to falls risk, such as cognitive status and physical activity, were not explicitly considered, although dementia and multiple comorbidities were further adjusted for within the inverse proportional treatment weight models, which indicated very similar hazard ratios. Younger, more physically active people may have a greater risk, and though increasing comorbidity generally increases risk, very high levels of comorbidity may actually limit activity as may be observed implicitly in our reduced effect sizes of extreme Charlson Comorbidity Index scores.

Conclusions

The results of this study indicate that people with cataract, AMD, or glaucoma have a higher risk of both falls or fractures compared with people without these eye diseases. These populations would likely benefit from improved advice, access, and referrals to falls prevention services and targeted interventions to prevent related adverse outcomes.

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Author Contributions: Dr Tsang had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Tsang, Dickinson, Harper, Kontopantelis, Blakeman, Ashcroft.
Acquisition, analysis, or interpretation of data: Tsang, Wright, Carr, Harper, Kontopantelis, Van Staa, Munford, Blakeman, Ashcroft.
Drafting of the manuscript: Tsang.
Critical review of the manuscript for important intellectual content: All authors.
Statistical analysis: Tsang, Wright, Carr, Kontopantelis, Van Staa, Munford.
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Supervision: Kontopantelis, Munford, Blakeman, Ashcroft.

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REFERENCES

1. Bourne R, Steinmetz JD, Flaxman S, et al; GBD 2019 Blindness and Vision Impairment Collaborators; Vision Loss Expert Group of the Global Burden of Disease Study. Trends in prevalence of blindness and distance and near vision impairment over 30 years: an analysis for the Global Burden of Disease Study. *Lancet Glob Health*. 2021;9(2):e130-e143. doi:10.1016/S2214-109X(20)30425-3

2. Burton MJ, Ramke J, Marques AP, et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. *Lancet Glob Health*. 2021;9(4):e489-e551. doi:10.1016/S2214-109X(20)30488-5

3. E JY, Li T, McInally L, et al. Environmental and behavioural interventions for reducing physical activity limitation and preventing falls in older people with visual impairment. *Cochrane Database Syst Rev*. 2020;9(9):CD009233. doi:10.1002/14651858.CD009233.pub3

4. Boyd M, Kvizhinadze G, Kho A, Wilson G, Wilson N. Cataract surgery for falls prevention and improving vision: modelling the health gain, health system costs and cost-effectiveness in a high-income country. *Inj Prev*. 2020;26(4):302-309. doi:10.1136/injuryprev-2019-043184

5. GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 2018;392(10159):1789-1858. doi:10.1016/S0140-6736(18)32279-7

6. World Health Organization. Step safely: strategies for preventing and managing falls across the life-course. 2021. Accessed November 21, 2023. https://apps.who.int/iris/bitstream/handle/10665/343716/9789240029125-eng.pdf?sequence=1&isAllowed=y

7. Davis JC, Robertson MC, Ashe MC, Liu-Ambrose T, Khan KM, Marra CA. International comparison of cost of falls in older adults living in the community: a systematic review. *Osteoporos Int*. 2010;21(8):1295-1306. doi:10.1007/s00198-009-1162-0

8. Dhital A, Pey T, Stanford MR. Visual loss and falls: a review. *Eye (Lond)*. 2010;24(9):1437-1446. doi:10.1038/eye.2010.60

9. Reed-Jones RJ, Solis GR, Lawson KA, Loya AM, Cude-Islas D, Berger CS. Vision and falls: a multidisciplinary review of the contributions of visual impairment to falls among older adults. *Maturitas*. 2013;75(1):22-28. doi:10.1016/j.maturitas.2013.01.019

10. Crabb DP. A view on glaucoma: are we seeing it clearly? *Eye (Lond)*. 2016;30(2):304-313. doi:10.1038/eye.2015.244

11. Kuang TM, Tsai SY, Hsu WM, Cheng CY, Liu JH, Chou P. Visual impairment and falls in the elderly: the Shihpai Eye Study. *J Chin Med Assoc*. 2008;71(9):467-472. doi:10.1016/S1726-4901(08)70150-3

12. Lamoureux EL, Chong E, Wang JJ, et al. Visual impairment, causes of vision loss, and falls: the Singapore Malay Eye Study. *Invest Ophthalmol Vis Sci*. 2008;49(2):528-533. doi:10.1167/iovs.07-1036

13. Wood JM, Lacherez P, Black AA, Cole MH, Boon MY, Kerr GK. Risk of falls, injurious falls, and other injuries resulting from visual impairment among older adults with age-related macular degeneration. *Invest Ophthalmol Vis Sci*. 2011;52(8):5088-5092. doi:10.1167/iovs.10-6644

14. Bhorade AM, Perlmutter MS, Sabapathypillai SL, Goel M, Wilson B, Gordon MO. Rate of falls, fear of falling, and avoidance of activities at-risk for falls in older adults with glaucoma. *Am J Ophthalmol*. 2021;227:275-283. doi:10.1016/j.ajo.2021.02.017

15. Hong T, Mitchell P, Burlutsky G, Samarawickrama C, Wang JJ. Visual impairment and the incidence of falls and fractures among older people: longitudinal findings from the Blue Mountains Eye Study. *Invest Ophthalmol Vis Sci*. 2014;55(11):7589-7593. doi:10.1167/iovs.14-14262

16. Chu LW, Chi I, Chiu AY. Incidence and predictors of falls in the Chinese elderly. *Ann Acad Med Singap*. 2005;34(1):60-72. doi:10.47102/annals-acadmedsg.V34N1p60

17. Javitt JC, Zhou Z, Willke RJ. Association between vision loss and higher medical care costs in Medicare beneficiaries costs are greater for those with progressive vision loss. *Ophthalmology*. 2007;114(2):238-245. doi:10.1016/j.ophtha.2006.07.054

18. Bruce A. Visual impairment and the risk of mortality: addressing complex associations. *J Epidemiol Community Health*. 2016;70(8):746-747. doi:10.1136/jech-2016-207580

19. Herrett E, Gallagher AM, Bhaskaran K, et al. Data resource profile: Clinical Practice Research Datalink (CPRD). *Int J Epidemiol*. 2015;44(3):827-836. doi:10.1093/ije/dyv098

20. Wolf A, Dedman D, Campbell J, et al. Data resource profile: Clinical Practice Research Datalink (CPRD) Aurum. *Int J Epidemiol*. 2019;48(6):1740-1740g. doi:10.1093/ije/dyz034

21. Clinical Practice Research Datalink. CPRD data. Published 2022. Accessed May 1, 2023. https://cprd.com/data

22. McMillan B, Eastham R, Brown B, Fitton R, Dickinson D. Primary care patient records in the United Kingdom: past, present, and future research priorities. *J Med Internet Res*. 2018;20(12):e11293. doi:10.2196/11293

23. Domzaridou E, Carr MJ, Webb RT, Millar T, Ashcroft DM. Non-fatal overdose risk during and after opioid agonist treatment: a primary care cohort study with linked hospitalisation and mortality records. *Lancet Reg Health Eur*. 2022;22:100489. doi:10.1016/j.lanepe.2022.100489

24. Costello R, McDonagh J, Hyrich KL, Humphreys JH. Incidence and prevalence of juvenile idiopathic arthritis in the United Kingdom, 2000-2018: results from the Clinical Practice Research Datalink. *Rheumatology (Oxford)*. 2022;61(6):2548-2554. doi:10.1093/rheumatology/keab714

25. Kang EM, Pinheiro SP, Hammad TA, Abou-Ali A. Evaluating the validity of clinical codes to identify cataract and glaucoma in the UK Clinical Practice Research Datalink. *Pharmacoepidemiol Drug Saf*. 2015;24(1):38-44. doi:10.1002/pds.3726

26. Nitsch D, Douglas I, Smeeth L, Fletcher A. Age-related macular degeneration and complement activation-related diseases: a population-based case-control study. *Ophthalmology*. 2008;115(11):1904-1910. doi:10.1016/j.ophtha.2008.06.035

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Purpose of the Project

27. ClinicalCodes Repository. Clinical codes. Accessed November 21, 2023. https://clinicalcodes.rss.mhs.man.ac.uk/

28. National Institute for Health and Care Excellence (NICE). Osteoporosis: assessing the risk of fragility fracture (CG146). 2018. Accessed November 21, 2023. https://www.nice.org.uk/guidance/cg146

29. Curtis EM, van der Velde R, Moon RJ, et al. Epidemiology of fractures in the United Kingdom 1988-2012: variation with age, sex, geography, ethnicity and socioeconomic status. *Bone*. 2016;87:19-26. doi:10.1016/j.bone.2016.03.006

30. Ravindrarajah R, Hazra NC, Charlton J, Jackson SHD, Dregan A, Gulliford MC. Incidence and mortality of fractures by frailty level over 80 years of age: cohort study using UK electronic health records. *BMJ Open*. 2018;8(1):e018836. doi:10.1136/bmjopen-2017-018836

31. Smith T, Noble M, Noble S, Wright G, McLennan D, Plunkett E. *The English Indices of Deprivation 2015*. London Dep Communities Local Gov; 2015.

32. Kontopantelis E, Mamas MA, van Marwijk H, et al. Geographical epidemiology of health and overall deprivation in England, its changes and persistence from 2004 to 2015: a longitudinal spatial population study. *J Epidemiol Community Health*. 2018;72(2):140-147. doi:10.1136/jech-2017-209999

33. Bannay A, Chaignot C, Blotière PO, et al. The best use of the Charlson comorbidity index with electronic health care database to predict mortality. *Med Care*. 2016;54(2):188-194. doi:10.1097/MLR.0000000000000471

34. Richardson K, Fox C, Maidment I, et al. Anticholinergic drugs and risk of dementia: case-control study. *BMJ*. 2018;361:k1315. doi:10.1136/bmj.k1315

35. Hart LA, Phelan EA, Yi JY, Marcum ZA, Gray SL. Use of fall risk-increasing drugs around a fall-related injury in older adults: a systematic review. *J Am Geriatr Soc*. 2020;68(6):1334-1343. doi:10.1111/jgs.16360

36. Hippisley-Cox J, Coupland C. Derivation and validation of updated QFracture algorithm to predict risk of osteoporotic fracture in primary care in the United Kingdom: prospective open cohort study. *BMJ*. 2012;344:e3427. doi:10.1136/bmj.e3427

37. Wang H, Abbas KM, Abbasifard M, et al; GBD 2019 Demographics Collaborators. Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950-2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019. *Lancet*. 2020;396(10258):1160-1203. doi:10.1016/S0140-6736(20)30977-6

38. Austin PC. An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate Behav Res*. 2011;46(3):399-424. doi:10.1080/00273171.2011.568786

39. Brookhart MA, Schneeweiss S, Rothman KJ, Glynn RJ, Avorn J, Stürmer T. Variable selection for propensity score models. *Am J Epidemiol*. 2006;163(12):1149-1156. doi:10.1093/aje/kwj149

40. Ivers RQ, Cumming RG, Mitchell P, Attebo K. Visual impairment and falls in older adults: the Blue Mountains Eye Study. *J Am Geriatr Soc*. 1998;46(1):58-64. doi:10.1111/j.1532-5415.1998.tb01014.x

41. Radvay X, Duhoux S, Koenig-Supiot F, Vital-Durand F. Balance training and visual rehabilitation of age-related macular degeneration patients. *J Vestib Res*. 2007;17(4):183-193. doi:10.3233/VES-2007-17404

42. Szabo SM, Janssen PA, Khan K, Lord SR, Potter MJ. Neovascular AMD: an overlooked risk factor for injurious falls. *Osteoporos Int*. 2010;21(5):855-862. doi:10.1007/s00198-009-1025-8

43. Herrett E, Thomas SL, Schoonen WM, Smeeth L, Hall AJ. Validation and validity of diagnoses in the General Practice Research Database: a systematic review. *Br J Clin Pharmacol*. 2010;69(1):4-14. doi:10.1111/j.1365-2125.2009.03537.x

44. Van Staa TP, Abenhaim L, Cooper C, Zhang B, Leufkens HGM. The use of a large pharmacoepidemiological database to study exposure to oral corticosteroids and risk of fractures: validation of study population and results. *Pharmacoepidemiol Drug Saf*. 2000;9(5):359-366. doi:10.1002/1099-1557(200009/10)9:5<359::AID-PDS507>3.0.CO;2-E

45. Österdahl MF, Sinnott SJ, Douglas I, Clegg A, Tomlinson L, Wong A. Frailty and rate of fractures in patients initiating antihypertensive medications: a cohort study in primary care. *Drugs Ther Perspect*. 2022;38(1):41-50. doi:10.1007/s40267-021-00891-6

46. Archer L, Koshiaris C, Lay-Flurrie S, et al; STRAtifying Treatments In the multi-morbid Frail elderlY (STRATIFY) investigators. Development and external validation of a risk prediction model for falls in patients with an indication for antihypertensive treatment: retrospective cohort study. *BMJ*. 2022;379:e070918. doi:10.1136/bmj-2022-070918

Invited Commentary

Investigation of Population-Based Fall Risk in Eye Diseases

Shrinivas Pundlik, PhD; Gang Luo, PhD

It is well-known that older adults are at higher risk of falls and resulting injuries. Falls and their aftermath are one of the major public health concerns in aging societies. The aging-related risk of falls and fractures can be attributed to factors such as deteriorating muscle strength, balance, and vision.[1,2] One way to further break down the vision factor can be by age-related eye diseases such as cataract, age-related macular degeneration (AMD), and glaucoma. Given their rapidly increasing prevalence, understanding the risk of falls by diagnosis of these eye diseases has clinical and societal importance. However, population-based risk assessment for falls and injuries in adults with these eye diseases has been lacking, as previous studies (cross-sectional or cohort) were either based on relatively small samples or based on self-reports. A recent large-scale population-based cohort study of fall risk by Tsang et al[3] addressed the issue by investigating the medical records of more than 3 million individuals.

Related article page 96

In their retrospective cohort study, Tsang et al[3] examined electronic health record data over approximately 13 years to determine the risk of falls and fractures in adult UK residents diagnosed with AMD, cataract, or glaucoma. They adjusted for a wide array of variables, including participant characteristics, medical history, and socioeconomic factors. Among patients with the 3 eye diseases, those with glaucoma had the highest risk of falls (hazard ratio [HR], 1.38; 95% CI, 1.35-1.41) and fractures (HR, 1.31; 95% CI, 1.27-1.35), followed by cataract (falls: HR, 1.36; 95% CI, 1.35-1.38; fractures: HR, 1.28; 95% CI, 1.27-1.30) and AMD (falls: HR, 1.25; 95% CI, 1.23-1.27; fractures: HR, 1.18; 95% CI, 1.15-1.21). Based on the number of patients examined, the range of various influential variables considered, and the length of follow-up, this is one of the largest studies of falls and fractures among people with eye diseases.

In this study, vision loss was not explicitly quantified according to visual function data. Instead, the diagnosis of eye diseases was used to represent vision status. When dealing with a large-scale population, this could be an efficient way to get around the complexities of including visual function data in fall risk modeling. Previous findings regarding the association of specific visual functions with fall risk were unclear or sometimes conflicting. For example, loss of peripheral vision was identified as a major risk factor of falls in older adults, but the previous findings were mixed on central vision loss.[4,5] In the study by Tsang et al,[3] the focus is shifted away from visual func-

ATTACHMENT 13
Alternatives

In developing the proposed ambulatory surgical treatment center ("ASTC"), the Applicant evaluated several alternative approaches to meeting the ophthalmologic surgical needs of the Geographic Service Area ("GSA"). After careful consideration, the Applicant determined that none of the alternatives described below would adequately address the identified access, capacity, and service gaps in a timely or effective manner.

1. No-Build / Status Quo Alternative (No Cost)

Under the no-build alternative, ophthalmologic surgical services would continue to be provided through existing hospital outpatient departments and ambulatory surgical facilities located both within and outside the GSA. This alternative was not selected because it would perpetuate the current limitations in operating room availability, extended wait times for surgery, and reliance on out-of-area facilities for subspecialty ophthalmologic care.

As documented elsewhere in this application, patients within the GSA have limited transportation options and are frequently required to travel to the St. Louis metropolitan area for advanced glaucoma, corneal, and oculoplastic procedures. Maintaining the status quo would not improve access to timely care, would not address projected growth in demand associated with the aging population, and would continue to strain hospital-based operating room resources that are shared across multiple specialties.

Accordingly, the status quo was determined to be inconsistent with the objectives of improving access, reducing delays in care, and enhancing patient outcomes and was not chosen.

2. Expansion of Hospital-Based Outpatient Surgical Capacity (No Cost)

The Applicant also considered pursuing additional hospital-based outpatient surgical capacity within the GSA. This alternative was not selected because hospital operating rooms are subject to competing demands from higher-acuity and multi-specialty cases, limiting their availability for routine and subspecialty ophthalmologic procedures.

Moreover, hospital outpatient departments are a higher-cost setting for cataract and other ophthalmologic surgeries compared to an ASTC, resulting in increased expenditures for payors and higher out-of-pocket costs for patients. Given the high-volume, predictable nature of ophthalmologic surgery and the documented cost-efficiency of ASTCs, expansion of hospital-based capacity would not represent the most efficient or sustainable approach to meeting community need.

3. Use of Existing Multi-Specialty Ambulatory Surgical Centers (No Cost)

The Applicant evaluated the feasibility of continuing to utilize existing multi-specialty ambulatory surgical centers within and near the GSA. This alternative was not selected because multi-specialty facilities often lack the specialized infrastructure, dedicated equipment, and trained personnel required for advanced ophthalmologic procedures, particularly subspecialty glaucoma and corneal surgeries.

Ophthalmologic surgery requires specialty-specific instrumentation, customized room configuration, and staff trained in eye-specific surgical workflows. These requirements are difficult to accommodate consistently in a shared, multi-specialty environment. As a result, reliance on existing multi-specialty ASCs would not reliably improve access to subspecialty ophthalmologic care or reduce wait times for surgery.

ATTACHMENT 13
Alternatives

4. Renovation or Leasing of Existing Space for Partial Services (Same as Proposed Project)

The proposed project involves the development of a single-specialty ophthalmology ASTC designed to support cataract surgery and a comprehensive range of ophthalmologic subspecialty procedures, including corneal, glaucoma, and oculoplastic surgery. This alternative was selected because it best addresses the identified access, capacity, and quality concerns within the GSA.

Centralizing ophthalmologic surgical services in a purpose-built facility will improve access to timely care, reduce wait times, and support anticipated growth in demand associated with the aging population. The facility will also provide the operating room capacity necessary to support a recently recruited fellowship-trained glaucoma specialist, whose ability to provide care within the GSA is currently constrained by limited operating room availability.

From a quality and patient safety perspective, a single-specialty facility allows for consistent staff training, repeated use of ophthalmologic instrumentation, and strict adherence to specialized sterilization protocols that are essential to preventing sight-threatening complications. Concentrating surgical volume within one dedicated facility enhances staff proficiency, reduces variability in care processes, and improves overall surgical outcomes.

For these reasons, the Applicant determined that the proposed project is the most effective, efficient, and clinically appropriate alternative for meeting the ophthalmologic surgical needs of the GSA.

ATTACHMENT 14
Size of the Project

The square footage identified in this application for the proposed project includes two operating rooms and recovery stations, which are necessary, not excessive, and consistent with the standards identified in Appendix B of 77 Illinois Admin. Code Section 1110, as documented below.

SIZE OF PROJECT				
DEPARTMENT/SERVICE	**PROPOSED BGSF/DGSF**	**STATE STANDARD**	**DIFFERENCE**	**MET STANDARD?**
ASTC (2 Operating Rooms)	**4,973 GSF**	**2,750 GSF (per operating room)**	**-527 GSF**	**YES**

ATTACHMENT 15
Project Service Utilization

The annual utilization expected of an ASTC is 1,500 hours per surgical or procedure room. The proposal for this facility is to establish 2 operating rooms, making the objective for demonstrating utilization in excess of 1,500 hours. Based upon documented historical utilization and a conservative projection of patient volume from proposed referrals, the Applicant anticipates that the proposed ASTC will meet and exceed the applicable utilization standard in its first year of operation, and will continue to do so in subsequent years.

UTILIZATION					
	DEPT./ SERVICE	HISTORICAL UTILIZATION (PATIENT DAYS) (TREATMENTS) ETC.	PROJECTED UTILIZATION	STATE STANDARD	MEET STANDARD?
YEAR 1	ASTC	10,493	2,399	>1500 Hours	YES
YEAR 2	ASTC	10,493	2,471	>1500 Hours	YES

The projected 2,399 procedures in Year 1 are derived exclusively from patients currently served by Ideal Eye Surgery and represent procedures that are already being performed across a variety of hospital and ambulatory surgical treatment facilities. In the most recent 12-month period, Ideal Eye Surgery treated 10,493 patients, demonstrating a well-established base of existing demand. Using the HFSRB Average Procedure Time for Ophthalmological Procedures (2022) of approximately 46 minutes per procedure, the historical volume performed during the most recent 12 months equals approximately 8,044 total surgical hours. This historical utilization demonstrates that the projected referrals represent only a portion of existing volume, rather than new or speculative demand.

The projected Year 1 utilization of 2,399 procedures equates to approximately 1,840 procedure hours, and the projected Year 2 utilization of 2,471 procedures equates to approximately 1,894 procedure hours, based on the same average procedure time.

The utilization projections for this project are based on documented historical patient volume, reflect procedures already being performed in the community, and rely on conservative assumption of 3% growth from Year 1 to Year 2 of operation. The Applicant respectfully submits that the proposed project meets the applicable utilization standards by Year 1 of operation for one operating rooms, justifying the need for both rooms proposed by this project.

ATTACHMENT 15
Project Service Utilization

State Standard for One Operating Room (in hours)	1500
Proposed Facility Utilization (in minutes)	110354
Proposed Facility Utilization Year 1 (in hours)	1839
Total Projected Referrals in Year 1	2399
Total Projected Referrals in Year 2	2471
Average Procedure Time (Including Room Prep, Procedure, and Clean-up)	46
Operational Days	250
Average Hours of Operation	7.5
Total Available Procedure Hours (Per Operating Room)	1875
Number of Operating Rooms	2
First Year Proposed Procedures	2399
First Year Utilization (Operating Room 1)	80%
First Year Utilization (Operating Room 2)	18%
Second Year Proposed Procedures	2471
Second Year Utilization (Operating Room 1)	80%
Second Year Utilization (Operating Room 2)	25%

ATTACHMENT 16
Unfinished or Shell Space

NOT APPLICABLE – the proposed project does not include plans for shell space.

ATTACHMENT 17
Assurances

NOT APPLICABLE – the proposed project does not include plans for shell space.

ATTACHMENT 25
Non-Hospital Based Ambulatory Services to GSA Residents - 1110.235(C)(2)(B)

The proposed project is necessary to meet the needs of the residents of the planning area as noted in this application. The project involves establishing a new ASTC in St. Clair County. This sole-service ophthalmology ASTC will have ample capacity to meet the needs of patients in the area. The proposed facility includes two operating rooms, which will provide sufficient capacity to meet current and projected demand without creating unnecessary duplication of services.

The primary purpose of the proposed project is to provide necessary health care services to residents of the Geographic Service Area ("GSA") in which the ASTC will be physically located. The proposed facility is intended to serve patients who currently reside within the planning area and who are already receiving ophthalmologic care from the Applicant's practice.

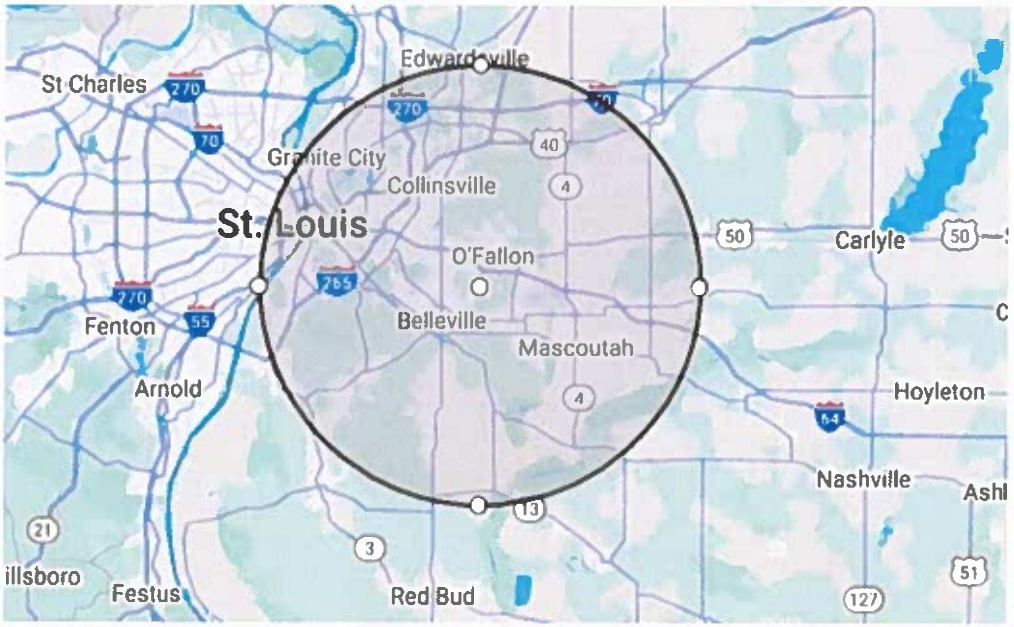
In accordance with 77 Ill. Adm. Code §1100.510(d), the GSA for the proposed ASTC consists of all zip code areas located within a 17-mile radius of the project site. The Applicant has identified all zip codes that fall, in whole or in part, within this radius. A detailed list of these zip codes is provided in the following pages, and a map illustrating the multidirectional travel radii from the proposed ASTC site is included with this attachment.

The GSA encompasses communities throughout St. Clair County and surrounding areas and reflects the population most likely to utilize the services of the proposed facility based on existing patient origin patterns.

As documented in the patient origin analysis included in this application, more than 50 percent of patients receiving ophthalmologic services during the most recent 12-month period resided within the defined GSA. This patient origin data confirms that the Applicant's existing patient base is predominantly drawn from the planning area and that the proposed ASTC will primarily serve local residents rather than attracting patients from outside the region.

ATTACHMENT 25
Non-Hospital Based Ambulatory Services to GSA Residents - 1110.235(C)(2)(B)

17-Mile Radius from 847 N. Green Mount Rd., Shiloh IL 62221



ATTACHMENT 25
Non-Hospital Based Ambulatory Services to GSA Residents - 1110.235(C)(2)(B)

Zip Code	City	Estimated Population
62221	Belleville	29,039
62225	Scott Air Force Base	5,332
62222	Bellwood	18,789
62220	Belleville	19,474
62243	Freeburg	5,796
62226	Belleville	29,156
62269	O'Fallon	36,068
62258	Mascoutah	10,379
62254	Lebanon	6,503
62208	Fairview Heights	16,992
62223	Belleville	16,263
62285	Smithton	4,718
62289	Summerfield	410
62232	Caseyville	7,547
62203	East St. Louis	6,344
62260	Millstadt	7,162
62266	New Memphis	248
62265	New Baden	4,446
62234	Collinsville	31,843
62207	East St. Louis	7,045
62205	East St. Louis	6,682
62294	Troy	15,431
62204	East St. Louis	4,483
62264	New Athens	3,147
62282	St. Libory	638
62248	Hecker	429
62240	East Carondelet	1,645
62293	Trenton	4,562
62206	East St. Louis	12,929
62281	St. Jacob	2,912
62255	Lenzburg	953
62062	Maryville	8,297
62201	East St. Louis	5,125
62215	Albers	1,877
62239	Dupo	4,638

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery Service Demand - Establishment of an ASTC - 1110.235(C)(3)

The Applicant submits that the proposed ambulatory surgical treatment center ("ASTC") is necessary to accommodate existing and projected service demand experienced by the Applicant over the most recent two-year period. Demand for the proposed services is demonstrated through documented historical referrals and conservative projections based on established physician caseloads, all of which originate primarily from within the Geographic Service Area ("GSA").

In support of this application, the Applicant has provided a physician referral letter from Whitney TK Marlow, M.D. on behalf of herself and physicians in her practice at Ideal Eye Surgery documenting historical referrals for ophthalmologic surgical services provided at existing IDPH-licensed ASTCs and hospital outpatient departments located within the GSA. The referral letters cover the 12-month period immediately preceding submission of this application.

As demonstrated in the attached referral documentation, the Applicant and affiliated physicians have consistently referred a substantial number of ophthalmologic surgical cases to multiple hospitals and ASTCs within and adjacent to the GSA due to limited local operating room availability and the absence of a dedicated ophthalmology-focused ASTC. These historical referral patterns confirm sustained demand for the proposed services and establish a clear basis for the requested project.

The submitted documentation reflects that patient origin for the projected volume is overwhelmingly from within the GSA, and does not rely on new or induced demand. It is expected that over 75% of the patients will originate from Illinois and given the proximity to the Missouri border and the existing patient base of the practice the remaining patients will migrate from Missouri to Illinois for surgical care at the proposed facility. Further, the estimated annual number of treatments projected to be referred to the proposed ASTC within 24 months of project completion does not exceed each physician's historical caseload.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery Service Demand - Establishment of an ASTC - 1110.235(C)(3)

December19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W. Jefferson Street, Floor 2
Springfield, IL 62761

Re: Referral Letter- Eye Surgery Specialists, LLC

Dear Mr. Kniery,

My name is Whitney TK Marlow, M.D. and I am an ophthalmologist affiliated with Ideal Eye Surgery. This letter contains the referral documentation required per 77 Ill. Admin. Code Section 1110.235(c)(3)(A)-(B). During the 12 month period prior to submission of this letter, my colleagues and I from Ideal Eye Surgery referred a total of 10,493 procedures to the following healthcare facilities:

Historical Caseload by Licensed setting:

Name of Healthcare Facility	Number of cases in past 12 months	Eye Surgery Specialists, LLC
O'Fallon Surgical Centre	3,330	0
Advanced Surgery Center	1,349	933
New O'Fallon Office	1,052	0
Taylorville Memorial Hospital	746	267
HSHS St. Francis Hospital	476	333
HSHS St. Anthony Hospital	464	373
OSF St. Anthony's Health Center	398	0
St. Louis Office	379	0
Franklin Hospital – Benton	325	0
Carlinville Area Hospital	245	150
HSHS Holy Family Hospital	237	150
SBL Health Center	180	0
New Alton Office	152	0
Benton Office	140	0
HSHS Good Shepherd Hospital	136	63

Shelbyville Office	109	0
HSHS St. Joseph's Hospital	101	65
Jersey Community Hospital	100	65
Other / De Minimis Locations	574	0
Total	**10,493**	**2,399**

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery Service Demand - Establishment of an ASTC - 1110.235(C)(3)

Based on my practice's historical referrals, we anticipate referring 2,399 surgical cases each year to Eye Surgery Specialists, LLC. Enclosed with this letter is a list of patient origin by zip code of residence. I certify that the patients I propose to refer reside within the applicant's proposed geographic service area.

I further certify that the aforementioned referrals have not been used to support another pending or approved certificate of need permit application. The information provided in this letter is true and accurate to the best of my knowledge.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery Service Demand - Establishment of an ASTC - 1110.235(C)(3)

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

Thank you,

Whitney TK Marlow, MD

Physician's Signature _____ Date 12/23/25

(Please Print/Type Name) Whitney TK Marlow

Signature of Notary:

Subscribed and sworn to before me

this 23rd day of December 2025

Seal

OFFICIAL SEAL
KEVIN D KOHLBRECHER
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 4/22/2027

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery Service Demand - Establishment of an ASTC - 1110.235(C)(3)

ZIP Code	Total Patients
62269	1,576
62221	1,298
62226	1,266
62223	721
62568	711
62056	381
62002	1,332
62208	739
63132	619
63122	1,850
Total	**10,493**

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Treatment Room Assessment 1110.235(C)(4)

The Applicant proposes to establish two (2) operating rooms for the provision of ophthalmologic surgical services at the proposed ambulatory surgical treatment center ("ASTC"). The proposed number of surgical rooms is necessary and appropriate to accommodate the projected patient volume and is fully supported by historical utilization and conservative projections.

The annual utilization expected of an ASTC is 1,500 hours per surgical or procedure room. The proposal for this facility is to establish 2 operating rooms, making the objective for demonstrating utilization in excess of 1,500 hours. Based upon documented historical utilization and a conservative projection of patient volume from proposed referrals, the Applicant anticipates that the proposed ASTC will meet and exceed the applicable utilization standard in its first year of operation, and will continue to do so in subsequent years.

UTILIZATION					
	DEPT./ SERVICE	HISTORICAL UTILIZATION (PATIENT DAYS) (TREATMENTS) ETC.	PROJECTED UTILIZATION	STATE STANDARD	MEET STANDARD?
YEAR 1	ASTC	10,493	2,399	>1500 Hours	YES
YEAR 2	ASTC	10,493	2,471	>1500 Hours	YES

The projected 2,399 procedures in Year 1 are derived exclusively from patients currently served by Ideal Eye Surgery and represent procedures that are already being performed across a variety of hospital and ambulatory surgical treatment facilities. In the most recent 12-month period, Ideal Eye Surgery treated 10,493 patients, demonstrating a well-established base of existing demand. Using the HFSRB Average Procedure Time for Ophthalmological Procedures (2022) of approximately 46 minutes per procedure, the historical volume performed during the most recent 12 months equals approximately 8,044 total surgical hours. This historical utilization demonstrates that the projected referrals represent only a portion of existing volume, rather than new or speculative demand.

The projected Year 1 utilization of 2,399 procedures equates to approximately 1,840 procedure hours, and the projected Year 2 utilization of 2,471 procedures equates to approximately 1,894 procedure hours, based on the same average procedure time.

The utilization projections for this project are based on documented historical patient volume, reflect procedures already being performed in the community, and rely on conservative assumption of 3% growth from Year 1 to Year 2 of operation. The Applicant respectfully submits that the proposed project meets the applicable utilization standards by Year 1 of operation for one operating rooms, justifying the need for both rooms proposed by this project.

The average procedure time used in this analysis is derived from the Applicant's historical experience performing ophthalmologic surgical procedures across multiple ambulatory surgical treatment centers and hospital outpatient departments, as well as from published average procedure time data utilized by the Illinois Health Facilities and Services Review Board for ophthalmologic procedures. This methodology yields a conservative and realistic estimate of operating room utilization.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Treatment Room Assessment 1110.235(C)(4)

State Standard for One Operating Room (in hours)	1500
Proposed Facility Utilization (in minutes)	110354
Proposed Facility Utilization Year 1 (in hours)	1839
Total Projected Referrals in Year 1	2399
Total Projected Referrals in Year 2	2471
Average Procedure Time (Including Room Prep, Procedure, and Clean-up)	46
Operational Days	250
Average Hours of Operation	7.5
Total Available Procedure Hours (Per Operating Room)	1875
Number of Operating Rooms	2
First Year Proposed Procedures	2399
First Year Utilization (Operating Room 1)	80%
First Year Utilization (Operating Room 2)	18%
Second Year Proposed Procedures	2471
Second Year Utilization (Operating Room 1)	80%
Second Year Utilization (Operating Room 2)	25%

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Service Accessibility 1110.235(C)(6)

The proposed ambulatory surgical treatment center ("ASTC") is necessary to improve access to ophthalmologic surgical services for residents of the Geographic Service Area ("GSA"). As demonstrated below, the project satisfies the Service Accessibility review criterion because existing surgical capacity within the GSA is constrained by utilization and operational limitations, and certain ophthalmologic services and procedure types are not currently available within the GSA or are functionally inaccessible due to facility and operational constraints.

Although there are hospital surgical facilities and limited ambulatory surgical capacity within the GSA, those resources are not sufficient to meet the current and projected demand for ophthalmologic surgery. As documented elsewhere in this application, ophthalmologic procedures performed by the Applicant and affiliated physicians have historically been distributed across multiple hospital outpatient departments and ASTCs due to limited operating room availability within the GSA.

Hospital-based operating rooms within the GSA are shared across multiple specialties and are subject to competing demands from higher-acuity and emergent cases. As a result, access to operating room time for ophthalmologic procedures is constrained, leading to scheduling delays and the displacement of cases to facilities outside the GSA. In addition, existing surgical facilities are not configured or staffed to efficiently support high-volume ophthalmologic surgery, further limiting effective access even where nominal capacity exists.

In addition to overall capacity limitations, specific ophthalmologic subspecialty services are not currently available or are effectively inaccessible within the GSA. Advanced glaucoma surgery, corneal surgery (including corneal transplantation), and oculoplastic procedures require specialized instrumentation, trained surgical staff, and consistent operating room access that are not supported within existing multi-specialty surgical environments in the GSA. As a result, patients requiring these services are routinely referred to providers outside the GSA, most commonly in the St. Louis metropolitan area. For many patients especially those with transportation limitations, having to travel outside the GSA presents a significant barrier to care, resulting in delayed treatment or foregone services altogether. Even where certain services may be theoretically available, existing facilities lack the operational capacity and specialization necessary to provide them in a timely and reliable manner.

The proposed ASTC will directly address these gaps by establishing a single-specialty ophthalmology facility capable of supporting both high-volume cataract surgery and a broader range of subspecialty procedures. By centralizing ophthalmologic surgical care in a dedicated setting, the project will materially improve access to services that are currently unavailable or inaccessible to GSA residents.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Unnecessary Duplication/Maldistribution, Impact on Area Providers - 1110.235(C)(7)(A)-(C)

The Applicant submits that the proposed ambulatory surgical treatment center ("ASTC") will not result in an unnecessary duplication of services within the Geographic Service Area ("GSA"). The GSA consists of all zip code areas located within a 17-mile radius of the proposed project site at 874 North Green Mount Road, Shiloh, Illinois, as defined in 77 Ill. Adm. Code §1100.510(d). Based on the most recent population estimates available for the State of Illinois, the GSA encompasses a substantial population base sufficient to support the proposed two-room, single-specialty ophthalmology ASTC.

Within the defined GSA, there are a limited number of IDPH-licensed ASTCs that provide ophthalmologic services, each with constrained scope, capacity, or utilization. These facilities include Bel-Clair Ambulatory Surgical Treatment Center in Belleville, which provides gastroenterology services only; Eye Surgery Center, LLC in Swansea, which operates two rooms but provides negligible Medicaid services; O'Fallon Surgical Center, which operates a single ophthalmology room with no Medicaid utilization; Metroeast Endoscopic Surgery Center, which operates one procedure room largely dedicated to gastrointestinal services; and Eye Surgery Center of Maryville, which operates one procedure room with limited overall utilization.

As documented in this application, none of the existing ASTCs within the GSA provides sufficient dedicated ophthalmologic surgical capacity to meet current and projected demand, particularly for advanced subspecialty services. The proposed project does not duplicate underutilized capacity but instead addresses documented access limitations and service gaps within the GSA.

The proposed project will not result in maldistribution of services within the GSA. The ratio of surgical or treatment rooms to population within the GSA does not exceed one and one-half times the State average. Existing ASTCs within the GSA are characterized by a small number of procedure rooms, often limited to one room per facility, and several are multi-specialty centers where ophthalmology represents only a minor portion of total utilization. The addition of two ophthalmology-dedicated operating rooms does not create excess capacity but rather provides appropriately scaled resources to serve documented demand.

While some ASTCs provide ophthalmologic services it only makes up a incidental or as a small fraction of total utilization.

Within 24 months of project completion, the proposed ASTC will not lower the utilization of other area providers below the utilization standards nor will it further reduce utilization at facilities currently operating below such standards. Projected utilization at the proposed ASTC is derived from the redirection of existing cases currently being performed at a diverse group of hospitals and facilities, many of which are operate in higher-cost hospital outpatient settings. The redirection plan demonstrates that no single ASTC within the GSA will experience a disproportionate reduction in case volume. Notably, the Applicant does not propose to redirect any cases from the O'Fallon Surgical Center, despite its proximity to the proposed facility, thereby avoiding adverse impact to that provider.

Instead, the majority of redirected cases are drawn from hospital outpatient departments and facilities where ophthalmologic procedures compete with higher-acuity services or where operating room access is constrained. This measured redistribution improves system efficiency while preserving utilization at existing ASTCs within the GSA. The proposed project will therefore complement, rather than displace, existing providers by shifting appropriate ophthalmologic cases to a dedicated, lower-cost ASTC setting, without undermining the operational viability of other facilities.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Unnecessary Duplication/Maldistribution, Impact on Area Providers - 1110.235(C)(7)(A)-(C)

Facilities within 17 miles of 874 North Green Mount Rd., Shiloh, IL 62221:

Facility	Distance from ASTC	Services
Bel-Clair Ambulatory Surgical Treatment Center Lt. 325 W. Lincoln Belleville, IL 62220	5.1 miles	-Gastroenterology
Eye Surgery Center, LLC 3990 N. Illinois Street Swansea, IL 62226	4.5 miles	-Laser Eye Surgery -Ophthalmology
O'Fallon Surgical Center 741 Insight Avenue O'Fallon, IL 62269	2.3 miles	-Ophthalmology
Metroeast Endoscopic Surgery Center, LLC 5023 N. Illinois Street Fairview Heights, IL 62208	4.4 miles	-Ophthalmology -Gastro-Intestinal -Pain Management
Eye Surgery Center of Maryville, LLC 12 Professional Park Maryville, IL 62062	15.4 miles	-Cataract Extraction -Cornea Procedures -Glaucoma Procedures -Laser Eye Surgery -Plastic Surgery

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Staffing - 1110.235(C)(8)

Whitney TK Marlow, M.D., a board-certified ophthalmologist, is expected to serve as Medical Director of the proposed ASTC. Dr. Marlow is credentialed by the American Board of Ophthalmology and has extensive experience in the provision of ophthalmologic surgical services, including cataract surgery and other anterior segment procedures. Her qualifications and clinical background satisfy the recommended professional standards for medical direction of ophthalmologic ASTC services.

Under Dr. Marlow's leadership, the proposed ASTC will maintain appropriate credentialing, peer review, and quality oversight processes consistent with licensure and accreditation requirements. The appointment of a qualified, certified ophthalmologist as Medical Director ensures that the proposed facility will operate in a manner consistent with accepted standards of care and patient safety.

The proposed ASTC will be staffed by a combination of experienced ophthalmology-specific clinical personnel and administrative support staff. Required positions will include, but will not be limited to, registered nurses, certified surgical technologists, anesthesia personnel, sterile processing staff, and administrative and managerial staff necessary to support daily operations. Staffing levels will be scaled to procedure volume and operating schedules to ensure appropriate coverage and compliance with applicable staffing ratios and patient safety standards.

The Applicant has an established track record of recruiting and retaining qualified ophthalmology-focused personnel through its existing practice operations. Many staff members currently employed by the Applicant possess experience in ophthalmologic surgical settings and have expressed interest in supporting the proposed ASTC. Additional staffing needs, if any, will be addressed through standard recruitment channels, including professional networks, healthcare-specific job placement services, and local and regional employment resources.

Based on the Applicant's experience and the availability of qualified healthcare personnel within the region, the Applicant does not anticipate difficulty in securing the necessary staffing to operate the proposed facility. Staffing plans will be finalized in advance of opening to ensure full compliance with licensure, accreditation, and operational requirements.

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W. Jefferson Street, Floor 2
Springfield, IL 62761

Re: Eye Surgery Specialists, LLC – Charge Commitment

Dear Mr. Kniery:

As a representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, hereby attest that a peer review program exists or will be implemented that evaluates whether patient outcomes are consistent with quality standards established by professional organizations for ASTC services, and if outcomes do not meet or exceed those standards, that a quality improvement plan will be initiated.

Furthermore, I hereby attest that in order to meet the objects of the Illinois Health Facilities Planning Act, which are to improve the financial ability of the public to obtain necessary health services; and to establish an orderly and comprehensive health care delivery system that will guarantee the availability of quality health care to the general public; and cost containment and support for safety net services that we have enclosed a list of CPT codes and a proposed fee schedule. We hereby commit that the charges will not increase, at a minimum, for the first 2 years of operation unless a permit is first obtained pursuant to 77 Ill. Admin. Code §1130.310(a).

Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

A list of the relevant CPT codes, procedures, and charges for the proposed ASTC is included below. In submitting this information, the applicant verifies that it will not increase these charges for a minimum of 24 months.

Procedure codes and Max Charges		
CPT Code	Max Charge	Name of Procedure
11200	$ 1,500	removal skin tags up to 15
65091	$ 15,000	evisceration ocular contents w/o implant
65093	$ 15,000	evisceration ocular contents w/ implant
65101	$ 15,000	enucleation of eye w/o implant
65103	$ 15,000	enucleation eye implt muscl x attached implt
65105	$ 15,000	enucleation eye implt muscl attached implt
65275	$ 9,800	repair lac corneal nonperforating
65286	$ 4,000	repair lac appl tissue glue wound cornea/sclera
65400	$ 6,500	Excision of lesion, corneal (keratectomy, laminar/partial)
65420	$ 6,500	Excision/transposition pterygium w/o graft
65426	$ 6,500	Excision/transposition pterygium w/ graft
65430	$ 4,000	Cornea scraping diagnostic smear & culture
65435	$ 4,000	Removal corneal epithelium w/wo chemocauterization
65436	$ 6,500	Removal corneal epithelium w/ appl chelating agent
65710	$ 16,000	Keratoplasty anterior lamellar
65730	$ 16,000	Keratoplasty penetrating except aphakia/pseudophakia
65750	$ 16,000	Keratoplasty penetrating aphakia
65755	$ 16,000	Keratoplasty penetrating pseudophakia
65760	$ 9,800	Revision of cornea
65767	$ 9,800	corneal tissue transplant
65772	$ 6,500	crnl relaxing inc corrj surgically induced astigmatism
65820	$ 5,000	Goniotomy
65850	$ 9,500	Trabeculotomy ab externo
65855	$ 3,000	Trabeculoplasty by laser surgery
65860	$ 4,000	Severing adhesions anterior segment laser SPX
65865	$ 6,000	Severing ads ant seg incal tx spx goniosynechiae
65870	$ 9,800	severing and ant seg incal spx anterior synechiae
65875	$ 9,800	severing and ant seg incal spx posterior synechiae
65900	$ 6,500	Rmvl epithelial downgrowth ant chamber eye
65920	$ 8,500	Rmvl implanted material anterior segment eye
65930	$ 9,500	Rmvl blood clot anterior segment eye
66150	$ 9,000	Fstlj sclera glaucoma trephine w/ iridectomy
66155	$ 9,000	Fstlj sclera glaucoma thermocaut iridec

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

66160	$	9,000	Fstlj sclera scerectomy punch/scissors iridect
66170	$	9,000	Fstlj sclera glaucoma trabeculectab externo
66172	$	9,000	Fstlj Sclera glc trbec ab externo scarring
66174	$	5,000	Transluminal dilation of aqueous outflow without retention of stent/device
66175	$	8,000	Transluminal dilation of aqueous outflow with retention of stent or device
66180	$	15,000	Aqueous Shunt Extraocular Reservoir
66185	$	15,000	Revision Aqueous Shunt Extraocular Reservoir
66250	$	6,500	Rev/rpr operative wound anterior segment
66680	$	9,800	repair iris ciliary body
66682	$	9,800	suture iris ciliary body spx retrieval suture
66710	$	6,000	Ciliary body dstrj cyclophotocoag transscleral
66761	$	2,000	iridotomy/iridectomy laser surg per session
66821	$	3,000	Dissection of secondary membranous cataract
66825	$	9,800	reposition of lens
66840	$	12,500	removal of lens material
66982	$	10,100	Extracapsular cataract removal ins lens prostheses 1 stage
66984	$	10,100	Cataract removal insertion of lens
66986	$	10,100	exchange lens prosthesis
67031	$	2,000	Laser surgery strands
67400	$	10,100	Orbitotomy W/O Bone flap expl w/wo biopsy
67405	$	10,100	Orbitotomy W/O bone flap expl w/drainage only
67412	$	10,100	Orbitotomy W/O bone flap w/ removal lesion
67413	$	10,100	Orbitotomy W/O bone flap w/ removal foreign body
67414	$	14,100	Orbitotomy W/O bone flap w/ removal bone decompression
67415	$	7,000	Fine needle aspiration orbital contents
67500	$	4,100	Retrobulbar injection medication
67505	$	4,000	Retrobulbar injection alcohol
67515	$	3,500	Injection medication/other substance tenon capsule
67550	$	14,500	Orbital implant insertion
67560	$	10,100	Orbital implant removal/revision
67700	$	4,000	Blepharotomy drainage abscess eyelid
67710	$	3,800	Severing tarsorrhaphy
67715	$	7,000	Canthotomy separate procedure
67800	$	4,100	Excision chalazion single
67801	$	4,100	Excision chalazion multiple same lid
67805	$	4,100	excision chalazion multiple different lids

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

67810	$	4,600	Incisional biopsy eyelid skin and lid margin
67820	$	3,600	Correction trichiasis epilation forceps only
67825	$	3,600	Correction trichiasis epilation oth/than forceps
67830	$	4,600	Correction trichiasis incision lid margin
67835	$	6,600	Corrj trichiasis inc lid margin w/fr muc memb graft
67840	$	4,600	Excision eyelid lesion w/o closure or with simple direct closure
67850	$	4,000	Destruction lesion lid margin </1 cm
67875	$	4,100	Temporary closure eyelids suture
67880	$	6,500	Constj intermargin adhes/tarsorrh/canthorrhaphy
67882	$	7,300	Constj intermargin adhes/tarsorrh/canthorr w/ trpos
67900	$	6,500	Repair brow ptosis
67901	$	7,000	Rpr blepharoptosis frontalis musc sutr/oth material
67902	$	7,000	Rpr blepharoptosis frontalis muscle autologous fascial sling
67903	$	7,000	Rpr blepharoptosis levator resc/advancement internal
67904	$	7,000	Rpr blepharoptosis levator resc/advancement external
67906	$	6,700	Rpr blepharoptosis superior rectus fascial sling
67908	$	7,000	Rpr blepharoptosis conjunctivo-tarso-musc-levator resection
67909	$	7,300	Repair overcorrection ptosis
67911	$	7,300	Correction lid retraction
67914	$	7,300	Repair ectropion suture
67915	$	7,300	Repair ectropion thermocauterization
67916	$	7,300	Repair ectropion tarsal wedge
67917	$	7,300	Repair ectropion extensive
67921	$	7,300	Repair entropion suture
67922	$	7,300	Repair entropion thermocauterization
67923	$	7,300	Repair entropion tarsal wedge
67924	$	7,300	Repair entropion extensive
67930	$	7,300	Suture wnd eyelid/margin/tarsus/conj prtl thickness
67935	$	7,300	Suture wnd eyelid/margin/tarsus/conj full thickness
67938	$	3,500	Removal embedded foreign body eyelid
67950	$	7,300	Canthoplasty
67961	$	7,300	Excision & Repair Eyelid >one fourth lid margin
67966	$	7,300	Excision & Repair Eyelid one fourth lid margin
67971	$	10,800	Rcnstj eyelid rull thickness </two thirds 1 stg
67973	$	10,800	recnstj eyelid full thickness lower eyelid 1 stage
67974	$	10,800	recnstj eyelid full thickness upper eyelid 1 stage
67975	$	7,500	recnstj eyelid full thickness second stage

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

67999	$	2,900	Revision of eyelid
68020	$	7,300	Incision conjunctiva drainage of cyst
68040	$	4,000	Expression conjunctival follicles
68100	$	4,000	Biopsy conjunctiva
68110	$	6,100	Excision lesion conjunctiva <1cm
68115	$	7,300	Excision lesion conjunctiva >1cm
68130	$	6,500	Excision lesion conjunctiva adjacent sclera
68135	$	3,800	Destruction lesion conjunctiva
68200	$	3,800	Subconjunctival injection
68320	$	6,900	Conjunctivoplasty w/grf/extensive rearrangement
68325	$	10,000	Conjunctivoplasty w/buccal muc memb graft
68326	$	10,000	Cjp reconcul-de-sac w/buccal grf/xtensiv rearrangement
68328	$	10,000	Conjunctivoplasty cul-de-sac w/ buccal muc memb graft
68330	$	9,400	Rpr symblepharon conjunctivoplasty w/o graft
68335	$	10,000	Rpr symblepharon fr grf conjc/buccal muc memb graft
68340	$	6,900	Rpr & div symblepharon w/wo conform/contact lens
68360	$	9,000	Conjunctival flap bridge/partial spx
68362	$	9,000	Conjunctival flap total
68371	$	6,000	Harvesting conjunctival allography living donor
68399	$	3,200	Eyelid lining surgery
68400	$	4,100	Incision drainage lacrimal gland
68420	$	7,300	Incision drainage lacrimal sac
68440	$	4,100	Snip incision lacrimal puncta
68510	$	9,800	Biopsy lacrimal gland
68520	$	9,800	Excision lacrimal sac
68525	$	6,800	Biopsy lacrimal sac
68530	$	6,800	Removal fb/dacryolith lacrimal passages
68700	$	10,800	Plastic repair canaliculi
68705	$	4,100	Correction everted punctum cautery
68720	$	10,800	Dacryocystorhinostomy
68745	$	10,800	Conjunctivorhinostomy w/o tube
68750	$	10,800	Conjunctivorhinostomy ins tube/stent
68760	$	4,100	CLSR lacrimal punctum thermocautery
68761	$	4,100	CLSR lacrimal punctum plug each
68801	$	4,100	dilation lacrimal punctum w/wo irrigation
68810	$	4,000	Probe nasolacrimal duct w/wo irrigation
68811	$	7,400	Probe nasolacrimal duct w/wo irrigation requiring gen anes

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Charge Commitment - 1110.235(C)(9)

68815	$	7,300	Probe nasolacrimal duct w/wo irrigation insj tube/stnt
68840	$	4,600	Probe lacrimal canaliculi w/wo irrigation
68850	$	3,800	Injection contrast medium dacryocystography
68899	$	2,900	Tear duct system surgery

ATTACHMENT 25
Non-Hospital Based Ambulatory Surgery - Assurances - 1110.235(C)(10)

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W. Jefferson Street, Floor 2
Springfield, IL 62761

Re: Eye Surgery Specialists, LLC – Assurances

Dear Mr. Kniery:

As a representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, hereby attest that the Applicant's full anticipation that, by the end of the second year following the proposed ambulatory surgical treatment center's opening, the proposed facility will operate at or in excess of the utilization standards identified in 77 Ill. Admin. Code §1110, Appendix B

Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 34
Availability of Funds

The total estimated project cost is $5,048,737 and that amount is attributable to construction and equipment purchases. Dr. Marlow will fund a portion of the project costs with cash and a loan from a financial institution. Dr. Marlow has sufficient internal resources to fund the cash portion of the project and a letter of commitment from a bank is enclosed with evidence of her ability to obtain financing for the remainder of the project costs.

ATTACHMENT 37
Economic Feasibility

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W. Jefferson Street, Floor 2
Springfield, IL 62761

Re: Eye Surgery Specialists, LLC
Ill. Admin. Code Section 1120.120(a) Available Funds Certification
Ill. Admin. Code Section 1120.140(a) Reasonableness of Financing Arrangements

Dear Mr. Kniery:

As representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, hereby attest that the project costs will be $5,048,737. Dr. Marlow will fund the entirety of the construction of the project and the necessary working capital and operating deficits through the first full fiscal year. Dr. Marlow will fund these costs with a loan from a financial institution and existing cash. Dr. Marlow has sufficient and readily accessible internal resources to fund the obligation required by the project.

I further certify that our analysis of the funding options for this project reflected that the funding strategy outlined herein is the lowest net cost option available.
Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 37
Economic Feasibility
Cost and GSF by Service

COST AND GROSS SQUARE FEET BY DEPARTMENT OR SERVICE									
Department (List below)	A	B	C	D	E	F	G	H	Total Cost (G + H)
	Cost/Square Foot New	Mod.	Gross Sq. Ft. New	Circ.*	Gross Sq. Ft. Mod.	Circ.*	Const. $ (A x C)	Mod. $ (B x E)	
ASTC	$2,240,459	-	4,973	-	-	-	$450.52	-	$2,240,459
Contingency	$215,000	-	4,973	-	-	-	$43.23	-	$215,000
TOTALS	$2,455,459	-	4,973	-	-	-	$493.75	-	$2,455,459
* Include the percentage (%) of space for circulation									

Pursuant to Illinois Administrative Code Section 1120 Appendix A (a)(3), a project's cost must be at or below the RS Means for the new construction of an ASTC. At the time of this application, the RS Means for the new construction of an ASTC in this area of the state is $494.96 GSF. This project is slated to be completed in the third quarter of 2027 and the applicable RS Means standard is $510.27 per GSF. The proposed cost per GSF for this project is $450.52, and thus this project meets the Board's criteria.

ATTACHMENT 37
Economic Feasibility
Project Operating Costs and Total Effect of the Project on Capital Costs

Year 2 Project Patient Procedures 2,471

Salaries and Benefits	$846,289
Medical Supplies	$860,230
Cost Per Patient Day	**$690.61**

Year 2 Capital Cost Per Year

Depreciation	$42,063
Amortization	$119,221
Interest	$67,330
Cost Per Patient Day	**$92.52**

ATTACHMENT 37
Economic Feasibility
Proforma

CASH FLOW STATEMENT	YEAR 1	YEAR 2
OPERATING REVENUE		
Procedures -Cataracts	$3,417,114	$3,572,422
Procedures - Yags	169,106	176,792
TOTAL OPERATING REVENUE	**$3,586,220**	**$3,749,214**
OPERATING EXPENSES:		
VARIABLE COSTS:		
Medical Supplies	$835,175	$860,230
CONTRIBUTION MARGIN	**$2,751,045**	**$2,888,984**
FIXED OVERHEAD:		
Depreciation	$42,063	$42,063
Employee Benefits	153,640	158,249
Insurance	30,000	30,900
Interest	24,535	24,048
Interest - Equipment	49,679	43,282
Legal and Accounting	15,000	15,450
'Medicare Director Fee	0	0
Office Supplies	6,000	6,180
Other Expenses	85,000	87,550
Rent	373,324	384,524
Repairs and Maintenance	20,000	20,600
Salaries	668,000	688,040
Telephone	20,000	20,600
Utilities	70,000	72,100
TOTAL FIXED EXPENSES	$1,557,241	$1,593,587
TOTAL OPERATING EXPENSES	**$2,392,416**	**$2,453,817**
NET INCOME BEFORE TAXES	**$1,193,804**	**$1,295,397**
Plus Depreciation	$42,063	$42,063
Less Principal Payments	(8,626)	(9,113)
Less Principal Payments - Equipment	(103,711)	(110,108)
CASH AVAILABLE FOR DISTRIBUTION BEFORE TAXES	**$1,123,531**	**$1,218,240**

ATTACHMENT 38
Safety Net Impact Statement

Eye Surgery Specialists, LLC is a newly formed entity established for the purpose of developing and operating the proposed ambulatory surgical treatment center ("ASTC") and, as such, does not have independent historical operating data for the three fiscal years preceding submission of this application. Accordingly, there is no historical charity care or Medicaid utilization data attributable to the Applicant entity itself. The Applicant will provide the required certifications regarding charity care and Medicaid utilization once the facility becomes operational.

The Applicant anticipates that the proposed project will have a positive material impact on essential safety net services within the community and will not adversely affect existing safety net providers.

The proposed ASTC is intended to expand access to ophthalmologic surgical services for residents of the Geographic Service Area, including populations that have historically faced barriers to care due to transportation limitations, economic constraints, or limited local availability of specialized ophthalmologic services. Ophthalmologic conditions such as cataracts and glaucoma disproportionately affect older adults and, in the case of glaucoma, have a higher prevalence and earlier onset among African American patients. Dr. Whitney Marlow and her affiliated practice have demonstrated a longstanding commitment to serving a racially and economically diverse patient population throughout St. Clair County and the surrounding region. This commitment is reflected in the geographic distribution of existing clinic locations and in the Applicant's intent to provide services without discrimination based on insurance status or ability to pay. The proposed ASTC will accept Medicaid patients and will provide care consistent with applicable regulatory and professional standards, thereby supporting access for lower-income and underserved populations.

The proposed project will not adversely impact the ability of other providers or health care systems within the community to cross-subsidize safety net services. The ASTC represents a new facility rather than the relocation or discontinuation of an existing service, and the projected case volume is derived from procedures already being performed across multiple hospitals and facilities. The project does not eliminate hospital services or reduce inpatient capacity, nor does it target services that are critical revenue sources used to support hospital-based safety net operations.

Further, the ophthalmologic procedures to be performed at the proposed ASTC are well-suited to the ambulatory setting and are commonly shifted from hospital outpatient departments to ASTCs without undermining hospitals' ability to fulfill their safety net missions. The Applicant is not aware of any hospital or provider within the GSA that would experience a material reduction in financial capacity to support charity care or Medicaid services as a result of the proposed project.

ATTACHMENT 39
Charity Care

Eye Surgery Specialists, LLC is a new entity and has no applicable historical data for this section of the application. The project patient mix by payer source, anticipated charity care expense, and projected ratio of charity care to net revenue by the end of its second year of operation are included below. These projections are based on the existing patient base seen by referring physicians.

Eye Surgery Specialists, LLC is a newly established entity formed for the purpose of developing and operating the proposed ambulatory surgical treatment center ("ASTC"). As such, the Applicant does not have audited financial statements or historical charity care data for the three fiscal years preceding submission of this application.

By the end of the proposed facility's second year of operation, the Applicant anticipates serving a patient population that includes commercially insured patients, Medicare beneficiaries, Medicaid beneficiaries, and uninsured individuals. Based on historical experience of the Applicant's affiliated practice and the demographic characteristics of the GSA, the Applicant projects that a portion of services will be provided to patients who qualify for charity care.

The Applicant will track charity care expenses separately from bad debt and will report charity care costs and net patient revenue in accordance with Board requirements once the facility is operational. By the end of the second year of operation, the Applicant anticipates that charity care costs will represent a modest but meaningful percentage of net patient revenue, reflecting both the outpatient nature of the services provided and the Applicant's commitment to maintaining access for underserved patients.

Eye Surgery Specialists, LLC does not currently own or operate any other licensed health care facilities in Illinois. Accordingly, no facility-specific or consolidated charity care reporting is applicable at this time.

ATTACHMENT 40
Flood Plain Information
847 N. Green Mount Road, Shiloh, IL 62221

IDEAL EYE SURGERY
LASIK EYE CENTER

705 Insight Ave.
O'Fallon, IL 62269
618-391-1660

December 19, 2025

John P. Kniery
Board Administrator
Illinois Health Facilities and Services Review Board
525 W Jefferson Street, Floor 2
Springfield, IL 62761

Re: Eye Surgery Specialists, LLC - Flood Plain Requirements

Dear Mr. Kniery:

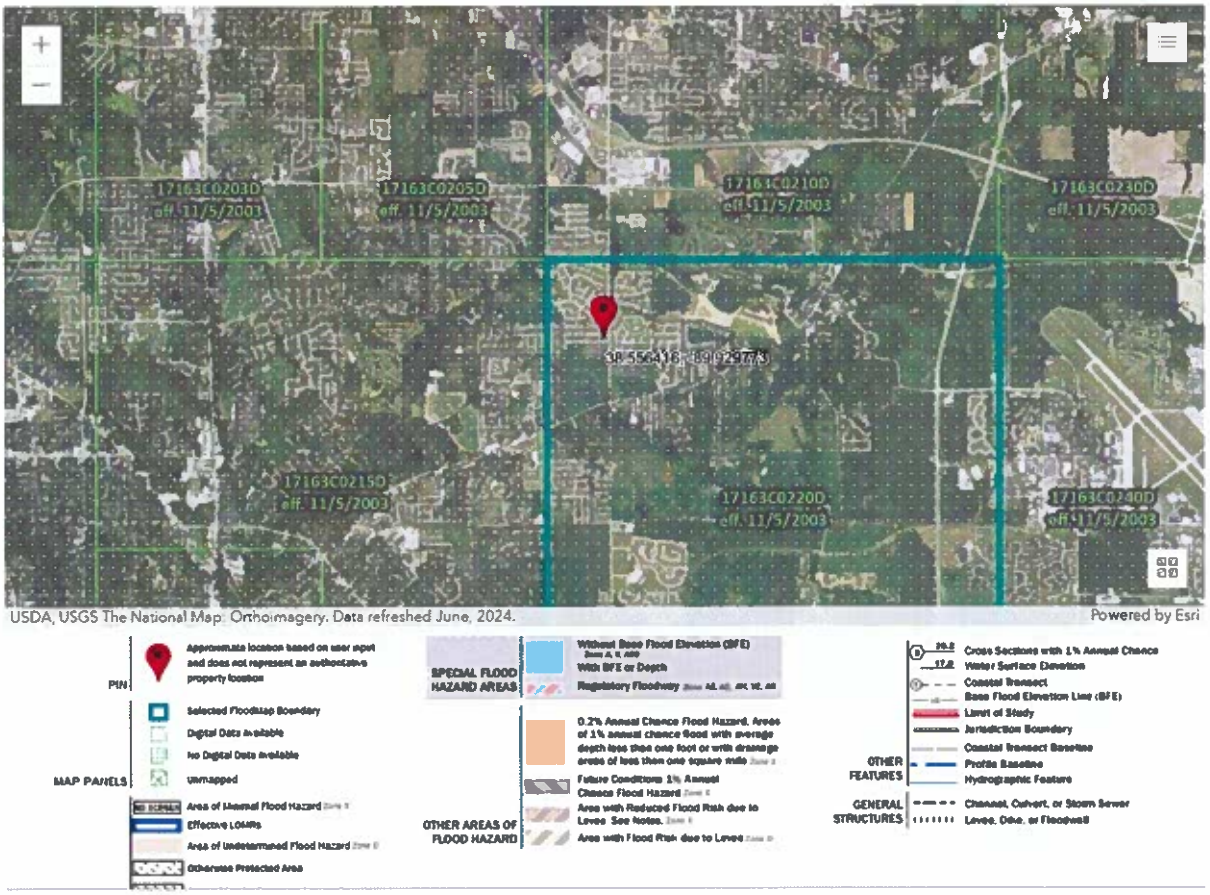
As representative of Eye Surgery Specialists, LLC, I, Whitney TK Marlow, MD, affirm that our facility complies with Illinois Executive Order #2005-5. The facility location at 847 N. Green Mount Rd., Shiloh, IL 62221 is not located in a flood plain, as evidence please find enclosed a map from the Federal Emergency Management Agency ("FEMA").

I hereby certify this is true and is based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

Whitney TK Marlow, MD
Managing Member
Eye Surgery Specialists, LLC

ATTACHMENT 40
Flood Plain Information
847 N. Green Mount Road, Shiloh, IL 62221



INDEX OF ATTACHMENTS