

26-030

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JUN 15 2023

**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: Midwest Ambulatory Surgical Center, LLC		
Street Address: 3523 W. 95th Street		
City and Zip Code: Evergreen Park 60805		
County: Cook	Health Service Area: 07	Health Planning Area: 031

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

Exact Legal Name: Midwest Ambulatory Surgical Center, LLC	
Street Address: 3523 W. 95th Street	
City and Zip Code: Evergreen Park 60805	
Name of Registered Agent: Alexander Domanskis	
Registered Agent Street Address: 1 N. Franklin Street, Suite 1200	
Registered Agent City and Zip Code: Chicago 60606	
Name of Managing Member: Nouri Al-Khaled, M.D.	
Managing Member Street Address: 3545 W. 95th Street	
Managing Member City and Zip Code: Evergreen Park 60805	
Managing Member Telephone Number: (708) 346-5562	

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: Nouri Al-Khaled, M.D.
Title: Chief Executive Officer
Company Name: Midwest Ambulatory Surgery Center, LLC
Address: 3545 W. 95 th Street, Evergreen Park, IL 60805
Telephone Number: (708) 346-5562
E-mail Address:
Fax Number: Not Applicable

Site Ownership [Provide this information for each applicable site]

Exact Legal Name of Site Owner: 3545 W 95 th St LLC
Address of Site Owner: 3535 W. 95 th Street, Evergreen Park, IL 60805
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: Midwest Ambulatory Surgical Center, LLC	
Address: 3523 W. 95 th Street, Evergreen Park, IL 60805	
☐ Non-profit Corporation	☐ Partnership
☐ For-profit Corporation	☐ Governmental
☒ Limited Liability Company	☐ Sole Proprietorship ☐ Other
- o Corporations and limited liability companies must provide an Illinois Certificate of Good Standing. - o 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. - o 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.

Midwest Ambulatory Surgical Center LLC, located at 3523 W. 95th Street in Evergreen Park, Illinois 60805 ("Applicant") seeks to operate a two operating room ambulatory surgical treatment center ("ASTC") focused on providing cardiology procedures and operating a Cardiac Catheterization Laboratory.

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	\$ 10,575	\$ 5,425	\$ 16,000
Site Survey and Soil Investigation	-	-	-
Site Preparation	-	-	-
Off Site Work	-	-	-
New Construction Contracts	\$ 1,356,545	\$ 695,955	\$ 2,052,500
Modernization Contracts	-	-	-
Contingencies	\$ 125,000	\$ 65,000	\$ 190,000
Architectural/Engineering Fees	\$ 99,138	\$ 50,862	\$ 150,000
Consulting and Other Fees	\$ 79,311	\$ 40,689	\$ 120,000
Movable or Other Equipment (not in construction contracts)	\$ 2,070,000	\$ 180,000	\$ 2,250,000
Bond Issuance Expense (project related)	-	-	-
Net Interest Expense During Construction (project related)	-	-	-
Fair Market Value of Leased Space or Equipment	\$ 1,417,680	\$ 727,320	\$ 2,145,000
Other Costs to Be Capitalized			
Acquisition of Building or Other Property (excluding land)	-	-	-
TOTAL USES OF FUNDS	\$ 5,158,249	\$ 1,765,251	\$ 6,923,500
SOURCE OF FUNDS	CLINICAL	NONCLINICAL	TOTAL
Cash and Securities	\$ 99,138	\$ 50,862	\$ 150,000
Pledges	-	-	-
Gifts and Bequests	-	-	-
Bond Issues (project related)	-	-	-
Mortgages	\$ 3,641,430	\$ 987,070	\$ 4,628,500
Leases (fair market value)	\$ 1,417,680	\$ 727,320	\$ 2,145,000
Governmental Appropriations	-	-	-
Grants	-	-	-
Other Funds and Sources	-	-	-
TOTAL SOURCES OF FUNDS	\$ 5,158,249	\$ 1,765,251	\$ 6,923,500
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:	NOT APPLICABLE	
Fair Market Value:	NOT APPLICABLE	
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 \$10,335,478		

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): December 31, 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]

Department / Area	Cost	Gross Square Feet		Amount of Proposed Total Gross Square Feet That Is:			
		Existing	Proposed	New Const.	Modernized	As Is	Vacated Space
REVIEWABLE							
Medical Surgical (Surgical Suite)	\$5,158,249	-	4,296	4,296	-	-	-
Total Clinical	\$5,158,249	-	4,296	4,296	-	-	-
NON-REVIEWABLE							
Administrative	\$1,765,251	-	2,204	2,204	-	-	-
Total Non-clinical	\$1,765,251	-	2,204	2,204	-	-	-
TOTAL	\$6,923,500	-	6,500	6,500	-	-	-
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:

- o in the case of a corporation, any two of its officers or members of its Board of Directors.
- o 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).
- o 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).
- o in the case of estates and trusts, two of its beneficiaries (or the sole beneficiary when two or more beneficiaries do not exist); and
- o in the case of a sole proprietor, the individual that is the proprietor.

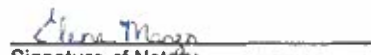
This Application is filed on the behalf of Midwest Ambulatory Surgical Center, LLC in accordance with the requirements and procedures of the Illinois Health Facilities Planning Act. The undersigned certifies that he or she has the authority to execute and file this Application on behalf of the applicant 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

NOURI ALKHALED
PRINTED NAME

Managing Partner
PRINTED TITLE

Notarization:
Subscribed and sworn to before me
this 17th day of March, 2026


Signature of Notary



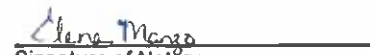
*Insert the EXACT legal name of the applicant

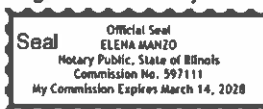

SIGNATURE

Ibrahim Kassis
PRINTED NAME

MD
PRINTED TITLE

Notarization:
Subscribed and sworn to before me
this 17th day of March, 2026


Signature of Notary



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 Cardiac Catheterization Laboratory)	4,296	2,750 GSF Per Operating Room	1,204	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 (2 Operating Room/ Cardiac Catheterization Rooms)	2,840 Treatments	2,990 Hours	>1500 Hours	Yes
YEAR 2	ASTC (2 Operating Room/ Cardiac Catheterization Rooms)	2,840 Treatments	3,079 Hours	>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.

E. Criterion 1110.225 - Cardiac Catheterization

1. Applicants proposing to establish, expand and/or modernize the Cardiac Catheterization category of service must submit the following information.
2. Indicate bed capacity changes by Service: Indicate # of beds changed by action(s):

Category of Service	# Existing Beds	# Proposed Beds
☒ Cardiac Catheterization	-	2

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

1. Criterion 1110.225(a), Peer Review

Read the criterion and submit a detailed explanation of your peer review program.

2. Criterion 1110.225(b), Establishment or Expansion of Cardiac Catheterization Service

Read the criterion and, if applicable, submit the following information:

- a. A map (on 8 1/2" x 11" paper) showing the location of the other hospitals providing cardiac catheterization services within the planning area.
- b. The number of cardiac catheterizations performed for the last 12 months at each of the hospitals shown on the map.
- c. Provide the number of patients transferred directly from the applicant's hospital to another facility for cardiac catheterization services in each of the last three years.

3. Criterion 1110.225(c), Unnecessary Duplication of Services

Read the criterion and, if applicable, submit the following information.

- a. Copies of the letter sent to all facilities within the planning area that currently provide cardiac catheterization. This letter must contain a description of the proposed project and a request that the other facility quantify the impact of the proposal on its program.
- b. Copies of the responses received from the facilities to which the letter was sent.

4. Criterion 1110.225(d), Modernization of Existing Cardiac Catheterization Laboratories

Read the criterion and, if applicable, submit the number of cardiac catheterization procedures performed for the latest 12 months.

5. Criterion 1110.225(e), Support Services

Read the criterion and indicate on a service-by-service basis which of the listed services are available on a 24-hour basis and explain how any services not available on a 24-hour basis will be available when needed.

6. Criterion 1110.225(f), Laboratory Location

Read the criterion and, if applicable, submit line drawings showing the location of the proposed laboratories. If the laboratories are not in proximity, explain why.

7. Criterion 1110.225(g), Staffing

Read the criterion and submit a list of names and qualifications of those who will fill the positions detailed in this criterion. Also, provide staffing schedules to show the coverage required by this criterion.

8. Criterion 1110.225(h), Continuity of Care

Read the criterion and submit a copy of the fully executed written referral agreement(s).

9. Criterion 1110.225(i), Multi-institutional Variance

Read the criterion and, if applicable, submit the following information:

- a. A copy of a fully executed affiliation agreement between the two facilities involved.
- b. Names and positions of the shared staff at the two facilities.
- c. The volume of open-heart surgeries performed for the latest 12-month period at the existing operating program.
- d. A cost comparison between the proposed project and expansion at the existing operating program.
- e. The number of cardiac catheterization procedures performed in the last 12 months at the operating program.
- f. The number of catheterization laboratories at the operating program.
- g. The projected cardiac catheterization volume at the proposed facility annually for the next 2 years.
- h. The basis for the above projection.

APPEND DOCUMENTATION AS ATTACHMENT 23, 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.
\$6,773,500	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.
\$6,923,500	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 NUMERICAL 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/Sq. Ft. New	Mod.	Gross Sq. Ft. New	Circ.*	Gross Sq. Ft. Mod.	Circ.*	Const. \$ (A x C)	Mod. \$ (B x E)	
ASTC	\$315.77	-	4,296	-	-	-	\$1,358,545	-	\$1,356,545
Contingency	\$44.22	-	4,296	-	-	-	\$190,000	-	\$190,000
TOTALS	\$359.99	-	4,296	-	-	-	\$1,548,545	-	\$1,548,545
* 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 – NOT APPLICABLE

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 – NOT APPLICABLE

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: Midwest Ambulatory Surgical Center, LLC 3523 W. 95th Street
(Name) (Address)

Evergreen Park Illinois 60805 (708) 878-8646
(City) (State) (ZIP Code) (Telephone Number)

2. Project Location: 3523 W 95th Street Evergreen Park IL
(Address) (City) (State)

Cook Worth
(County) (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		
ATTACHMENT NO.		PAGES
1.	Applicant Identification including Certificate of Good Standing	25-26
2.	Site Ownership	27-32
3.	Persons with 5 percent or greater interest in the licensee must be identified with the % of ownership	33-34
4.	Organizational Relationships (Organizational Chart) Certificate of Good Standing Etc.	35
5.	Flood Plain Requirements	36-37
6.	Historic Preservation Act Requirements	38-44
7.	Project and Sources of Funds Itemization	45-48
8.	Financial Commitment Document if required	49-52
9.	Cost Space Requirements	53
10.	Discontinuation	n/a
11.	Background of the Applicant	54-125
12.	Purpose of the Project	126-167
13.	Alternatives to the Project	168
14.	Size of the Project	169
15.	Project Service Utilization	170-172
16.	Unfinished or Shell Space	173
17.	Assurances for Unfinished/Shell Space	174
18.	Master 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	175-193
24.	In-Center Hemodialysis	n/a
25.	Non-Hospital Based Ambulatory Surgery	194-242
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	243-244
35.	Financial Waiver	245
36.	Financial Viability	246
37.	Economic Feasibility	247-251
38.	Safety Net Impact Statement	252
39.	Charity Care Information	253
40.	Flood Plain Information	254-255

ATTACHMENT 1

Type of Ownership of Applicant

Included with this attachment is:

The Certificate of Good Standing for the applicant, Midwest Ambulatory Surgical Center, LLC.

ATTACHMENT 1
Certificate of Good Standing
Midwest Ambulatory Surgical Center, LLC

File Number

1718472-5



To all to whom these Presents Shall Come, Greeting:

I, Alexi Giannoulas, 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

MIDWEST AMBULATORY SURGICAL CENTER LLC, HAVING ORGANIZED IN THE STATE OF ILLINOIS ON DECEMBER 17, 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.



Authentication # 2613105628 verifiable until 05/11/2027
Authenticate at: <https://www.isos.gov>

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 11TH day of MAY A.D. 2026 .


SECRETARY OF STATE

ATTACHMENT 2

Site Ownership

Attached as evidence of control over the site is 2024 property tax bill for the property owner and letter attesting to ownership of the proposed facility site by the Managing Member of the proposed licensee.

ATTACHMENT 2 Site Ownership



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

Nouri Al-Khaled MD

Chadi Nouneh MD

William H. Spear MD

All R. Zaidi MD

Wassim Ballany MD

Luay Rifai MD

Ibrahim Kassas MD

Hussam Warti MD

Joaquim S. Barboza MD

M. Tarek Kabbany MD

Adedotun Ogunsua MD

Bahij Kreidieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, LLC – Attestation of Site Ownership

Dear Mr. Kniery:

As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled, M.D., affirm that I own 3545 West 95th Street, Evergreen Park, IL 60805 through 3545 West 9th Street LLC. I am the Managing Member of that entity.

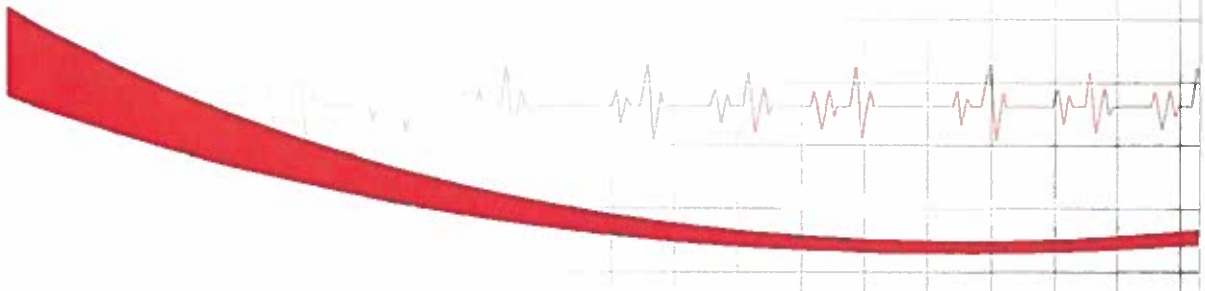
I hereby certify this true and is based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

Nouri, Al-Khaled, M.D.
Managing Member
3545 West 95th Street LLC

3545 W 95th Street
Evergreen Park, IL 60805
708-346-5562
Fax 708-346-2059

43 Orland Square Drive
Orland Park, IL 60462
708-346-5562
Fax 708-346-2059



ATTACHMENT 2 Site Ownership

TOTAL PAYMENT DUE		2024 Second Installment Property Tax Bill - Cook County Electronic Bill					
\$7,739.15		Property Index Number (PIN)	Volume	Code	Tax Year	(Payable In)	Township
By 12/15/2025		24-11-200-012-0000	243	39142	2024	(2025)	Worth
Classification		5-17					
IF PAYING LATE, PLEASE PAY		12/16/2025-01/15/2026	01/16/2026-02/15/2026	02/16/2026-03/15/2026	LATE INTEREST IS 0.75% PER MONTH, BY STATE LAW		
		\$7,797.19	\$7,855.24	\$7,913.28			

YOUR TAXING DISTRICTS

WHERE YOUR MONEY GOES

Total 2024 Tax Bill **\$16,988.46**

\$171.54 MORE than 2023

Taxing District	2024 Tax	2023 Tax	Difference
TIF VIL OF EVERGREEN PARK-95TH ST	\$6,144.08	\$6,094.45	\$49.63 More
SCHOOL DISTRICT 124	\$4,448.99	\$4,550.53	-\$101.54 Less
COMMUNITY HIGH SCHOOL 231	\$3,359.54	\$3,204.90	\$154.64 More
VILLAGE OF EVERGREEN PARK	\$1,570.97	\$1,501.05	\$69.92 More
MORAIN VALLEY COMM COLL DISTR 524	\$332.57	\$318.51	\$18.06 More
METRO WATER RECLAMATION DIST OF GR CHGO	\$325.04	\$326.94	-\$1.90 Less
VILLAGE OF EVERGREEN PARK LIBRARY FUND	\$255.51	\$244.49	\$11.02 More
COUNTY OF COOK	\$224.48	\$161.09	\$63.39 More
COUNTY OF COOK HEALTH & HOSPITAL COMM	\$74.32	\$72.97	\$1.35 More
PUBLIC SAFETY PUBLIC SAFETY	\$74.00	\$72.97	\$1.03 More
FOREST PRESERVE DISTRICT OF COOK COUNTY	\$65.48	\$71.07	-\$5.59 Less
TOWN WORTH	\$58.34	\$55.91	\$2.43 More
ROAD AND BRIDGE WORTH	\$25.17	\$25.59	-\$0.42 Less
SOUTH COOK COUNTY MOSQ ABATEMENT DIST	\$16.63	\$16.11	\$0.52 More
GENERAL ASSISTANCE WORTH	\$13.34	\$13.27	\$0.07 More
CONSOLIDATED ELECTIONS	\$0.00	\$30.32	-\$30.32 Less

DO NOT PAY THESE TOTALS

\$16,988.46 \$16,816.92 \$171.54 More

The above breakdown displays how much you pay in property taxes to each taxing district and the change from last year. Please see reverse side for a detailed breakdown by Taxing District.

TAX CALCULATOR

2023 Assessed Value	49,274	2024 Total Tax Before Exemptions	16,988.46
2024 Property Value	197,096	Homeowner's Exemption	.00
2024 Assessment Level	X 25%	Senior Citizen Exemption	.00
2024 Assessed Value	49,274	Senior Freeze Exemption	.00
2024 State Equalizer	X 3.0353		
2024 Equalized Assessed Value (EAV)	149,571	2024 Total Tax After Exemptions	16,988.46
2024 Local Tax Rate	X 11.358%	First Installment	9,249.31
2024 Total Tax Before Exemptions	16,988.46	Second Installment +	7,739.15
		Total 2024 Tax (Payable in 2025)	16,988.46

IMPORTANT MESSAGES

THANK YOU FOR YOUR FIRST INSTALLMENT PAYMENT OF: \$9249.31

PROPERTY LOCATION

3523 W 95TH ST
EVERGREEN PARK IL 60805

MAILING ADDRESS

3545 W 95TH ST LLC
3535 W 95TH ST
EVERGREEN PK IL 00000-0000

ATTACHMENT 2 Site Ownership

TAXING DISTRICT BREAKDOWN					
Taxing Districts	2024 Tax	2024 Rate	2024 %	Pension	2023 Tax
MISCELLANEOUS TAXES					
SOUTH COOK COUNTY MOSQ ABATEMENT DIST	16.63	0.01742	0.10%		16.11
METRO WATER RECLAMATION DIST OF GR CHGO	325.04	0.34044	1.91%	33.80	326.94
MISCELLANEOUS TAXES TOTAL	341.67	0.35786	2.01%		343.05
SCHOOL TAXES					
MORaine VALLEY COMM COLL DISTR 524	332.57	0.34831	1.96%		316.51
COMMUNITY HIGH SCHOOL 231	3,359.54	3.51869	19.78%	100.64	3,204.90
SCHOOL DISTRICT 124	4,448.99	4.65976	26.19%	159.16	4,550.53
SCHOOL TAXES TOTAL	8,141.10	8.52677	47.93%		8,071.94
MUNICIPALITY/TOWNSHIP TAXES					
TIF VIL OF EVERGREEN PARK-95TH ST	6,144.08	0.00000	36.17%		6,094.45
VILLAGE OF EVERGREEN PARK LIBRARY FUND	255.51	0.26761	1.50%		244.49
VILLAGE OF EVERGREEN PARK	1,570.97	1.64539	9.25%	473.63	1,501.05
ROAD AND BRIDGE WORTH	25.17	0.02636	0.15%		25.59
GENERAL ASSISTANCE WORTH	13.34	0.01397	0.08%		13.27
TOWN WORTH	58.34	0.06111	0.34%		55.91
MUNICIPALITY/TOWNSHIP TAXES TOTAL	8,067.41	2.01445	47.49%		7,934.76
COOK COUNTY TAXES					
FOREST PRESERVE DISTRICT OF COOK COUNTY	65.48	0.06858	0.39%	5.49	71.07
CONSOLIDATED ELECTIONS	0.00	0.00000	0.00%		30.32
PUBLIC SAFETY PUBLIC SAFETY	74.00	0.07750	0.44%		72.97
COUNTY OF COOK HEALTH & HOSPITAL COMM.	74.32	0.07784	0.44%		72.97
COUNTY OF COOK	224.48	0.23512	1.30%	75.50	161.09
COOK COUNTY TAXES TOTAL	438.28	0.45905	2.57%		467.17
(Do not pay these totals)	16,988.46	11.3581	100.00%		16,816.92
***Visit COOKCOUNTYCLERKIL.GOV for info about TIFS And TIF revenue distributions					

Pursuant to Cook County Ordinance 07-O-68, if you are a mortgage lender, loan servicer, or agent of any entity within the meaning of 35 ILCS 200/20-12, you may not pay using a downloadable tax bill unless you pay the \$5 duplicate bill fee.

*** Please see 2024 Second Installment Payment Coupon next page ***

ATTACHMENT 2 Site Ownership

TOTAL PAYMENT DUE		2024 Second Installment Property Tax Bill - Cook County Electronic Bill						
\$7,739.31		Property Index Number (PIN)	Volume	Code	Tax Year	(Payable In)	Township	Classification
By 12/15/2025		24-11-200-013-0000	243	39142	2024	(2025)	Worth	5-17
IF PAYING LATE, PLEASE PAY		12/16/2025-01/15/2026	01/16/2026-02/15/2026	02/16/2026-03/15/2026	LATE INTEREST IS 0.75% PER MONTH, BY STATE LAW			
		\$7,797.35	\$7,855.40	\$7,913.44				

YOUR TAXING DISTRICTS

WHERE YOUR MONEY GOES

Total 2024 Tax Bill \$16,988.80

\$171.54 MORE than 2023

Taxing District	2024 Tax	2023 Tax	Difference
TIF VIL OF EVERGREEN PARK-95TH ST	\$6,144.42	\$6,094.58	\$49.84 More
SCHOOL DISTRICT 124	\$4,448.99	\$4,550.63	-\$101.64 Less
COMMUNITY HIGH SCHOOL 231	\$3,359.54	\$3,204.98	\$154.56 More
VILLAGE OF EVERGREEN PARK	\$1,570.97	\$1,501.08	\$69.89 More
MORAIN VALLEY COMM COLL DISTR 524	\$332.57	\$318.52	\$16.05 More
METRO WATER RECLAMATION DIST OF GR CHGO	\$325.04	\$326.94	-\$1.90 Less
VILLAGE OF EVERGREEN PARK LIBRARY FUND	\$255.51	\$244.49	\$11.02 More
COUNTY OF COOK	\$224.48	\$161.10	\$63.38 More
COUNTY OF COOK HEALTH & HOSPITAL COMM.	\$74.32	\$72.97	\$1.35 More
PUBLIC SAFETY PUBLIC SAFETY	\$74.00	\$72.97	\$1.03 More
FOREST PRESERVE DISTRICT OF COOK COUNTY	\$65.48	\$71.07	-\$5.59 Less
TOWN WORTH	\$58.34	\$55.91	\$2.43 More
ROAD AND BRIDGE WORTH	\$25.17	\$25.59	-\$0.42 Less
SOUTH COOK COUNTY MOSO ABATEMENT DIST	\$16.63	\$16.11	\$0.52 More
GENERAL ASSISTANCE WORTH	\$13.34	\$13.27	\$0.07 More
CONSOLIDATED ELECTIONS	\$0.00	\$30.32	-\$30.32 Less

DO NOT PAY THESE TOTALS

\$16,988.80 \$16,817.26 \$171.54 More

The above breakdown displays how much you pay in property taxes to each taxing district and the change from last year. Please see reverse side for a detailed breakdown by Taxing District.

TAX CALCULATOR

2023 Assessed Value	49,275	2024 Total Tax Before Exemptions	16,988.80
2024 Property Value	197,100	Homeowner's Exemption	.00
2024 Assessment Level	X 25%	Senior Citizen Exemption	.00
2024 Assessed Value	49,275	Senior Freeze Exemption	.00
2024 State Equalizer	X 3.0355		
2024 Equalized Assessed Value (EAV)	149,574	2024 Total Tax After Exemptions	16,988.80
2024 Local Tax Rate	X 11.358%	First Installment	9,249.49
2024 Total Tax Before Exemptions	16,988.80	Second Installment +	7,739.31
		Total 2024 Tax (Payable in 2025)	16,988.80

IMPORTANT MESSAGES

THANK YOU FOR YOUR FIRST INSTALLMENT PAYMENT OF: \$9249.49

PROPERTY LOCATION

3523 W 95TH ST
EVERGREEN PARK IL 60805

MAILING ADDRESS

3545 W 95TH ST LLC
3535 W 95TH ST
EVERGREEN IL 00000-0000

ATTACHMENT 2 Site Ownership

TAXING DISTRICT BREAKDOWN					
Taxing Districts	2024 Tax	2024 Rate	2024 %	Pension	2023 Tax
MISCELLANEOUS TAXES					
SOUTH COOK COUNTY MOSQ ABATEMENT DIST	16.63	0.01742	0.10%		16.11
METRO WATER RECLAMATION DIST OF GR CHGO	325.04	0.34044	1.81%	33.80	326.94
MISCELLANEOUS TAXES TOTAL	341.67	0.35786	2.01%		343.05
SCHOOL TAXES					
MORaine VALLEY COMM COLL DISTR 524	332.57	0.34831	1.96%		316.52
COMMUNITY HIGH SCHOOL 231	3,359.54	3.51869	19.78%	100.64	3,204.96
SCHOOL DISTRICT 124	4,448.99	4.65976	26.19%	159.16	4,550.63
SCHOOL TAXES TOTAL	8,141.10	8.52677	47.93%		8,072.11
MUNICIPALITY/TOWNSHIP TAXES					
TIF VIL OF EVERGREEN PARK-95TH ST	6,144.42	0.00000	36.17%		6,094.58
VILLAGE OF EVERGREEN PARK LIBRARY FUND	255.51	0.26781	1.50%		244.49
VILLAGE OF EVERGREEN PARK	1,570.97	1.64539	9.25%	473.53	1,501.08
ROAD AND BRIDGE WORTH	25.17	0.02636	0.15%		25.59
GENERAL ASSISTANCE WORTH	13.34	0.01397	0.08%		13.27
TOWN WORTH	58.34	0.06111	0.34%		55.91
MUNICIPALITY/TOWNSHIP TAXES TOTAL	8,067.75	2.01445	47.49%		7,934.92
COOK COUNTY TAXES					
FOREST PRESERVE DISTRICT OF COOK COUNTY	65.48	0.06858	0.39%	5.49	71.07
CONSOLIDATED ELECTIONS	0.00	0.00000	0.00%		30.32
PUBLIC SAFETY PUBLIC SAFETY	74.00	0.07750	0.44%		72.97
COUNTY OF COOK HEALTH & HOSPITAL COMM.	74.32	0.07784	0.44%		72.97
COUNTY OF COOK	224.48	0.23512	1.30%	75.50	161.10
COOK COUNTY TAXES TOTAL	438.28	0.45905	2.57%		467.18
(Do not pay these totals)	16,968.80	11.3581	100.00%		16,817.26
***Visit COOKCOUNTYCLERKIL.GOV for info about TIFS And TIF revenue distributions					

Pursuant to Cook County Ordinance 07-O-68, if you are a mortgage lender, loan servicer, or agent of any entity within the meaning of 35 ILCS 200/20-12, you may not pay using a downloadable tax bill unless you pay the \$5 duplicate bill fee.

*** Please see 2024 Second Installment Payment Coupon next page ***

ATTACHMENT 3

Operating Entity/Licensee

Midwest Ambulatory Surgical Center, LLC will seek licensure by the Illinois Department of Public Health upon approval of this project. 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 for
Midwest Ambulatory Surgical Center, LLC

File Number

1718472-5



To all to whom these Presents Shall Come, Greeting:

I, Alexi Giannoulis, 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

MIDWEST AMBULATORY SURGICAL CENTER LLC, HAVING ORGANIZED IN THE STATE OF ILLINOIS ON DECEMBER 17, 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.



Authentication # 2613105628 verifiable until 05/11/2027
Authenticate at <https://www.ilsos.gov>

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 11TH day of MAY A.D. 2026 .


SECRETARY OF STATE

ATTACHMENT 4

Organizational Relationships

The facility will be owned by Illinois licensed physicians as identified in the organizational chart below.



ATTACHMENT 5 Flood Plain Requirements



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

Nouri Al Khaled MD

Chadi Nouneh MD

William H. Spear MD

Ali R. Zaidi MD

Wassim Ballany MD

Luay Ritai MD

Ibrahim Kassas MD

Hussam Watti MD

Joaquim S. Barboza MD

M. Tarek Kabbany MD

Adedotun Ogunsua MD

Bahij Kreidieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, LLC - Flood Plain Requirements

Dear Mr. Kniery:

As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled,, affirm that our facility complies with Illinois Executive Order #2005-5. The facility location at 545 West 95th Street, Evergreen Park, IL 60805 is not located in a flood plain, as evidence please find enclosed a map from the Federal Emergency Management Agency ("FEMA").

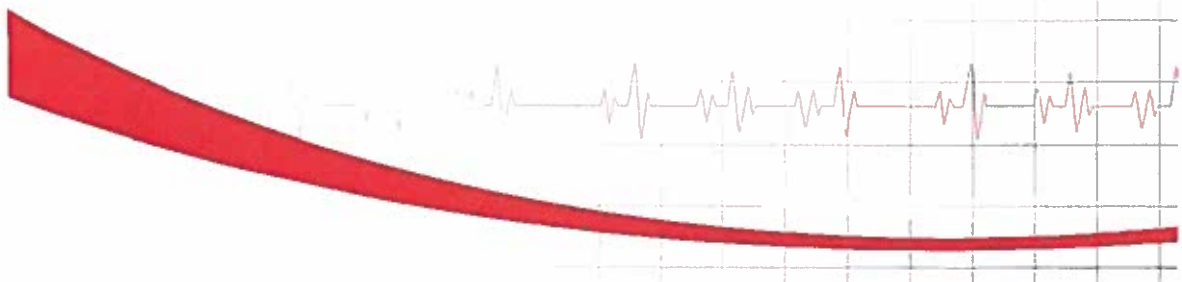
I hereby certify this true and is based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

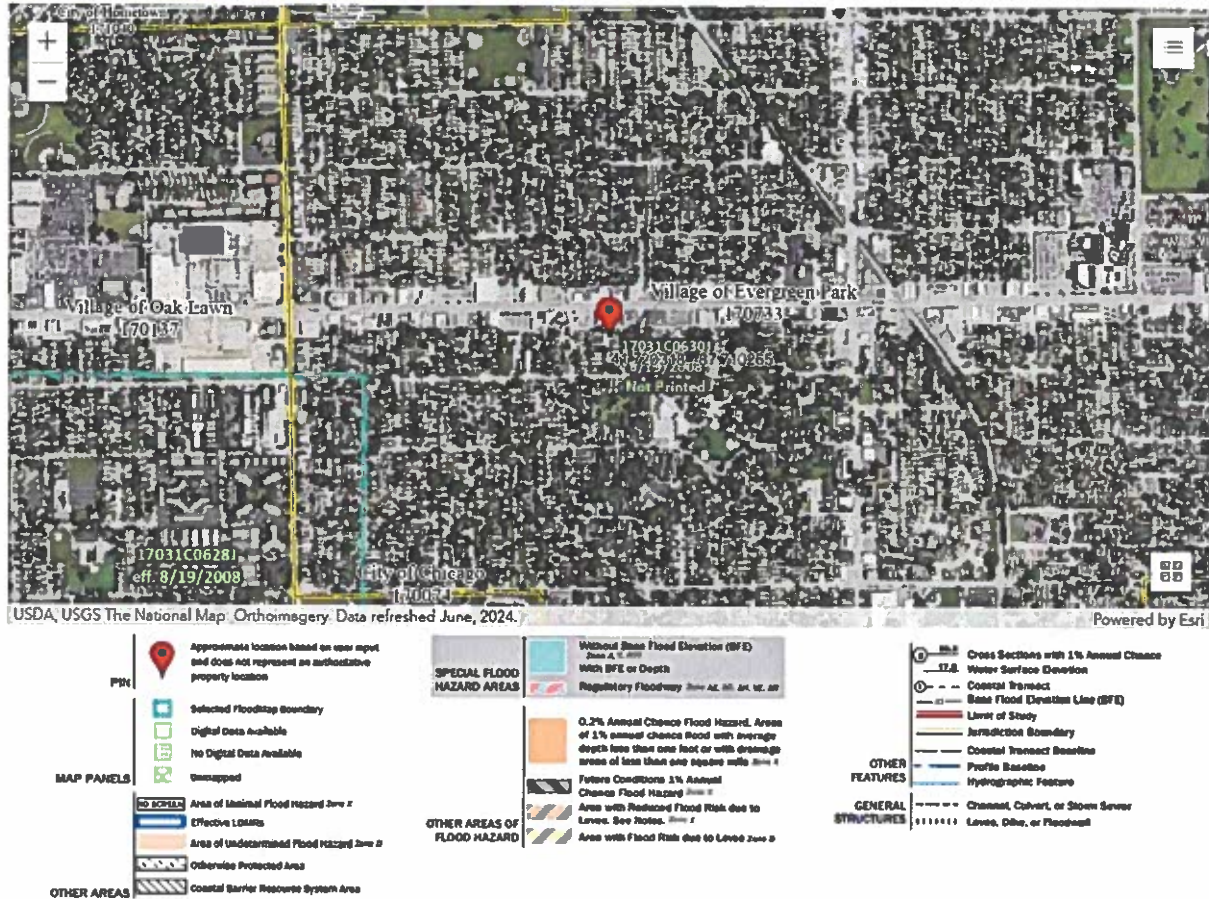
Nouri, Al-Khaled, M.D
Managing Member
Midwest Ambulatory Surgical Center, LLC

3545 W 95th Street
Evergreen Park, IL 60805
708-346-5562
Fax 708-346-2059

43 Orland Square Drive
Orland Park, IL 60462
708-346-5562
Fax 708-346-2059



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 April 9, 2026. A final determination and letter of clearance have been received, and are included with this attachment.

ATTACHMENT 6

Historic Preservation Act Requirements



Illinois
Department of
**Natural
Resources**

JB Pritzker, Governor • Natalie Phelps Finnie, Director
One Natural Resources Way • Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Cook County
Evergreen Park
CON - Midwest Ambulatory Surgical Center, LLC
3523 W. 95th St.

IHFSRB, SHPO Log #029040826

April 9, 2026

Juan Morado
Benesch, Friedlander, Coplan and Aronoff LLP
71 S. Wacker Dr., Suite 1600
Chicago, IL 60606

This letter is to inform you that we have reviewed the information provided concerning the referenced project. Our review of the records indicates that no historic, architectural or archaeological sites exist within the project area.

Please retain this letter in your files as evidence of compliance with Section 4 of the Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420/1 et. seq.). This clearance remains in effect for two years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Remains Protection Act (20 ILCS 3440).

If you have any further questions, please contact Steve Dasovich, Cultural Resources Manager, at 217/782-7441 or at Steve.Dasovich@illinois.gov.

Sincerely,

Carey L. Mayer, AIA
Deputy State Historic Preservation Officer

ATTACHMENT 6
Historic Preservation Act Requirements



Juan Morado, Jr.
71 South Wacker Drive, Suite 1600
Chicago, IL 60606
Direct Dial: 312.212.4967
Fax: 312.757.9192
jmorado@beneschlaw.com

April 1, 2026

VIA EMAIL

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 the Establishment of an Ambulatory Surgical Treatment Center – Midwest Ambulatory Surgical Center, LLC

Dear Jeffrey:

I am writing on behalf of my client, Midwest Ambulatory Surgical Center, LLC (Midwest ASC") to request a review of the project area under Section 4 of the Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420/1 et. seq.). Midwest ASC is submitting an application for a Certificate of Need from the Illinois Health Facilities and Services Review Board. Midwest ASC is proposing to establish an Ambulatory Surgical Treatment Center, to be located at 3523 W. 95th St., Evergreen Park, IL 60805 (the "Project").

The proposed Project will occupy approximately 6,500 square feet in an existing building and will contain two operating rooms, recovery bays, a patient waiting room, physician office space, nursing station, examination rooms, mechanical space, and multiple restrooms. For your reference, we have included pictures of the topographic maps, areal maps, and existing lot images (Attachments 1-3) showing the general location of the project.

We respectfully request review of the project area and a determination letter at your earliest convenience. Thank you in advance for all of the time and effort that will be going into this review.

ATTACHMENT 6
Historic Preservation Act Requirements

Very truly yours,

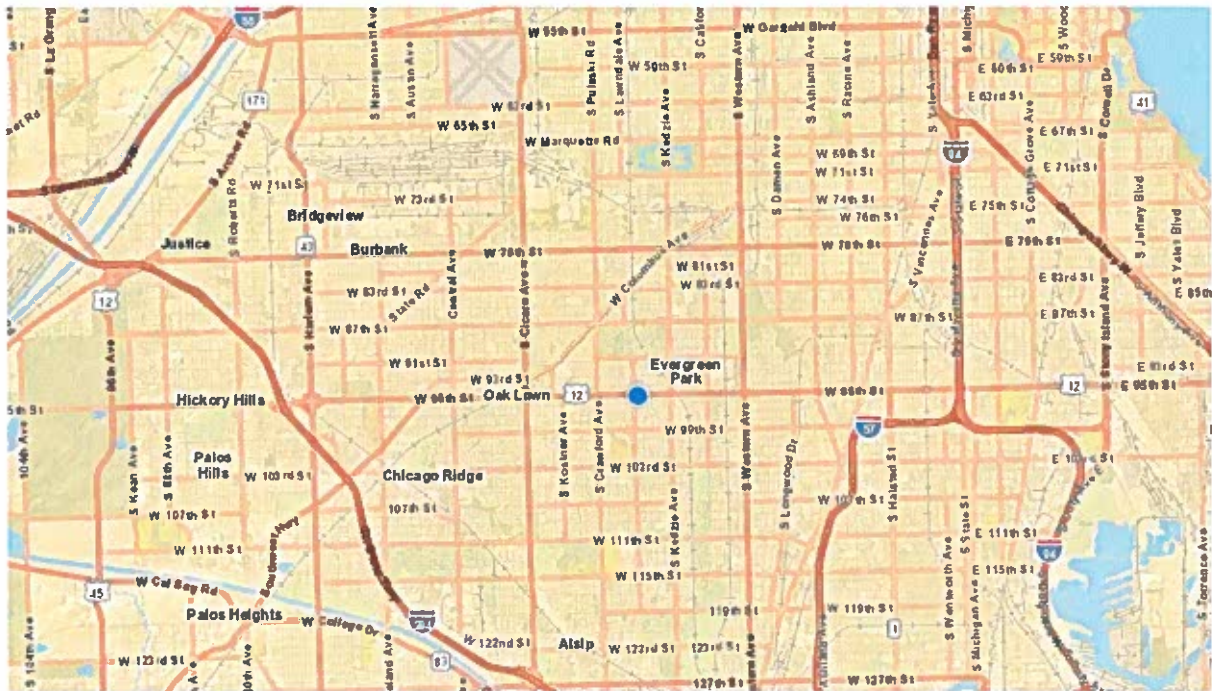
**BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP**


Juan Morado, Jr.

JM:
Enclosures

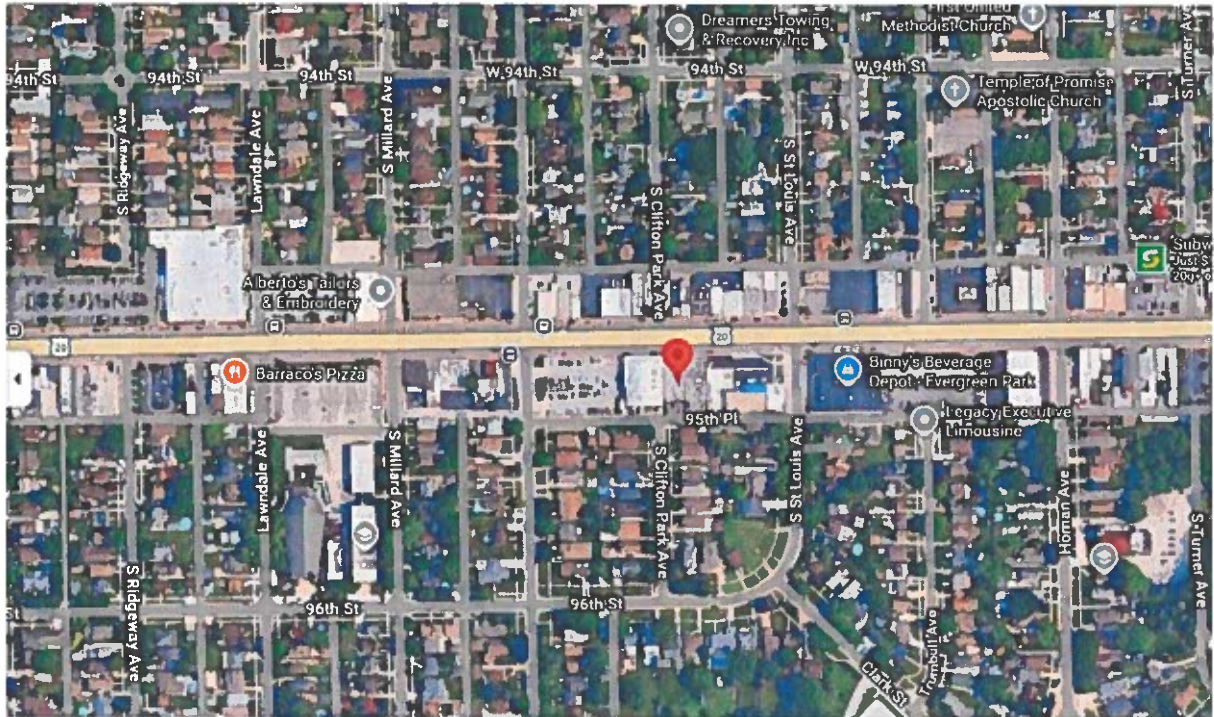
ATTACHMENT 6 Historic Preservation Act Requirements

Topographic Map (3523 W. 95th Street, Evergreen Park, IL 60805)



ATTACHMENT 6
Historic Preservation Act Requirements

3D Aerial Map (3523 W. 95th Street, Evergreen Park, IL 60805)



ATTACHMENT 6
Historic Preservation Act Requirements

Street View of 3523 W. 95th Street, Evergreen Park, IL 60805



ATTACHMENT 7

Project Costs and Sources of Funds

Project Costs and Sources of Funds			
USE OF FUNDS	CLINICAL	NONCLINICAL	TOTAL
Preplanning Costs	\$ 10,575	\$ 5,425	\$ 16,000
Site Survey and Soil Investigation	-	-	-
Site Preparation	-	-	-
Off Site Work	-	-	-
New Construction Contracts	\$ 1,356,545	\$ 695,955	\$ 2,052,500
Modernization Contracts	-	-	-
Contingencies	\$ 125,000	\$ 65,000	\$ 190,000
Architectural/Engineering Fees	\$ 99,138	\$ 50,862	\$ 150,000
Consulting and Other Fees	\$ 79,311	\$ 40,689	\$ 120,000
Movable or Other Equipment (not in construction contracts)	\$ 2,070,000	\$ 180,000	\$ 2,250,000
Bond Issuance Expense (project related)	-	-	-
Net Interest Expense During Construction (project related)	-	-	-
Fair Market Value of Leased Space or Equipment	\$ 1,417,680	\$ 727,320	\$ 2,145,000
Other Costs to Be Capitalized			
Acquisition of Building or Other Property (excluding land)	-	-	-
TOTAL USES OF FUNDS	\$ 5,158,249	\$ 1,765,251	\$ 6,923,500
SOURCE OF FUNDS	CLINICAL	NONCLINICAL	TOTAL
Cash and Securities	\$ 99,138	\$ 50,862	\$ 150,000
Pledges	-	-	-
Gifts and Bequests	-	-	-
Bond Issues (project related)	-	-	-
Mortgages	\$ 3,641,430	\$ 987,070	\$ 4,628,500
Leases (fair market value)	\$ 1,417,680	\$ 727,320	\$ 2,145,000
Governmental Appropriations	-	-	-
Grants	-	-	-
Other Funds and Sources	-	-	-
TOTAL SOURCES OF FUNDS	\$ 5,158,249	\$ 1,765,251	\$ 6,923,500
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

Preplanning Costs

Preplanning costs include expenses incurred prior to construction related to initial project development, feasibility analysis, and early-stage planning activities. These costs reflect consulting, administrative coordination, and preliminary design considerations necessary to evaluate and initiate the proposed ASTC project. The clinical costs associated with this line item is \$10,575, which is reasonable and consistent with the scope and size of the project.

New Construction Contracts

New construction costs represent the costs for all labor and materials required to build out the clinical and non-clinical space. The clinical costs are \$1,356,545. These costs are consistent with industry standards for ambulatory surgical facilities and reflect current market conditions for construction in the Chicago metropolitan area. The clinical costs account for \$315.77 per GSF.

Contingencies

Contingency costs are included to account for unforeseen conditions or changes during construction, including material cost fluctuations, minor design modifications, or unexpected site conditions. The clinical contingency costs are \$125,000 and are reasonable and consistent with a project of this scope and size.

Architectural/Engineering Fees

Architectural and engineering fees include costs associated with the design, planning, and technical development of the facility. These services include preparation of construction drawings, engineering systems design (mechanical, electrical, plumbing), and compliance with applicable building codes and healthcare regulations. The clinical costs associated with this line item is \$99,138 and the amount is reasonable and proportionate to the size and complexity of the project.

Consulting and Other Fees

Consulting fees include costs for project management, regulatory consulting, legal support, and other professional services necessary to develop and implement the project. This includes assistance with the Certificate of Need application, permit fees, and compliance with regulatory requirements. The clinical costs for Consulting and Other Fees is \$79,311.

Movable or Other Equipment

Movable and other equipment costs include all clinical and non-clinical equipment necessary to support the operation of the proposed two-operating-room ambulatory surgical treatment center and Cardiac Catheterization Laboratory. The total movable equipment budget is \$2,250,000, consisting of \$2,070,000 in clinical costs and \$180,000 in non-clinical costs.

Clinical equipment includes, but is not limited to, the Allura Xper FD20 cardiac catheterization and fluoroscopy system (\$1,381,122), a surgical microscope (\$191,823), two anesthesia machines with full setup (\$119,697), two steam sterilizers (\$119,697), two OR lights and booms (\$64,452), two OR tables (\$64,452), seven IV infusion pumps (\$27,930), seven physiological monitors (\$37,593), two blanket fluid warmers (\$26,207), two scrub sinks (\$34,618), two electrosurgical units (\$18,184), seven stretcher chairs (\$26,853), three OR carts (\$18,411), and other clinical items including side tables, mayo stands, IV poles, surgeon stools, anesthesia stools, anesthesia carts, crash cart, headlights, waste management suction, kick buckets, double ring stands, and patient thermometers. The equipment budget is further supported by the underlying construction scope, which includes significant investment in building systems necessary to operate a modern ambulatory surgical facility with cardiac catheterization capabilities.

ATTACHMENT 7

Project Costs and Sources of Funds

Non-clinical equipment costs total \$180,000 and include computers, phones, equipment carts, linen carts, shelving, a work station, glovebox holders, hand sanitizer dispensers, sharps containers, a sink, and staff workroom furnishings including a refrigerator, microwave, and coffemaker. These items support patient registration, scheduling, medical records management, and overall facility operations.

Equipment Item	Qty	Unit Cost (Revalued)	Total Cost	Location
OR Lights and Booms	2	\$32,226.18	\$64,452.36	OR
OR Tables	2	\$32,226.18	\$64,452.36	OR
Side Tables	6	\$2,455.33	\$14,731.98	OR
Double Ring Stands	2	\$495.67	\$991.34	OR
Electrosurgical Unit Bipolar	2	\$9,092.39	\$18,184.78	OR
Kick Buckets	2	\$245.30	\$490.60	OR
Mayo Stands	2	\$904.07	\$1,808.14	OR
Mayo Stands (Large)	1	\$1,122.70	\$1,122.70	OR
IV Poles	2	\$489.99	\$979.98	OR
Light Boxes	2	\$3,069.16	\$6,138.32	OR
Surgeon Stools	2	\$3,836.45	\$7,672.90	OR
Anesthesia Stools	3	\$1,534.58	\$4,603.74	OR
Allura Xper FD20	1	\$1,381,122.10	\$1,381,122.10	OR
Blanket Fluid Warmer	2	\$13,105.31	\$26,210.62	OR
Waste Management Suction	2	\$138.11	\$276.22	OR
Crash Cart	1	\$2,915.70	\$2,915.70	OR
Headlights	2	\$2,148.41	\$4,296.82	OR
Microscope	1	\$191,822.51	\$191,822.51	OR
Anesthesia Cart	2	\$3,069.16	\$6,138.32	OR
Scrub Sink	2	\$17,310.06	\$34,620.12	OR
IV Infusion Pumps	7	\$3,989.91	\$27,929.37	Anesthesia
Anesthesia Machines/Setup	2	\$59,848.62	\$119,697.24	Anesthesia
Physiological Monitors	7	\$5,371.03	\$37,597.21	PACU
Computers	7	\$920.75	\$6,445.25	OR/PACU
Phones	8	\$460.37	\$3,682.96	OR/PACU
Equipment Carts (blank qty)		\$4,603.74	\$0.00	PACU
Equipment Carts	7	\$2,301.87	\$16,113.09	PACU
Linen Carts	2	\$1,500.82	\$3,001.64	PACU
Stools PACU	7	\$623.04	\$4,361.28	PACU
Stretcher Chairs	7	\$3,836.45	\$26,855.15	PACU
OR Carts	3	\$6,138.32	\$18,414.96	PACU
Patient Thermometer	7	\$267.02	\$1,869.14	PACU
Glovebox Holders	8	\$64.45	\$515.60	All

ATTACHMENT 7

Project Costs and Sources of Funds

Equipment Item	Qty	Unit Cost (Revalued)	Total Cost	Location
Hand Sanitizer Dispenser	10	\$84.40	\$844.00	All
Refrigerator	1	\$3,682.99	\$3,682.99	Staff Workroom
Microwave	1	\$368.30	\$368.30	Staff Workroom
Coffeemaker	1	\$274.69	\$274.69	Staff Workroom
Sharps Container (20 Gallon)	1	\$527.90	\$527.90	Decontamination
Work Station	1	\$8,440.19	\$8,440.19	Prep/Packaging
Sink	1	\$537.10	\$537.10	Decontamination
Shelving	3	\$5,371.03	\$16,113.09	Prep/Packaging
Sterilizer Steam	2	\$59,848.62	\$119,697.24	Prep/Packaging
Total	134		\$2,250,000.00	

Fair Market Value of Leased Space or Equipment

This line item reflects the fair market value of leased space and/or equipment utilized for the project. The valuation is based on commercially reasonable lease terms for comparable medical office and surgical space within the Chicago market and ensures compliance with regulatory requirements regarding fair market value. The clinical costs associated with this line item are \$1,417,680, and the non-clinical costs are \$727,320, for a total of \$2,145,000. The amount is based on a 10-year lease with a 1.030% annual escalator.

ATTACHMENT 8

Project Status and Completion Schedules

The proposed project does not involve construction and no change to the physical layout of the facility as it currently exists. The proposed project completion date is upon approval by the Illinois Department of Public Health of the facility to perform Cardiac Catheterization and ASTC services on or by December 31, 2027.

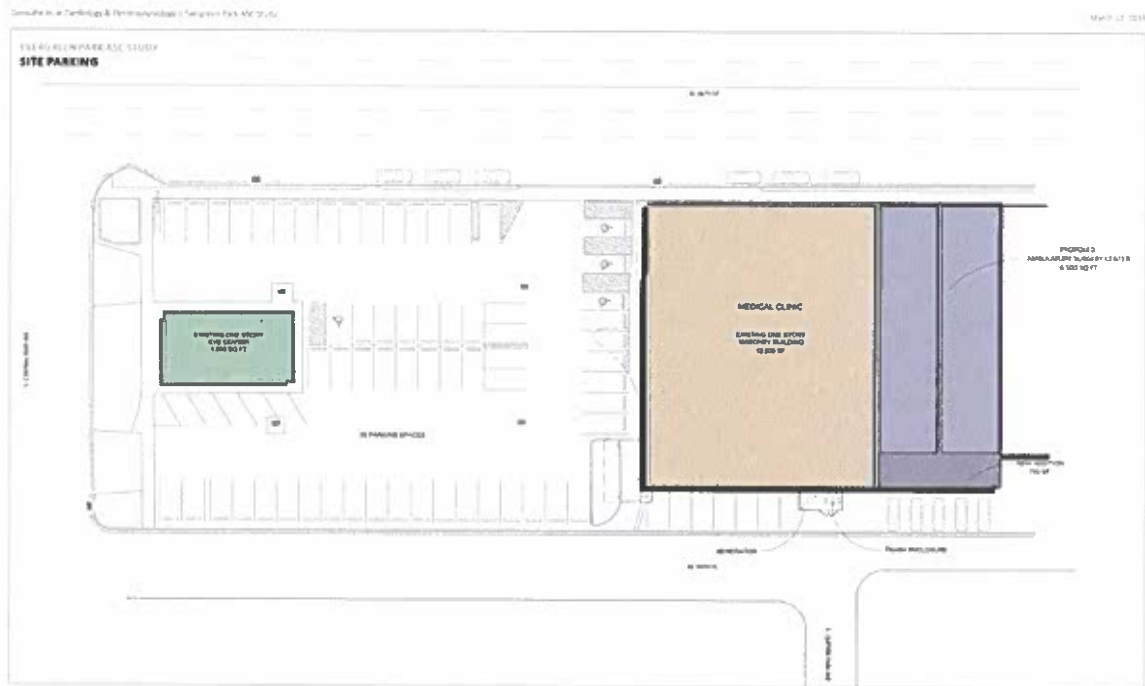
ATTACHMENT 8

Project Status and Completion Schedules



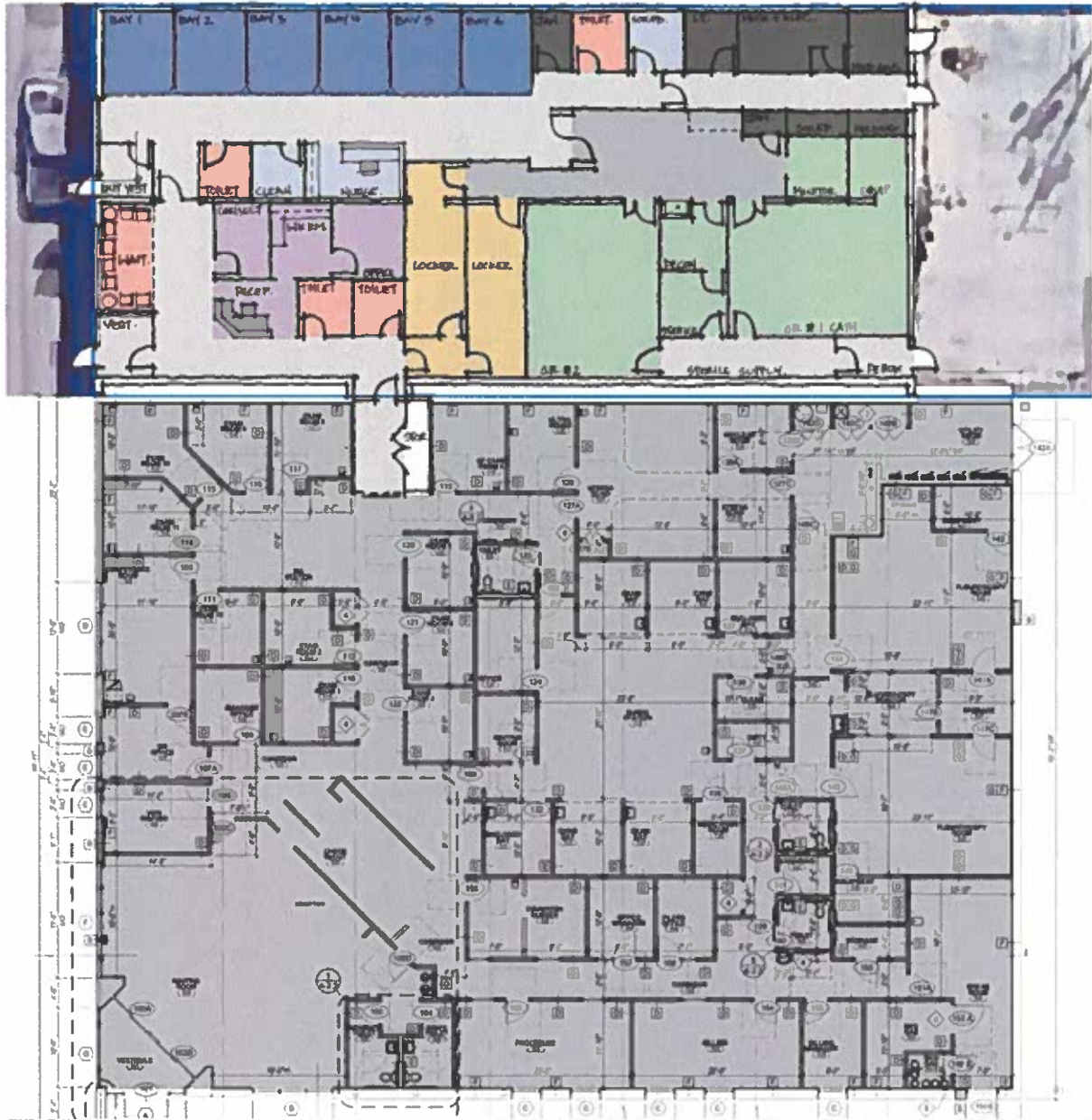
ATTACHMENT 8

Project Status and Completion Schedules



ATTACHMENT 8

Project Status and Completion Schedules



ATTACHMENT 9 COST SPACE REQUIREMENTS

Department / Area	Cost	Gross Square Feet		Amount of Proposed Total Gross Square Feet That Is:			
		Existing	Proposed	New Const.	Modernized	As Is	Vacated Space
REVIEWABLE							
Medical Surgical (Surgical Suite)	\$5,158,249	-	4,296	4,296	-	-	-
Total Clinical	\$5,158,249	-	4,296	4,296	-	-	-
NON-REVIEWABLE		-			-	-	-
Administrative	\$1,765,251	-	2,204	2,204	-	-	-
Total Non-clinical	\$1,765,251	-	2,204	2,204	-	-	-
TOTAL	\$6,923,500	-	6,500	6,500	-	-	-
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.

Midwest Ambulatory Surgical Center, LLC

The proposed project is brought forth by Midwest Ambulatory Surgical Center, LLC. The ownership of facility is reflected in Attachment 4.

The physician owners of Midwest Ambulatory Surgical Center, LLC have a direct ownership interest in Consultants in Cardiology & Electrophysiology LLC. The Applicant certifies that there have been no adverse actions taken against the proposed licensee during the three (3) years prior to the filing of this application. A letter certifying the above information is included at Attachment 11.

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

Midwest Ambulatory Surgical Center LLC filed its Articles of Organization with the Secretary of State of Illinois on December 17, 2025. Midwest Ambulatory Surgical Center LLC is located at 3523 W. 95th Street, Evergreen Park, IL 60805. The new ASTC will provide Cardiac Catheterization Services in the Southwest Chicagoland area.

The owners of Midwest Ambulatory Surgical Center LLC are all providers with Consultants in Cardiology & Electrophysiology located near the proposed site at 3545 W. 95th Street, Evergreen Park, IL 60805 and 43 Orland Square Drive, Orland Park, IL 60462. Consultants in Cardiology & Electrophysiology utilize a team of doctors and nurse practitioners to provide patients with access to a variety of cardiology services. This includes, but is not limited to, cardiology consultations, cardiac stress tests, hypertension evaluations, electrocardiograms, echocardiograms, pacemaker evaluations, varicose vein treatments, carotid ultrasounds, aortic aneurysm screening, and lower extremity angiograms. Consultants in Cardiology & Electrophysiology offers a comprehensive range of in-office and hospital high quality cardiac services to patients.

Nouri Al-Khaled, M.D.

Nouri Al-Khaled, M.D., will serve as the Medical Director of the Midwest Ambulatory Surgical Center. Dr. Al-Khaled is board-certified in cardiovascular disease and interventional cardiology and has extensive experience treating acute myocardial infarctions, carotid artery disease, and complex vascular conditions using advanced stenting techniques with embolic protection devices.

Dr. Al-Khaled graduated with honors from Damascus University School of Medicine and completed his residency training at Henry Ford Hospital. His distinguished career has been recognized through numerous awards and professional accolades, including being named a *Chicago Area Top Interventional Cardiologist* by *Chicago Magazine* and being featured on *Measure of Our Mission*, which highlighted his use of innovative interventional techniques.

Dr. Al-Khaled is committed to providing the highest quality of care to patients with coronary artery disease, anginal chest pain, and peripheral vascular disease, frequently utilizing new and advanced technologies. For example, he is experienced in the use of the SilverHawk plaque excision system and is certified in transcatheter aortic valve replacement (TAVR), a cutting-edge, minimally invasive technology that replaces the aortic valve without opening the chest cavity.

ATTACHMENT 11

Background of the Applicant

In addition to his clinical practice, Dr. Al-Khaled is actively engaged in academic and professional endeavors. He regularly publishes research in peer-reviewed medical journals, conducts innovative clinical research, and presents at national conferences. He also serves as an Assistant Clinical Professor of Medicine at the University of Illinois College of Medicine, practices as a cardiologist at Consultants in Cardiology & Electrophysiology and maintains affiliations with numerous hospitals throughout the Chicagoland area.

The establishment of the Midwest Ambulatory Surgical Center will allow Dr. Al-Khaled to provide more centralized, efficient, and patient-focused care.

ATTACHMENT 11 Background of the Applicant



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

Nouri Al Khaled MD

Chadi Nouneh MD

William H. Spear MD

Ali R. Zaiki MD

Wassim Ballany MD

Luay Rifai MD

Ibrahim Kassar MD

Hussam Watti MD

Joaquim S. Barboza MD

M. Tarek Kabbany MD

Adedotum Ogunsua MD

Bahij Kreidieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, LLC – Certification and Authorization

Dear Mr. Kniery,

As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled,, 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 Midwest Ambulatory Surgical Center, LLC, has no other interest in any other healthcare facilities and as a result there are no adverse actions to report.

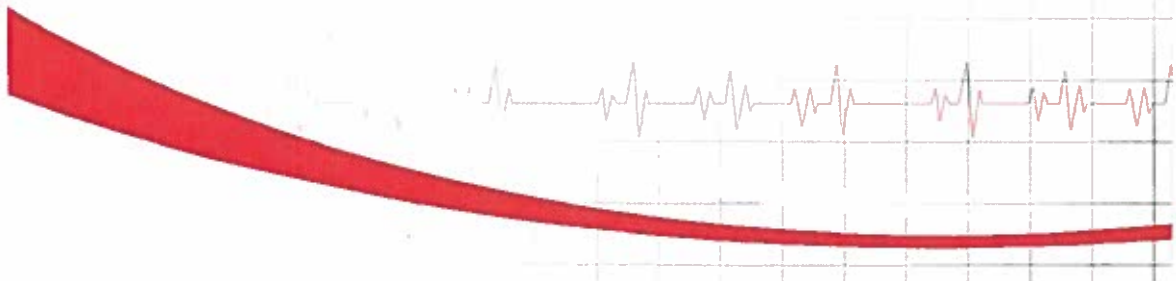
I hereby certify this is true and based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

Nouri, Al-Khaled, M.D
Managing Member
Midwest Ambulatory Surgical Center, LLC

3545 W 95th Street
Evergreen Park, IL 60805
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Orland Park, IL 60462
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Background of the Applicant

Chadi Nouneh, M.D.,F.A.C.C.,FSCAI

Chief of Cardiology

Director of the Cath lab

Director of the Heart Failure Clinic

(i) PERSONAL INFORMATION:

Work Address:	Consultant in Cardiology and Electrophysiology 3545 West 95 th Street/ Evergreen Park, IL 60805
Work Phone:	708-346-5562
Work Fax:	708-346-2059
Email:	cnouneh@yahoo.com

CERTIFICATION:

Year 2003 – Year 2023	The American Board of Internal Medicine
Year 2007 – Year 2027	National Board of Echocardiography
Year 2007 – Year 2027	The American Board of Cardiovascular Disease
Year 2007 – Year 2027	Certification Board of Nuclear Cardiology
March 2008	Level 3 Training in Cardiac CT
Year 2008	Board in Cardiovascular Computer Tomography
Year 2008 – Year 2028	The American Board of Interventional Cardiology
Year 2009- Year 2019	The American Board of Vascular Medicine
Year 2009- Year 2019	The American Board of Endovascular Medicine

WORK EXPERIENCE

August 2008 – Current	Interventional Cardiologist Consultant in Cardiology and Electrophysiology LLC
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Background of the Applicant

GRADUATE TRAINING

July 2007 – June 2008	Interventional Cardiovascular Fellowship University of Illinois at Chicago Chicago, IL
July 2004 – June 2007	Cardiovascular Fellowship University of Illinois at Chicago Chicago, IL
July 2003 – June 2004	Chief Resident/Attending, Internal Medicine Albert Einstein College of Medicine Jacobi Medical Center Bronx, NY
July 2000 – June 2003	Internal Medicine Resident in Graduate Training Albert Einstein College of Medicine Jacobi Medical Center Bronx, NY
July 1999 – June 2000	Hematology/Oncology, Palliative Medicine Fellow in Graduate Training The Cleveland Clinic Foundation Cleveland, OH
July 1998 – May 1999	Genetic Susceptibility to End-Stage Renal Disease in Patients with Hypertension Research Coordinator Preceptor: Sudah Iyengar Ph.D. Case Western Reserve University School of Medicine, Metro Health Hospital Cleveland, OH
March 1998 – June 1998	Albert Einstein College of Medicine Externship in the Department of Medicine Bronx, NY
August 1997 – February 1998	Kaplan Preparation Course USMLE Step I, II, III Cleveland, OH
September 1996 – July 1997	Saint Louis Hospital Internship Damascus, Syria

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Background of the Applicant

EDUCATION:

September 1990 – September 1996 Damascus University, School of Medicine
Damascus, Syria
Diploma: Doctor of Medicine

RESEARCH EXPERIENCE:

April 2009-2011 The PLATINUM Clinical Trial (S2046) PLATINUM: "A Prospective, Randomized, Multicenter Trial to Assess an Everolimus-Eluting Coronary Stent System (PROMUS Element™) for the Treatment of up to two De Novo Coronary Artery Lesions"
Co-Investigator

2008- 2011 "The HERCULES Trial"
A Prospective, Non-Randomized, Multi-Center, Single-Arm Clinical Trial to Assess the Safety and Efficacy of the Rx Herculink® Elite™ Renal Stent System for the Treatment of Suboptimal Post-Procedural Percutaneous Transluminal Angioplasty (PTA) in Atherosclerotic De Novo or Restenotic Renal Artery Stenoses in Patients with Uncontrolled Hypertension: Herculink® Elite™ Cobalt Chromium Renal Stent Trial to Demonstrate Efficacy and Safety- "The HERCULES Trial"
Co-Investigator

2008-2011 Carotid Stenting For High Surgical-Risk Patients; Evaluating Outcomes Through The Collection Of Clinical Evidence ("CHOICE")
Co-Investigator

2007-2008 A Clinical Trial Comparing Treatment with Cangrelor (in combination with usual care) to usual care, in Subjects who require Percutaneous Coronary Intervention (CHAMPION Platform)
Co-Investigator
University of Illinois at Chicago/Jesse Brown VAMC
Chicago, IL

2005-2008 Quality assessment of patient undergoing percutaneous coronary intervention (PCI): Database development with a focus on adherence to national standards, outcomes, and risk factor modification.
Co-Investigator
Investigators: Adhir Shroff, MD, John Kao, MD, Chadi Nouneh, MD
University of Illinois at Chicago/Jesse Brown VAMC
Chicago, IL

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Background of the Applicant

- | | |
|-----------|---|
| 2006-2007 | <p>Homing of the Mesenchymal Stem Cell</p> <p>Principle Investigator</p> <p>Investigators: Chadi Nouneh, MD, David Geenen, PhD, et al.</p> <p>University of Illinois at Chicago</p> <p>Chicago, IL</p> |
| 2005-2006 | <p>Prevention of Contrast-Induced Nephropathy in Cardiac Catheterization with Sodium Bicarbonate</p> <p>Co-Investigator</p> <p>Investigators: Peter Buttrick, MD, Paul Vaitkus, MD, Syed Hasan, MD, Chadi Nouneh, MD</p> <p>University of Illinois at Chicago</p> <p>Chicago, IL</p> |
| 2002-2004 | <p>Comparison between CRRT and Dobutamine/Milrinone Effect on Neurohormonal Activation and Outcome in CHF Patients: A prospective randomized trial</p> <p>Co-Investigator</p> <p>Investigators: Anjali Acharya, MD, Thierry LeJemtel MD, Chadi Nouneh, MD, et al.</p> <p>Albert Einstein College of Medicine</p> <p>Jacobi Medical Center</p> <p>Bronx, NY</p> |
| 2001-2004 | <p>Correlation between Plasma Levels of BNP and Endothelin with Peak Aerobic Capacity in Patients with Congestive Heart Failure</p> <p>Co-Investigator</p> <p>Investigators: Thierry LeJemtel, MD, Chadi Nouneh, MD, et al.</p> <p>Albert Einstein College of Medicine,</p> <p>Jacobi Medical Center</p> <p>Bronx, NY</p> |
| 2001-2002 | <p>Metalloproteinase Inhibition with low dose Doxycycline to prevent Acute Ischemic Coronary Syndromes (MIDAS Trial): A Prospective, Randomized, Double Blind, Placebo-Controlled Trial</p> <p>Co-Investigator</p> <p>Investigators: David Brown MD, Chadi Nouneh, MD, et al.</p> <p>Albert Einstein College of Medicine</p> <p>Jacobi Medical Center</p> <p>Bronx, NY</p> |

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Background of the Applicant

1998-1999 Genetic Susceptibility to End-Stage Renal Disease in Patients with Hypertension
Research Coordinator
Principle Investigator: Sudha Iyengar, PhD- Director of the Department of Genotyping
Case Western Reserve University School of Medicine
Metro Health Hospital
Cleveland, OH

PUBLICATIONS:

September 2009 Initial Experience with the Anchor Wire Technique for Ostial Stent Placement Transcatheter Cardiovascular Therapeutics (TCT 2009), San Francisco CA
Chadi Nouneh, Szabolcs Szabo¹, Bruce Abramowitz¹
University of Illinois at Chicago, Chicago, IL; Advocate Christ Medical Center, Oak Lawn, IL

February 2008 Lesion Measurement by CTA May Help In Stent Sizing during PCI; Poster at CRT (Cardiovascular Revascularization Therapies) 2008, Washington D.C
Investigators: **Chadi Nouneh, MD**, Nimrod Lavi, MD, Jerome Hines, MD

November 2006 Automated Echo Determination of Left Ventricular Ejection Fraction using AutoEF
Podium Presentation given at American Heart Association (AHA) Annual Meeting 2006
Investigators: Nimrod Lavi, MD, Thomas D Stamos, MD, **Chadi Nouneh, MD**, Najamul Ansari, MD, Wassim Nouredine, MD

June 2006 The Incidence of Serious Hyperkalemia in an Urban Heart Failure Population on Aldosterone Antagonists
Podium Presentation given at AAHFN Annual Meeting 2006
Investigators: Dee Fontana, RN, **Chadi Nouneh, MD**, Pratap Agusala, MD, Brent Doering, PharmD, Thomas D. Stamos, MD

December 2005 Takayasu Arteritis; case presentation and review of the literature
Case Presentation to Chicago Cardiology Group
Authors: **Chadi Nouneh, MD**, Ashraf Abourahma, MD, Muhyaldeen Dia, MD

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Background of the Applicant

- April 2004 Clinical and Biochemical Results of the Metalloproteinase Inhibition with Subantimicrobial doses of Doxycycline to prevent Acute Coronary Syndromes: (MIDAS) Pilot trial
Published Study
Investigators: David L Brown, MD, Kavita Desai, MD, **Chadi Nouneh, MD**
Reference: Arterioscler Throm Vasc Biology 2004; 24:733-738
- November 2002 Clinical and Biochemical Results of the Metalloproteinase Inhibition with low-dose Doxycycline to prevent Acute Coronary Syndromes: (MIDAS) Pilot trial
Podium Presentations
Investigators: David L Brown, MD, Kavita Desai, MD, **Chadi Nouneh, MD**

Podium Presentation
Scientific Sessions 2002 AHA meeting
Session Title: 75th Anniversary Session: Risk Stratification and Selection of Therapy in NSTEMI Acute Coronary Syndromes

Podium Presentation
Accepted at the International Association of Dental Research, Finland, Europe
- December 2002 Correlation between Plasma Levels of BNP and Endothelin with Peak Exercise Oxygen Consumption in Patients with Congestive Heart Failure
Podium Presentation given at AHA Annual Meeting 2002
Investigators: Robert Moskowitz, MD, **Chadi Nouneh, MD**, Basel Skeif, MD, K Balidemaj, MD, Edmond Sonnenblick, MD, Thierry LeJemtel, MD
- May-2001 Palliative Medicine Consultation in Medical Oncology
Poster Presentation given at the American Society of Clinical Oncologists (ASCO) in 2001
Investigators: D. Walsh, MD, S. LeGrand, MD, M. Davis, MD **C. Nouneh, MD**
- January 2001 Methadone-Induced Myoclonus in Advanced Cancer
Published Article
Investigators: **Chadi Nouneh, MD**, Mellar P Davis, MD, FCCP, Declan Walsh, MSc, FACP
Reference: American Journal of Hospice and Palliative Care, Jan/Feb 2001; 18:1
Palliative Medicine, Cleveland Clinic Taussig Cancer Center
Cleveland, OH

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Background of the Applicant

February 2000 Modern Management of Cancer-Related Intestinal Obstruction
Published Article
Investigators: Mellar P Davis, MD, FCCP, **Chadi Nouneh, MD**
Reference: Current Oncology Reports, 2000, 2; 343-350
Palliative Medicine, Cleveland Clinic Taussig Cancer Center
Cleveland, OH

AWARDS:

September 2006	Legislative Conference Travel Award ACC, Washington, D.C
December 2004	Award of the Best Case Presentation Chicago Society of Echocardiography
July 2000 – June 2001	MERIT AWARD The Outstanding Intern of the Year Albert Einstein College of Medicine Jacobi Medical Center Bronx, NY

MEMBER AFFILIATION:

American College of Cardiology (ACC) (Fellow)	Member since 2004
Society for Cardiovascular Angiography and Interventions (SCAI)	Fellow Since 2009
American Society of Nuclear Cardiology (ASNC)	Member since 2004
Chicago Society of Echocardiography	Member since 2004
American Heart Association (AHA)	Member since 2007
Society of Cardiovascular Computed Tomography (SCCT)	Member since 2007
Society of Vascular Medicine (SVM)	Member since 2008

PRESENTATION:

June 13, 2009	Men's Path to Good Health Little Company of Mary Hospital. Men's Wellness Event Evergreen, IL
Feb 25, 2010	Cardiovascular Prevention Little Company of Mary Hospital Senior Educational Program Evergreen, IL

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Background of the Applicant

Feb 13, 2013	Appropriate Criteria for Coronary Intervention 6 th Annual Heart and Vascular Symposium Advocate Christ Medical Center Oak Lawn, IL
Feb 14, 2018	The Oculostenotic Reflex in the cath lab 11 th Annual Advocate Heart Institute Symposium
Feb 13, 2019	Medical Management vs PCI for stable CAD The Courage to Ignore ORBITA 12 th Annual Advocate Heart Institute Symposium

COURSES AND MAJOR MEETINGS:

November, 2002	American Heart Association Chicago, IL
March 13-14, 2003	Chief Resident s National meeting American Medical Association San Diego, CA
March 7-10, 2004	American College of Cardiology New Orleans, LA
November, 2004	American Heart Association New Orleans, LA
November 4-5, 2005	St Jude EP Course Saint Francisco, CA
March 11-14, 2006	American College of Cardiology Atlanta, GA
March 11, 2006	Society of Cardiovascular Computed Tomography Symposium on Cardiac CT Atlanta, GA
March 18-26, 2006	Basic Radioisotope handling Course, Part 1: Instrumentation and Physics Chicago, IL

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Background of the Applicant

April 6-8, 2006	2 nd Annual CT Angiography for Cardiologist Milwaukee, WI
May 6-14, 2006	Basic Radioisotope Handling Course, Part 2: Radiopharmacy, Radiobiology, Radiation Safety, and the Mathematics Associated with the Use of Radioactivity Chicago, IL
June 15-17, 2006	Heart Valve Summit Chicago, IL
August 4-6, 2006	Change the Pace, EP/Pacemaker Saint Francisco, CA
September 29, 2006	Pacemaker implant, St Jude Memphis, TN
October 21-23, 2006	Feinberg School of Medicine, Echo Course Chicago, IL
November 11, 2006	Nuclear Cardiology Overview and Update Chicago, IL
November 12-15, 2006	American Heart Association Chicago, IL
November 29-December 2, 2006	the Society for Cardiovascular Angiography and Interventions Cardiology Fellow Course Las Vegas, NV
January 13, 2007	Johns Hopkins CTA Course Chicago, IL
March 24-27, 2007	American College of Cardiology New Orleans, LA
April 18-20, 2007	The American Society of Echocardiography Board Review Course Atlanta, GA
May 2-4, 2007	CT Angiography, Master's Course, Illinois Heart and Vascular Chicago, IL

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Background of the Applicant

July 21-22, 2007	The American Society of Nuclear Cardiology Board Review Course Chicago, IL
August 3-4, 2007	Summer in Seattle (SIS) Swedish Hospital interventional Course Seattle, WA
August 17-19, 2007	Advances in Endovascular intervention Chicago, IL
August 19-23, 2007	The Cleveland Clinic Foundation Cardiology Board Review Course Cleveland, OH
September 7-9, 2007	Advances in Interventional Cardiology Symposium Miami, FL
September 25-28, 2007	VIVA, Vascular Interventional Advances Las Vegas, NV
October 3-5, 2007	Scripps Clinic Coronary Interventions San Diego, CA
February 11-13, 2008	CRT, Cardiovascular Revascularization Therapies Washington, D.C
March 29-April 1, 2008	American College of Cardiology Chicago, IL
April 2-5, 2008	Cardiovascular Research Foundation 14 th Annual Interventional Cardiology San Jose, CA
May 8-10, 2008	CT Board Exam Preparation Course 4 th Annual CT Angiography for the Cardiologist Chicago, IL
May 29- June 1, 2008	Society for Vascular Medicine Board Review Course Minneapolis, MN

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Background of the Applicant

May 29- May 31, 2009	Current Practice of Vascular Ultrasound Institute for advanced Medical Education Chicago, IL
Sep 21-25, 2009	Transcatheter Cardiovascular Therapeutics (TCT 2009) San Francisco CA
Oct 18-22, 2010	VIVA, Vascular Interventional Advances Las Vegas, NV
Jan 24-28, 2011	ECHO Hawaii/ Mayo clinic Kona, Hawaii
November 2011	Transcatheter Cardiovascular Therapeutics (TCT 2011) San Francisco, CA
May 2012	European Society of Interventional Cardiology ESC Paris, France
October 2012	VIVA, Vascular Interventional Advances Las Vegas, NV
October 2013	Transcatheter Cardiovascular Therapeutics (TCT 2013) San Francisco, CA
February 2014	ECHO Hawaii/ Mayo Clinic Kawai, HA
October 2014	VIVA, Vascular Interventional Advances Las Vegas, NV
February 2015	Hospital Management Course The Advisory Board Company Chicago, IL
October 2015	Transcatheter Cardiovascular Therapeutics (TCT 2015) San Francisco, CA
October 2016	VIVA, Vascular Interventional Advances Las Vegas, NV

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Background of the Applicant

April 2017	Echo Board Review Course Philadelphia, PA
September 2017	Cardiology Board Review Course Chicago, IL
August 2018	Interventional Cardiology Review Course ACC Amelia Island, Jacksonville , FL

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Background of the Applicant

CURRICULUM VITAE

John H. Burke, MD, FACC

OFFICE ADDRESS:

Consultants in Cardiology and Electrophysiology LLC
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Fax: (708) 346-2059

HOME ADDRESS:

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Darien, Illinois 60561-3683
(630) 964-8277 home
(708) 906-7702 cell

Place of Birth: Chicago, Illinois

Education:

1982	BA	University of Chicago, Chicago, Illinois. Major: Chemistry, with honors.
1986	MD	University of Chicago Pritzker School of Medicine, Chicago, Illinois, with honors.

Postdoctoral Training:

1986-1987	Intern, Internal Medicine, University of Chicago, Chicago, Illinois.
1987-1989	Resident, Internal Medicine, University of Chicago, Chicago, Illinois.
1991-1994	Fellow, Cardiology, Northwestern University, Chicago, Illinois.
1994-1995	Fellow, Cardiac Electrophysiology, Northwestern University, Chicago, Illinois.

Professional Positions:

1995-present	Attending Physician, Consultants in Cardiology and Electrophysiology, S.C., Oak Lawn, Illinois.
1989-1991	Attending Physician, General Internal Medicine, (Humana) Michael Reese Health Plan, Chicago, Illinois.

Academic Appointment:

1997-present	Clinical Assistant Professor of Medicine, University of Illinois at Chicago, Chicago, Illinois.
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Hospital Appointments:

1995-present	Attending, Christ Hospital and Medical Center, Oak Lawn, Illinois.
1996-present	Attending, Palos Community Hospital, Palos Heights, Illinois.
1997-present	Attending, Little Company of Mary Hospital, Evergreen Park, Illinois.

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Background of the Applicant

1997-present	Attending, Community Hospital, Munster, Indiana.
1997-2018	Consultant, Franciscan St. Margaret Hospital, Hammond, Indiana
1999-2018	Consultant, Franciscan St. James Hospital, Olympia Fields, Illinois
1996-2011	Consultant, Holy Cross Hospital, Chicago, Illinois.
1996-2005	Consultant, South Suburban Hospital, Hazel Crest, Illinois.
1996-2008	Consultant, Gottlieb Memorial Hospital, Melrose Park, Illinois.
1996-2005	Consultant, St. Francis Hospital, Blue Island, Illinois.
1997-2000	Consultant, St. Mary Medical Center, Hobart, Indiana.
1997-1998	Consultant, Porter Memorial Hospital, Valparaiso, Indiana.
1997-1998	Consultant, Trinity Hospital, Chicago, Illinois.
1989-1991	Associate, Michael Reese Hospital, Chicago, Illinois.

Licensure and Certification:

1987	Diplomate, National Board of Medical Examiners.
1988	Licensed Physician and Surgeon, State of Illinois.
1989	Certificate, American Board of Internal Medicine, Internal Medicine (no expiration).
1995	Licensed Physician, State of Indiana.
1995	Certificate, American Board of Internal Medicine, Cardiovascular Disease.
1996	Certificate, American Board of Internal Medicine, Clinical Cardiac Electrophysiology.
1997	Certificate, Certification Board of Nuclear Cardiology.
1998	Testamur, NASPEXAM.
2005	Recertified, American Board of Internal Medicine, Cardiovascular Disease
2006	Recertified, American Board of Internal Medicine, Clinical Cardiac Electrophysiology.
2007	Recertified, Certification Board of Nuclear Cardiology.
2015	Recertified, American Board of Internal Medicine, Cardiovascular Disease
2016	Recertified, American Board of Internal Medicine, Clinical Cardiac Electrophysiology.
2017	Recertified, Certification Board of Nuclear Cardiology.

Honors, Awards and Grants:

1982	Elected to Phi Beta Kappa honor society, Beta of Illinois.
1982	BA degree with honors, University of Chicago.
1986	Elected to Alpha Omega Alpha honor society, Beta of Illinois.
1986	MD degree with honors, University of Chicago.

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Background of the Applicant

1993 Junior Research Fellowship Grant, American Heart Association of
Metropolitan Chicago.

Professional Societies:

1986 American College of Physicians, Member.
1995 American Medical Association (and Chicago and Illinois Affiliates)
1996 Elected to Fellowship, American College of Cardiology.
1997 American Society of Nuclear Cardiology, Member.
1999 North American Society of Pacing and Electrophysiology, Member.
2013 Elected to Fellowship, Heart Rhythm Society

Clinical Interests: Cardiac device implantation and management
 Lead extraction
 Cardiac rhythm management, including simple and complex catheter
 ablation.

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Background of the Applicant

BIBLIOGRAPHY

Papers:

1. Burke JH, Ehlert FA, Kruse JT, Parker MA, Goldberger JJ, Kadish AH. Gender-Specific Differences in the QT Interval and the Effect of Autonomic Tone and Menstrual Cycle in Healthy Adults. *Am J Cardiol*. 79:178-181, 1997.
2. Burke JH, Goldberger JJ, Ehlert FA, Kruse JT, Parker MA, Kadish AH. Gender Differences in Heart Rate Before and After Autonomic Blockade: Evidence Against an Intrinsic Gender Effect. *Am J Med*. 100:537-543, 1996.
3. Adamson J, Burke JH, Grobstein P. Recovery of the Ipsilateral Oculotectal Projection Following Nerve Crush in the Frog: Evidence that Retinal Afferents Make Synapses at Abnormal Tectal Locations. *J. Neurosci*. 4:2635-2649, 1984.

Abstracts and Presentations:

1. Burke JH, Ehlert FA, Kruse JT, Ahmed MW, Goldberger JJ, Kadish AK. Gender Differences in the Corrected QT Interval: Persistence After Autonomic Blockade. *Circulation* 88:I-27 (Suppl.), 1993.

Presented orally at the 66th Scientific Sessions of the American Heart Association, November 8, 1993, Atlanta, Georgia.
2. Burke JH, Ehlert FA, Kruse JT, Parker MA, Kong TQ, Goldberger JJ, Kadish AK. Gender Differences in Sinus Cycle Length Before and After Autonomic Blockade: Are They Truly Gender Related? *Circulation* 88:I-45(Suppl.), 1993.

Presented as a poster at the 66th Scientific Sessions of the American Heart Association, November 8, 1993, Atlanta, Georgia.

Presented orally at the Annual Convention of the General Clinical Research Center Directors, December 2, 1993, Reston, Virginia.
3. Goldberger JJ, Kruse JT, Doyle SA, Barrett AD, Burke JH, Smith JR, Kim YH, Kadish AK. Effect of Informed Consent on Patient Anxiety Levels. *J Am Coll Cardiol* 23:167A(Suppl.), 1994.
4. Burke JH, Ehlert FA, Kruse JT, Goldberger JJ, Kadish AH. Menstrual Cycle Variability In The QTc Interval. *Circulation* 90:I-663(Suppl.), 1994.

Presented orally at the 67th Scientific Sessions of the American Heart Association, Dallas, Texas, November 17, 1994.

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Background of the Applicant

5. Kadish AH, Goldberger JJ, Burke JH, Smith JR, Inbar S, Johnson D. Effects of Intravenous Propranolol on Human Ventricular Strength Interval Curves: A New Anti-Arhythmic Mechanism? *Circulation* 92:1-194(Suppl.), 1995.
6. Goldberger JJ, Inbar S, Burke JH, Smith JR, Kadish AH. Utility of One Month Transvenous Implantable Defibrillator Tests. *PACE* 19(4):667, 1996.

ATTACHMENT 11

Background of the Applicant

Nouri Al-Khaled, M.D., F.A.C.C.
Assistant Clinical Professor, University of Illinois at Chicago
3545 W 95th Street
Evergreen Park, IL 60805
708-346-5562

CURRENT CLINICAL EXPERIENCE:

Interventional cardiology: Coronary balloon angioplasty and stent, directional atherectomy, laser angioplasty, intravascular ultrasound and coronary flow studies. Extensive expertise in acute myocardial infarction with record door to balloon time of 28 minutes.

Peripheral vascular occlusive disease: Interventional approach, including expertise in up to date instrumentation i.e.: atherectomy, rotational atherectomy, balloon PTA/Stent. Large experience in carotid artery disease and interventions with stenting utilizing embolic protection devices. Special expertise in renal artery angioplasty and stenting.

MEDICAL EDUCATION and BOARD CERTIFICATION:

- 2000: Board certified in Interventional Cardiology. (Recertified in 2021)
- 1995: Board certified in Cardiovascular Diseases. (Recertified in 2015)
- 1984: Doctor of Medicine (M.D.), Damascus University, School of Medicine, Syria.

POSTGRADUATE TRAINING:

- Jul. 1994 – Jun. 1995: Fellowship, Interventional Cardiology, Heart and Vascular Institute, Henry Ford Hospital, Detroit, Michigan.
- Jul. 1991 – Jun. 1994: Fellowship, Adult Cardiology, Heart and Vascular Institute, Henry Ford Hospital, Detroit, Michigan.
- Jan. 1987 – Apr. 1991: Residency, Combined Internal Medicine – Pediatrics training, Henry Ford Hospital, Detroit Michigan.

HONORS and AWARDS:

Featured in Chicago Magazine, “Chicago area top interventional cardiologists” in 2018, 2019, 2020, and 2021.

Featured in Channel 9 news, “New approach in the treatment of PVOD” utilizing Fox Hollow technology.

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Background of the Applicant

Featured in the February 2003 issue of *Measure of our Mission*, a publication of the Advocate Charitable Foundation. It highlighted the new and innovative techniques Dr. Al-Khaled utilized in the treatment of hypertrophic cardiomyopathy utilizing alcohol septal injections.

Teaching Excellence Awards presented by the University of Michigan students for two consecutive years, 1988 and 1989.

Ranked THIRD among 300 graduates, Damascus University, School of Medicine, 1984.

ABSTRACTS, PAPERS, & RESEARCH:

- 2009-2012 **Co-Investigator-CABANA-A Carotid Stenting Boston Scientific Surveillance Program**
- 2009-2010 **Co-Investigator-The PLATINUM Clinical Trial (S2046) Platinum: "A Prospective, Randomized, Multicenter Trial to Assess an Everolimus-Eluting Coronary Stent System (PROMUS Element) for the Treatment of up to two De Novo Coronary Artery Lesions.**
- 2009-2012 **Co-Investigator-TRACER-A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to evaluate the Safety and Efficacy of SCH 530348 in Addition to standard of care in subjects with acute Coronary Syndrome: Thrombin Receptor Antagonist for Clinical Event Reduction in Acute Coronary Syndrome.**
- 2008-2010 **Co-Investigator-RELY-ABLE-Long term multi-center extension of dabigatran treatment in patients with atrial fibrillation who completed the RELY trial and a cluster randomized trial to assess the effect of a knowledge translation intervention on patient outcomes.**
- 2007-2014 **Co-Investigator-Carotid Stenting for High Surgical Risk Patients; Evaluation Outcomes through the Collection of Clinical Evidence ("CHOICE)**
- 2007-2010 **Principle Investigator-Herculink Elite Cobalt Chromium Renal Stent Trial to Demonstrate Efficacy and Safety (HERCULES)**
- 2007-2010 **Principle Investigator-SONOMA-The NexStent® Carotid Stent System: A Post Market Approval Evaluation Study IN Conjunction with the Filter Wire EZ™ Embolic Protection System (Carotid artery stenosis)**
- 2006-2008 **Co-Investigator-ATHENA-A placebo-controlled, double-blind, parallel prevention of cardiovascular Hospitalization or death from any cause in patients with Atrial Fibrillation/Atrial Flutter (AF/AFL).**
- 2005-2010 **Co-Investigator-Carotid RX ACCULINK/ACCUNET Post Approval Trial to Uncover Unanticipated or Rare Events (CAPTURE 2).**

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Background of the Applicant

- 2003-2005 Co-Investigator-SVG in Diastolic Embolic Protection Randomized Trial (SPIDER Trial).
- 2003-2008 Co-Investigator, TAXUS ARRIVE 2: A multi-center safety surveillance program.

Al Halabi S., Templeton E., Heaney C., Saab F., Varcoe R., Van Den Berg J., Golzar J., Al-Khaled N., Armstrong E., Mustapha J. *Drug-Coated Versus Uncoated Percutaneous Transluminal Angioplasty Balloons for the Treatment of Infrapopliteal Peripheral Artery Disease: A Systematic Review and Meta-Analysis of Randomized Controlled Trials*. Journal of Critical Limb Ischemia. 2021.

Salehi P., Ellenby M., Al-Khaled N., Govostis D. *Bilateral Jaw Claudication As a Result of Atherosclerotic External Carotid Artery Stenosis*. Journal of Vascular Surgery 56:10.1016/j.jvs. 2012.

Borzak S., Al-Khaled N., Douthat L., Steinberg M., and Goldberg A.D. *Intravenous Clofilum for Conversion of Atrial Fibrillation*. Am J Cardiol 79:94-97, 1997.

Nass O., Rosman H., Al-Khaled N., Shimoyama H., Alam M., Sabbah, H.N., Goldstein S. *Relation of left ventricular chamber shape in patient with low ($\leq 40\%$) ejection fraction to severity of functional mitral regurgitation*. Am J Cardiol 76: 402-4, 1995.

Al-Asadi R., Al-Khaled N., Vertes D., Ohorodnik J.M. Goldman J., Borzak S. *Peripartum Cardiomyopathy and Postpartum Thyrotoxicosis due to an Autoimmune Mechanism*. Poster presentation at the 39th Annual Michigan Scientific Meeting of the American College of Physicians. October 1993. Grand Traverse Village, Michigan.

Al-Khaled N., Goetting M.G., Smith S. *Transesophageal Echocardiography during Human CPR*. Annals of Emergency Medicine 21:5,218/635, 1992.

Orfanou P., Al-Khaled N., Morales R.H., Rosman H., Doyle T. *Pericardial Effusion as the Initial Presentation of Mediastinal Non-Hodkin's Lymphoma*. Poster presentation at the 38th Annual Michigan Scientific Meeting of the American College of Physicians. October 1992. Grand Traverse Village, Michigan.

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Background of the Applicant

Ballouz S., Al-Khaled N., McFarland T.M. *Cardiac Tamponade Due to Ventricular Perforation with Central Venous Catheter Placement*. Case report and review of the literature. Poster presentation at the 38th Annual Michigan Scientific Meeting of the American College of Physicians. October 1992. Grand Traverse Village, Michigan.

Moumneh S., Al-Khaled N., Clark V.L. *Aortic Periventricular Ring Abscess and Fistul Formation Complicating Prosthetic Valve Endocarditis with Staphylococcus Epidermis*. Poster presentation at the 38th Annual Michigan Scientific Meeting of the American College of Physicians. October 1992. Grand Traverse Village, Michigan.

Al-Ejel F., Al-Khaled N., Clark V.L. *Calchum Channel Blockers Toxicity: Dramatic Clinical and Hemodynamic Response to Intravenous Injection of Calchum*. A case report. Poster presentation at the 38th Annual College of Physicians. October 1992. Grand Traverse Village, Michigan.

Goetting M.G., Al-Khaled N., Rivers E.P., Paradis N.A., Smithline H., Martin G.B., Appleton T.J., Nowak R.M. *Cardiopulmonary Resuscitation Causes a Volume Pump Effect in Humans*. Critical Care Medicine, 1991: 19,4,S26.

Al-Khaled N., Goetting M.G. *Life-Threatening Complications of Cold Medication*. Poster presentation. Third Annual Scientific Symposium of Michigan Committee Pediatrics Critical Care Medicine. May 1989. Flint, Michigan.

Al-Khaled N., A.D. *Endocrinology Emergencies*. July 1984 Damascus University School of Medicine.

Al-Khaled N., Dashash A.D., *Epidemiology of the Most Common Diseases in Elementary Schools in Damascus Suburbs*. June 1983. Damascus University School of Medicine.

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Background of the Applicant

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Hussam Watti, MD

Phone: [\(617\) 834-1278](tel:6178341278)

Work email: hussam.watti@steward.org

Personal email: hussamwetti@gmail.com

Residential Status: [Permanent resident](#)

EDUCATION & TRAINING

<i>Post-Doctoral Training</i> Interventional Cardiology Fellowship Tufts University-St Elizabeth's Medical Center Boston, Massachusetts	July 2018 – June 2019
<i>Post-Doctoral Training</i> General Cardiology Fellowship Ochsner Louisiana State University Health Sciences Center Shreveport, Louisiana	July 2015 – June 2018
<i>Post-Doctoral Training</i> Internal Medicine Residency Tufts University-St Elizabeth's Medical Center Boston, Massachusetts	June 2011 – June 2014
<i>Graduate</i> Doctor of Medicine, M.D. University of Aleppo Faculty of Medicine Aleppo, Syria	September 2003 – April 2010

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FACULTY ACADEMIC APPOINTMENT

Assistant Professor of Medicine <i>Department of Internal Medicine, Division of Cardiology</i> Virginia Commonwealth University Richmond, Virginia	November 2014 – June 2015
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Clinical Instructor of Medicine Harvard Medical School Boston, Massachusetts	July 2014 – October 2014
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WORK EXPERIENCES

Cardiology Hospitalist <i>Department of Internal Medicine, Division of Cardiology</i> Virginia Commonwealth University Richmond, Virginia	November 2014 – June 2015
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Associate Physician, Hospitalist <i>Division of Medicine, Unit of Hospital Medicine</i> Brigham & Women's Hospital/Faulkner Hospital Boston, Massachusetts	July 2014 – October 2014
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HONORS, AWARDS & ACHIEVEMENTS

Cardiovascular Research Technologies (CRT) Scholarship <i>Awarded full scholarship to attend CRT 2017 conference in Washington D.C. as a third year</i> <i>General Cardiology fellow based on qualifications and interest in Interventional Cardiology</i>	March 2018
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Cardiovascular Research Technologies (CRT) Scholarship <i>Awarded full scholarship to attend CRT 2017 conference in Washington D.C. as a second year</i> <i>General Cardiology fellow based on qualifications and interest in Interventional Cardiology</i>	February 2017
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Outstanding Commitment To Providing Superior Customer Service Award <i>U-SHINE awarded by University Health Sciences Center Shreveport, LA</i>	September 2016
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Highest Score in the Class on the Fellow In-Training Exam For 3 Consecutive Years <i>Scored in the highest percentile for the national average in 2017</i>	2015, 2016, 2017
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George L. Tully III, MD. Medical Educator Award <i>Awarded for demonstrating integrity, compassion, and dedication</i> <i>to excellence in patient care and education as well as commitment</i> <i>to student and resident teaching at the highest level-qualities embodied</i> <i>by Dr. Tully.</i>	June 2014
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Award for the Highest Score on the Resident In-Training Exam 2013	June 2014
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Top Two Medical Students	February 2010
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Top Five Medical Students for 6 consecutive years	September 2004 – April 2010
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Member of the Education Exchange Program of the Top 5 Ranked Medical Students among Arab Universities	August 2008
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MEDICAL & BOARD CERTIFICATION

Advanced Cardiac Life Support Certification (ACLS)	November 2017- November 2019
Basic Life Support (BLS)	November 2017- November 2019
American Board of Internal Medicine (ABIM)	August 2014
ECTMG	September 2010
Certification Board of Nuclear Cardiology (CBNC)	February 2018
Cardiovascular Disease Certification	October 2018

LICENSING EXAMINATIONS

USMLE Step 1	99%
USMLE Step 2CK	99%
USMLE Step 2 CS	First Attempt Pass
USMLE Step 3	First Attempt Pass

PUBLICATIONS

PEER REVIEWED JOURNAL ARTICLES

1. Watti H, Dahal K, Zabher H, Katikaneni P, Modi K, Abdulbaki A. Comparison of prasugrel and ticagrelor in patients with acute coronary syndrome undergoing percutaneous coronary intervention: A meta-analysis of randomized and non-randomized studies. *J Cardiol*. 2017; 249: 66-72. [PMID: 29121759]
2. Mina G, Watti H, Soliman D, Shewale A, Atkins J, Reddy P. Long term outcomes of new generation drug eluting stents versus coronary artery bypass grafting for multivessel and/or left main coronary artery disease. A bayesian network meta-analysis of randomized controlled trials. *Cardiovasc Revasc Med*. 2018 Jan 5. [PMID: 29396239]
3. Mina G, Acharya M, Shepherd T, Gobrial G, Tekeste M, Watti H, Bhandari R, Saini A, Dominic P. Digoxin is associated with increased shock events and electrical storms in patients with implantable cardioverter defibrillators. *J Cardiovasc Pharmacol Ther*. Jan 1 2017. [PMID: 28936878]
4. Dahal K, Rijal J, Sahukhal R, Sharma S, Watti H, Azrin M, Katikaneni P, Jimenez E, Tandon N, Modi K, Lee J. Comparison of manual compression and vascular hemostasis devices after coronary angiography of percutaneous coronary intervention through femoral artery access: A meta-analysis of randomized controlled trials. *Cardiovasc Revasc Med*. 2017. [PMID: 28941744]
5. Castilano A, Watti H, Abdulbaki A, Modi K, Bocchini J.A. Jr., Bahna S.L. (2017) Acute cardiac disease in a patient with hyper-IgE syndrome. *European Annals of Allergy and Clinical Immunology*. Case Report. *Eur Ann Allergy Clin Immunol*. 2017; 49(5): 231-234. [PMID: 28884991]

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PEER REVIEWED ABSTRACTS & POSTER PRESENTATIONS

1. Dahal K, Hanna M, Watti H, Njoku A, Katikaneni P, Modi K. Fractional Flow Reserve-Guided Complete Revascularization in Patients with ST- Elevation Myocardial Infarction: A Meta-analysis of Randomized Controlled Trials. *Cardiovascular Revascularization Technologies (CRT-100.47)* Washington, D.C. March, 2018
2. Dahal K, Yousuf A, Hanna M, Sharma S, Rijal J, Watti H, Telles N, Lee J, Njoku A, Jimenez E, Tandon N. Percutaneous Closure of Patent Foramen Ovale or Medical Therapy for Stroke Prevention: A Meta-Analysis. *American College of Cardiology (ACC) Annual Scientific Sessions, Orlando, FL, March 2018.*
3. Dahal K, Apte N, Bogabathina H, Hanna M, Watti H, Mina G, Katikaneni P, Modi K. Outcomes of Triple Therapy in Patients on Chronic Anticoagulation Undergoing Percutaneous Coronary Intervention: A Meta-analysis of Randomized Trials. *Society for Cardiovascular Angiography and Interventions Scientific Sessions, San Diego, CA, April 2018*
4. Dahal K, Hanna M, Watti H, Jimenez E, Tandon N. Percutaneous Transluminal Angioplasty Versus Other Strategies for Revascularization of Femoropopliteal In-stent Restenosis: A Meta-analysis of Randomized Trials. *Society for Cardiovascular Angiography and Interventions Scientific Sessions, San Diego, CA, April 2018*
5. Hanna M, Dahal K, Watti H, Dominic P. A Rare Case of Fatal Acute Pulmonary Vein Thrombosis After Radiofrequency Catheter Ablation of Atrial Fibrillation. *American College Of Cardiology (ACC) Annual Scientific Sessions, Orlando FL, March 2018*
6. Hanna M, Dahal K, Watti H, Tandon N, Jimenez E. Fractional Flow Reserve Guided Percutaneous Coronary Intervention in Patients with Acute Coronary Syndrome: A Meta-Analysis of Randomized Trials. *American College of Cardiology (ACC) Annual Scientific Sessions, Orlando, FL, March 2018*
7. Mina G, Watti H, Soliman D, Atkins J, Dominic P. New Generation Drug Eluting Stents Versus Coronary Artery Bypass Grafting for Multivessel and/or Left Main Coronary Artery Disease. A Comprehensive Network Meta-Analysis of Randomized Controlled Trials. *Society for Cardiovascular Angiography and Interventions (SCAI) Scientific Sessions, New Orleans, LA, May 2017.*
8. Bogabathina H, Acharya M, Kocherla C, Watti H, et al. (2017) Does gender matter in 2016? Vascular complications following common femoral arterial access: Then and now. *Society for Cardiovascular Angiography and Interventions (SCAI) Scientific Sessions, New Orleans, LA, May 2017.*
9. Hanna M, Watti H, Hendrani A, Dherange P, Modi K. Very Late Prosthetic Valve Thrombosis (PVT). *American College of Cardiology (ACC) Louisiana Chapter Annual Scientific Meeting, New Orleans, LA, October 2017*
10. Watti H, Kannabhiran M, Modi K, Castilano A, Abdulbaki A. Lymphocytic Myocarditis In Patient With Hyper Immunoglobulin E Syndrome (Job Syndrome). *American College of Cardiology (ACC) Louisiana Chapter Annual Scientific Meeting, New Orleans, LA, November 2016*

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SUBMITTED RESEARCH PAPERS UNDER REVIEW

1. Hanna M, Dahal K, Watti H, Tandon N, Jimenez E. Fractional flow reserve guided revascularization in patients with acute coronary syndrome: A meta-analysis of randomized trials.

ORAL PRESENTATION

Hanna M, Dahal K, Watti H, Tandon N, Jimenez E. Fractional Flow Reserve Guided Percutaneous Coronary Intervention in Patients with Acute Coronary Syndrome: A Meta-Analysis of Randomized Trials. *American College of Cardiology (ACC) Louisiana Chapter Annual Scientific Meeting New Orleans, LA, October 2017*

MEMBERSHIPS & PROFESSIONAL SOCIETIES

American College of Cardiology (ACC)	July 2015-Present
American Medical Association (AMA)	January 2013-Present
American College of Physician (ACP)	2013-2016

STATE LICENSURE

Commonwealth of Virginia	2014-September 2020
Commonwealth of Massachusetts	2014-September 2020
Louisiana State	2015-September 2018

LANGUAGES

English
Arabic

HOBBIES AND INTERESTS

Basketball, Soccer, Swimming, Travel, Outdoor Activities, Puzzles, Chess

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Background of the Applicant

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REFERENCES

1. Mohamaed F. Khan, MD, FACC
Associate Professor of Medicine-Tufts University School of Medicine
Interventional Cardiology Center Fellowship Program Director
Steward St. Elizabeth's Medical
Phone: (617) 789-3188
Email: faisal.khan@steward.org
2. Lawrence Garcia, MD, FACC
Associate Professor of Medicine-Tufts University School of Medicine
Chief of Interventional Cardiology
Steward St. Elizabeth's Medical Center
Phone: (617) 789-3188
Email: lawrence.garcia@steward.org
3. Tariq M. Bhat, MD, FACC
Assistant Professor of Medicine-Tufts University School of Medicine
Associate Director, Structural Heart Disease and Vascular Medicine
Steward St. Elizabeth's Medical Center
Phone: (617) 789-3188
Email: tariq.bhat@steward.org
4. Joseph Carrozza, MD
Professor of Medicine-Tufts University School of Medicine
Interventional Cardiology
Chief, Division of Cardiovascular Medicine
Steward St. Elizabeth's Medical Center
Phone: (617) 789-3188
Email: joseph.carrozza@steward.org

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Background of the Applicant

CURRICULUM VITAE

Ibrahim Kassas, MD

346 Turnpike Road, Apt 3207
Westborough, MA 01581
404-416-8748
ibrahim.kassas@gmail.com

EDUCATION & TRAINING

July 2018– June 2019

University of Massachusetts Medical School (UMass), Worcester, MA
Advanced Interventional and Structural Heart Disease (SHD) Fellowship

July 2017– June 2018

New York University (NYU), New York, NY
Interventional Cardiology Fellowship

July 2014– June 2017

University of Massachusetts Medical School (UMass), Worcester, MA
Cardiology Fellowship

July 2011– June 2014

University of Massachusetts Medical School (UMass), Worcester, MA
Internal Medicine Residency

August 2010– June 2011

Emory University/Emory Cardiovascular Research Institute (ECCRI), Atlanta, GA
Post-doctoral research fellowship in cardiovascular medicine

September 2005– April 2010

University of Aleppo- Faculty of Medicine, Aleppo, Syria
Clinical Sciences study (Medical School /MD Degree)

September 2002–June 2005

University of Aleppo- Faculty of Medicine, Aleppo, Syria
Basic sciences study

September 1999- June 2002

Advanced Students High School, Idlib, Syria
Baccalaureate (National High School Exams) ranked fourth in Syria with excellent average
98.8% (257/260)

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LICENSES

November 2018- present **Michigan License**

February 2017- present **New York License**

April 2014- present **Massachusetts License**

EXAMINATIONS & CERTIFICATIONS

May 2019
ABVM- General Vascular Medicine (Eligible)

March 2019
ABVM- Endovascular Exam (Board Certified)

October 2018
ABIM- Interventional Cardiology (Board Certified)

October 2018
CBCCT- Certification Board of Cardiac CT (Board Certified)

December 2017
CBNC- Certification Board of Nuclear Cardiology (Board Certified)

September 2017
ABIM- Cardiovascular Disease (Board Certified)

July 2017
ASCEXAM National Board of Echocardiography (Board Certified)

April 2017
RPVI Registered Physician in Vascular Interpretation (Board Certified)

August 2014
ABIM American Board of Internal Medicine (Board Certified)

February 2011
USMLE Step3

August 2010
ECFMG Certified

July 2010
USMLE Step2 Clinical Knowledge (CK)

June 2009
USMLE Step2 Clinical Skills (CS)

August 2008
USMLE Step1

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HONORS & AWARDS

April 2018

Society for Cardiovascular Angiography and Interventions (SCAI), Scientific Session, San Diego, CA

Best case presentation at the Fellows Summit

March 2017

American College of Cardiology, ACC 66th Annual Scientific Session, Washington, DC
Interventional Cardiology and the Year in Review: Highlighted Original Research

February 2017

CRT 2017 Fellows Scholarship Travel Award

Educational fellows program awarded to fellows with interest and scholarly accomplishments in interventional cardiology

December 2016

Massachusetts Chapter of the American College of Cardiology

2016 Fellows Program, Framingham, Massachusetts

Recognized Fellows Original Research Presentation

October 2016

Fellowship Travel Award for the Stanford Coronary Physiology Conference 2016

Educational travel award for fellows with interest and contribution in interventional cardiology

April 2010

Faculty of Medicine at Aleppo University, Aleppo, Syria

Ranked 4th for overall performance in Graduation (out of 400 medical graduates)

August 2003

Faculty of Medicine at Aleppo University, Aleppo, Syria

Ranked 2nd in the 1st year (out of 400 medical students)

August 2002

Ministry of Education, Damascus, Syria

Appreciation award for being ranked fourth in the country in Baccalaureate (National High School Exams) with excellent average 98.84% (257/260)

PROFESSIONAL MEMBERSHIP & APPOINTMENTS

Chapter Engagement Editorial Fellow for American College of Cardiology- Fellows In Training

Reviewer at Circulation Journal

Reviewer at Catheterization and Cardiovascular Interventions Journal

Fellow of Society for Cardiac Angiography and Interventions (FSCAI)

Member of American College of Cardiology (ACC)

Member of American Heart Association (AHA)

Member of Syrian American Medical Society (SAMS)

Member of American College of Physicians (ACP)

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Background of the Applicant

RESEARCH EXPERIENCE

November 2018– Present

University of Massachusetts Medical School (UMass), Worcester, MA

Evaluation of Treatment Strategies for Severe Calcific Coronary Arteries: Orbital Atherectomy vs. Conventional Angioplasty Technique Prior to Implantation of Drug-Eluting Stents (ECLIPSE)

ECLIPSE is a prospective, randomized one to one (1:1), multi-center trial designed to evaluate vessel preparation with the Diamondback 360® Coronary Orbital Atherectomy System (OAS) Classic Crown compared to conventional balloon angioplasty technique prior to stent implantation for the treatment of severely calcified coronary artery lesions.

- UMass site Sub-Investigator: Ibrahim Kassas, MD, FSCAI
- UMass site Principal Investigator: Nikolaos Kakouros, MBBS, MRCP, PhD
- Sponsor: Cardiovascular Systems, Inc. (CSI)
- Collaborator: Cardiovascular Research Foundation, New York
- [ClinicalTrials.gov Identifier: NCT03108456](https://clinicaltrials.gov/ct2/show/study/NCT03108456)

September 2015– June 2017

University of Massachusetts Medical School (UMass), Worcester, MA

Endothelial Function Assessment Lab (EFAL)

- Director and founder: Ibrahim Kassas, MD
- Mentor and supervisor: Dr. John F. Keaney, Jr., MD
- I established a team consisting of multiple residents, volunteers, research assistants and medical students with different academic interests and trained the team members on using multiple modalities in evaluating endothelial function in healthy subjects as well as in patients enrolled in different studies.
- Modalities include: Flow Mediated Dilation (FMD) and hyperemic flow using vascular ultrasound as well as digital flow hyperemia using EndoPAT technology.

August 2016–Present

University of Massachusetts Medical School (UMass), Worcester, MA

(ATLAS) Study - The effects of oral ATLAS (Arginine Tetrahydrobiopterin L-Ascorbate) Therapy to increase nitric oxide bioavailability, habitual physical activity, exercise test responses and biomarkers of patients with intermittent claudication secondary to peripheral arterial disease.

- Mentor: Dr. Louis Messina, MD
- Clinical trial investigating the role of a new multi-component agent in treating peripheral arterial disease (PAD) and atherosclerosis regression by increasing the bioavailability of nitric oxide and improving endothelial function.
- My role is to perform and supervise endothelial function assessment tests: FMDs, hyperemic flow change, and digital hyperemia using EndoPAT.

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August 2015– Present

University of Massachusetts Medical School (UMass), Worcester, MA

(RadBleed) Study - Development and validation of a model for predicting in-hospital bleeding events and safety of rapid discharge for patients undergoing transradial PCI.

- Mentor: Dr. Mohanuned W. Akhter, MD and Dr. Kurt Barringhaus, MD.

- Retrospective cohort study of patients undergoing percutaneous coronary interventions (PCI), that evaluates patient and procedural characteristics to derive a scoring system designed to predict risk of bleeding and safety of early discharge.

- IRB accepted and chart review started in September, 2015. Multiple abstracts and posters were submitted to multiple national meetings (SCAI 2016, AHA 2016, ACC 2017 and TCT 2017).

May 2013– Present

University of Massachusetts Medical School (UMass), Worcester, MA

(EndoACS) Study - Endothelial dysfunction in cardiovascular diseases

- Mentor: Dr. John F. Keaney, Jr., MD

- Prospective translational multi-cohort investigation, applying Flow Mediated Dilation (FMD) to evaluate endothelial function in various cardiovascular diseases.

- We studied the role of endothelial function by: in vivo non-invasive flow-mediated dilation (FMD) of brachial artery and in vitro quantification of circulating endothelial cells, microRNA, genetic profiles and different inflammatory markers.

- We studied a group of stress induced cardiomyopathy patients, compared with non- ST elevation ACS patients with promising preliminary results, which could explain one of the mechanisms leading into stress cardiomyopathy. Findings were presented at AHA 2016.

June 2016– Present

Syrian American Medical Society (SAMS) Cardiology Medical Missions to Refugee Camps, Amman, Jordan

- Mentor: Dr. Mohanuned W. Akhter, MD

- Prospective analysis of a refugee cohort of multiple cardiology missions to Jordan, performing several hundred cardiac procedures and cardiac surgeries and studying the unique demographic, medical, psychosocial factors that predispose refugees to cardiovascular risks and providing further support and medical interventions through SAMS and other humanitarian relief organizations.

- We are finalizing the report of the first 3 missions with performing nearly 250 cardiac catheterizations and 120 PCIs on Syrian refugees residing in Jordan.

October 2012– June 2014

Department of Quantitative Health Sciences at University of Massachusetts Medical School (UMass), Worcester, MA

Worcester Heart Attack Study (WHAS)

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Mentor: Dr. Robert Goldberg, PhD

I joined the Worcester Heart Attack Study (WHAS) as a medicine resident at UMass, where we looked at a large registry of patient who underwent coronary angiogram and angioplasty over the last 30 years in Central Massachusetts. We published our results in national meetings.

March 2011– February 2015

Emory University School of Medicine, Atlanta, GA

Global Coalition to Combat Cardio-Metabolic Syndrome

Mentor: Omar Lattouf, MD, PhD, Professor of Surgery, Emory University School of Medicine

Project was started with a review article I co-authored reviewing the Global Impact of Cardio Metabolic Syndrome with its increased risk for cardiovascular disease and an estimated worldwide mortality of 18 million per year.

Worked on promoting the awareness of this epidemic, with volunteers around the world and translated our review into 5 languages including Spanish, French, Arabic, Hindi and Japanese.

Presented in multiple conferences in the Middle East & North Africa as well as in the United States:

- * World Congress of Cardiology Scientific Sessions 2012-Dubai, UAE

- * American College of Cardiology 2012 Session on Cardio Metabolic Syndrome-An Epidemic that Ignores Borders, Time Zones, and Religion March 23 2012, Chicago, IL.

Manuscript was published in the Journal of Diabetes and Metabolism, February, 2015.

August 2010– June 2011

Emory Clinical Cardiovascular Research Institute (ECCRI), Atlanta, GA

Emory BioBank Study

Mentor: Arshed A. Quyyumi, MD, FACC, FRCP

Position: Post – Doctoral Research Fellow

Worked on “Emory BioBank” database which was started in 2004 to create a modern day cardiology bio-database for patients undergoing coronary angiogram at Emory University affiliated hospitals.

The goal of the study is to assess factors that influence the onset, course and treatment of CAD.

We mainly studied the role of different biomarkers (HSP, FDP, suPAR, etc) in endothelial dysfunction as well as using them in risk stratification of patients with CAD.

My job responsibilities included updating database, patient recruitments, data analysis using SPSS and helping cardiology fellows with various projects.

I also contributed to a project about correlation between family history and angiographic severity and location of CAD

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PUBLICATIONS

Peer Reviewed Journal Articles/Abstracts:

Kassas I, Nagy A, Alonso AA, Akhter MW, Smith CS, Ahmed M, Hafiz AM, Walker J, Kakouros N. Orbital Atherectomy for Calcific Coronary Artery Disease in Patients with Severe Aortic Stenosis – a safety and feasibility study. *The Journal of Invasive Cardiology-JIC* (Submitted January 2019)

Kassas I, Matthew MS, Shah B. *Transradial Artery Access in Percutaneous Coronary Intervention for ST-Segment Elevation Myocardial Infarction and Cardiogenic Shock*. *Current Treatment Options in Cardiovascular Medicine*. February 2018. (Published).

Villablanca PA, Olmedo W, Weinreich M, Gupta T, Mohananey D, Albuquerque F, Kassas I, Briceño D, Sanina C, Brevik TA, Ong E, Ramakrishna H, Attubato M, Menegus M, Wiley J, Kalra A. *Staged Percutaneous Intervention for Concurrent Chronic Total Occlusions in Patients with ST-Elevation Myocardial Infarction: A systematic Review and Meta-analysis*. (JAMA April 2018)

Siddiqi TJ, Usman MS, Khan MS, Sreenivasan JK, Kassas I, Riaz H, Raza S, Deo SV, Sharif H, Kalra A, Yadav N. *Meta-Analysis Comparing Primary Percutaneous Coronary Intervention Versus Pharmacoinvasive Therapy in Transfer Patients with ST-Elevation Myocardial Infarction*. (American Journal of Cardiology- AJC April 2018)

Mohammad D, Sorour N, Kassas I, Hansra B, Smith C, Akhter M. *Out of hospital Cardiac Arrest: Insights from a busy tertiary cardiac care center*. SCAI April 2018. San Diego, CA. (Submitted).

Hansra B, Sorour N, Kassas I, O'Day K, Toomey S, Leslie R, Gagnier M, Mohammad D, McManus D, Barringhaus K, Akhter M. *Clinical factors associated with 30-day readmissions after percutaneous coronary interventions*. SCAI April 2018. San Diego, CA. (Submitted).

Ogunsua A, Vaze A, Kassas I, Hansra B, Nagy A, Elhag R, Bisailon J, Oranefo J, Gagnier M, O'Day K, Aldrugh S, Soueid A, Mohammad D, McManus D, Akhter M. *Risk Factors for New-Onset Atrial Fibrillation after Percutaneous Coronary Intervention among patients with Non-ST Elevation Myocardial Infarction*. *Journal of the American College of Cardiology*. Volume 70, Issue 18- Supplement, October 2017.

Kassas I, Hansra B, Vaze A, Ogunsua A, Mohammad D, Aldrugh S, Gagnier M, Soueid A, Nagy A, Stencil J, Oliverio M, Barringhaus KG, Akhter MW. *Safety of Same Day Discharge Following PCI for Non-ST Elevation Acute Coronary Syndromes*. JACC- Interventions. Accepted for publication. February 2017

Tarakji M, Kassas I, Tighe D, Bradford L. *A Stroke That Saved A Life?: Marantic Endocarditis Uncovering an Occult Gynecologic Malignancy*. NEAGO 2017. Mystic, CT June 2017. (Presented).

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Gagnier M, Kassas I, Vaze A, Stencil J, Hansra B, Aldrugh S, Soueid A, Mohamud D, Oliverio M, Barringhaus KG, Akhter MW. Short stature is a risk factor for post PCI bleeding. AHA 2016. New Orleans, November 2016.

Kassas I, Tran KV, Fitzgibbons T, Chen K, Craige S, Kant S, Girgis S, Bote J, Aurigemuna GP and Keaney JF. *Endothelial Dysfunction and Inflammation in Stress Cardiomyopathy*. AHA 2016 (Presented).

Kassas I, Akhter MW, Hansra B, Mohamud D, Stencil J, Gagnier M, Oliverio M, Vaze A, Greenwood L, Barringhaus K. *Transradial Post-PCI Bleeding: Insights from a High Volume Transradial Center*. Journal of Catheterization & Cardiovascular Interventions. Volume 87, issue supplement S2, C-051. Pub Status: Published, April 2016.

Kassas I, Smith CS, Shih J. *ST Elevation Myocardial Infarction due to Cocaine Induced Coronary Vasospasm*. Journal of Cardiovascular Diseases & Diagnosis: 3(5): 1000i102. Pub Status: Published, September 2015.

Kelli HM, Kassas I, Lattouf OM. *Cardio Metabolic Syndrome: A Global Epidemic*. Journal of Diabetes and Metabolism: 6(3): 1000513. Pub Status: Published, February 2015.

Hammadah M, Patel RS, Eapen D, Tahhan AS, Ghasemzadeh N, Al Kassem H, Khayata M, Manocha P, Awad M, Kassas I, Alkhoder A, Veledar E, Quyyumi AA. *A Family History of Premature Coronary Artery Disease is Associated With Location and Severity of Angiographically Defined Coronary Artery Stenosis*. Circulation: 130(1): A11661. Pub Status: Published, Nov 2014.

Hammadah M, Eapen DJ, Tahhan AS, Patel RS, Kassas I, Manocha P, Al Kassem H, Khayata M, Alkhoder A, Asfari MM, Kelli HM, Nanjundappa R, Shah M, Halista M, Hammadah F, Veledar E, Sperling L, Quyyumi AA. *A Cumulative Family History Score is Associated with Greater Severity and Progression of Angiographic Coronary Artery Disease*. Circulation: 126(1): A17927. Pub Status: Published, November 2012.

Shah AJ, Eapen DJ, Patel RS, Neeland I, Anderson D, Manocha P, Alradawi S, Kassas I, Nanjundappa RA, Veledar E, Quyyumi AA, Vaccarino V. *Depression is a Stronger Risk Factor For Obstructive Coronary Artery Disease and Major Cardiovascular Events in Young Women than Men and Older Women*. Circulation: 124(1): A15230. Pub Status: Published, October 2011.

Eapen DJ, Manocha P, Patel RS, Nanjundappa RA, Veledar E, Wassel C, Volland J, Malayter D, Kassas I, Alradawi S, Kelli HM, Poole J, Neuman R, Sperling L, Quyyumi, A.A. *Aggregate Risk Score Based on Markers of Inflammation, Immunity, and Thrombosis is an Independent Predictor of Adverse Cardiovascular Outcomes*. Circulation: 124(1): A16083. Pub Status: Published, October 2011.

Nanjundappa RA, Kumar G, Eapen DJ, Manocha P, Patel RS, Sher S, Alradawi S, Kassas I, Kelli HM, Ahmed AM, Veledar E, Zafari M, Vaccarino V, Samady H, Quyyumi AA. *Mean Platelet Volume is an Independent Predictor of Acute Myocardial Infarction and Future Adverse Cardio-*

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Background of the Applicant

vascular Outcomes in Individuals with Coronary Artery Disease. Circulation: 124(1): A15086. Pub Status: Published, October 2011.

Nanjundappa RPA, Manocha P, Eapen DJ, Kassas I, Liu YX, Koduru S, Sperling L, Quyyumi AA. *Triglycerides are an independent predictor of Diabetes in South Asians females unlike in South Asian males in the United States.* 16th World Congress on Heart Disease (International Academy of Cardiology, At Vancouver, Canada): 26(16): 1369. Pub Status: Published, July 2011.

Eapen D, Manocha P, Patel RS, Kassas I, Nanjundappa R, Sher S, Uphoff I, Liu YX, Janjua U, Koduru S, Syed H, Mohammed A, Menon V, Khan AS, Neuman R, Poole J, Sperling L, Quyyumi AA. *Percent Body Fat is not an independent predictor of arterial stiffness in South Asians unlike in Caucasians.* Journal of American College of Cardiology (JACC): 57(14s1): E1583-E1583. Pub Status: Published, April 2011.

Eapen DJ, Manocha P, Nanjundappa RA, Kassas I, Cunningham L, Vazquez J, Sher S, Uphoff I, Liu YX, Koduru S, Mohammed A, Neuman R, Poole J, Sperling L, Quyyumi AA, Brigham K. *Midaxillary Subcutaneous Fat is the best independent predictor of arterial stiffness in Black women as opposed to Abdominal Fat in White Women.* AHA ATVB 2011: 2011(1): p 536. Pub Status: Published, April 2011.

Ghasemzadeh N, Patel RS, Eapen DJ, Kassas I, Syed H, Jones DP, Quyyumi AA. *Oxidative Stress Increases the Risk of Incident Atrial Fibrillation by Increasing Left Atrial Size.* Journal of American College of Cardiology (JACC): 57(14s1): E121-E121. Pub Status: Published, Apr 2011.

Other Articles (M.D. Graduation Project):

Kassas I, Kabbany M.N. *The Diagnosis and Management of Idiopathic Pulmonary Fibrosis.* Volume: 1, Pages: 60. Aleppo University Publications. Pub Status: Published, June 2007.
Non Peer Reviewed Online Publication:

Kassas I, Ghasemzadeh N. (2011, April 07). (Medical Media Interview): *Plasma Levels of Cystine Linked to Afib.* New Orleans, ACC.

Link: <http://www.medpagetoday.com/MeetingCoverage/ACC/25792>

Pub Status: Published, April 2011.

Kassas I, Akhter M. *Same-day discharge may be safe after PCI for non-ST-elevation ACS.* (Washington, DC, March 31, 2017). (Medical Media Interview).

Link: <https://goo.gl/dL6opU>

Pub Status: Published, Top Cardiology Today/Cardiology Today Intervention for March 2017.

POSTER/ORAL PRESENTATION

Abt P, Aldrugh S, Kassas I, Parker MW, Aurigemma GP, Kovell L. *An Unusual Cause of Unexplained Post Capillary Pulmonary Hypertension.* American Society of Echocardiography (ASE) June 2019, Portland, OR.

ATTACHMENT 11

Background of the Applicant

Hansra B, Hariri E, Sorour N, O'Day K, Dolan B, Kearney D, Gagnier M, Mohamud D, Kassas I, Akhter MW. *30-Day Readmission After PCI comparing Cardiac vs Non-Cardiac Diagnosis: Insights From a High-Volume Center*. AHA 2018

Soueid AE, MD, Kassas I, Fisher DZ, Rade JJ, Kakouros N. SWITCH Study: *Real-world evaluation of antiplatelet switching strategy for coronary intervention*. TCT 2018. San Diego, CA

Kassas I, Kakouros N. Rare case: *A tick-borne illness uncovering asymptomatic Brugada Syndrome*. CRT 2017 (Presented online).

Kassas I, Kakouros N. Challenging Interventional Case: *Anterior ST- Elevation Myocardial Infarction Resulting From Acute Occlusion of Left Internal Mammary Artery Graft, With Chronic Total Occlusion of Left Anterior Descending Artery*. CRT 2017 (Presented online).

Kassas I, Akhter MW, Hansra B, Mohamud D, Stencel J, Gagnier M, Oliverio M, Vaze A, Greenwood L, Barringhaus KG. *Transradial Post-PCI Bleeding: Insights from a High Volume Transradial Center*. SCAI. May 2016. Pub Status: Presented.

Sardana M, Kassas I, Shih J. *Libman-Sacks Endocarditis, Rheumatic Heart Disease or both: A rare case with unique imaging findings*. ASE 2016. Pub Status: Accepted.

Eapen DJ, Manocha P, Nanjundappa RA, Kassas I, Cunningham L, Vazquez J, Sher S, Uphoff I, Liu YX, Koduru S, Mohammed A, Neuman R, Poole J, Sperling L, Quyyumi AA, Brigham K. (2011). *Midaxillary Subcutaneous Fat is the best independent predictor of arterial stiffness in Black women as opposed to Abdominal Fat in White Women*. Poster presented at: AHA -ATVB 2011: Chicago, IL.

Ghasemzadeh N, Patel RS, Eapen DJ, Kassas I, Syed H, Jones DP, Quyyumi AA. (2011). *Oxidative Stress Increases the Risk of Incident Atrial Fibrillation by Increasing Left Atrial Size*. Poster presented at: ACC 60th Annual Scientific Session: New Orleans, LA.

Kassas I, Chen K, Keaney JF. (2014). *Endothelial dysfunction in stress induced cardiomyopathy*. Poster presented at: The 4th Annual UMass Clinical and Translational Science Research Retreat: Worcester, MA.

Tisminetzky M, Kassas I, Joffe S, Lessard D, Goldberg R. *Overall Impact of, and Changing Trends in, the Characteristics, Management, and in-Hospital Outcomes of Diabetic Patients Presenting with Acute Myocardial Infarction*. Poster. The 4th Annual UMass Clinical and Translational Science Research Retreat: Worcester, MA. 2013.

ATTACHMENT 11

Background of the Applicant

INTERVENTIONAL CARDIOLOGY EXPERIENCE

July 2018-June 2019

UMass Cardiac Catheterization Laboratory:

(Interventional Cardiology Attending Experience)

Cardiac Catheterization Lab at UMass was ranked #1 in Massachusetts in the treatment of shock/STEMI patients, according to a report from the Massachusetts Department of Public Health. It is also the highest volume cardiac cath lab in Massachusetts (greater than 1700 coronary interventions per year). In my role as a structural heart disease fellow and junior faculty in the cardiac catheterization laboratory, I am assigned at least 2 days a week as a staff interventional cardiologist in addition to covering night and weekend PCI calls as an interventional attending.

July 2018-June 2019

UMass Cardiac Catheterization Laboratory:

(Structural Heart Disease Fellow Experience)

As a structural heart disease fellow, I had an extensive experience in transcatheter therapeutics including ASD/ PFO closure, mitral valve repair (MitraClip) and left atrial appendage occlusion (Watchman), with special emphasis on TAVR. In addition to gaining experience in complex high-risk indicated patient (CHIP) PCI including mechanical hemodynamic support.

July 2017-June 2018

NYU Langone Medical Center, Bellevue Hospital and VA NY Harbor Health Care System-Manhattan Campus Cardiac Catheterization Laboratories:

(Interventional Cardiology Fellow Experience)

Receiving interventional training at 3 major city hospitals with unique population and exposure between the three campuses. High volume exposure to a variety of PCIs including STEMI, complex high risk PCIs and CTO interventions. Strong exposure to peripheral vascular interventions which includes carotid, renal, iliac, femoral and below knee interventions. High volume structural heart interventions with opportunity to rotate through a dedicated valve service. By the end of my interventional cardiology fellowship I performed 1200 procedures with more than 600 PCIs among them 130 PTAs.

July 2014-June 2017

UMass Cardiac Catheterization Laboratory: (Cardiology Fellow Experience)

I spent a total of 11 months rotating in the cardiac catheterization lab and became proficient in informed consent, radiation safety, gaining radial and femoral access, and performing high volume of right and left heart catheterization. By the end of my general cardiology fellowship in June 2017, I completed 500 diagnostic and interventional cardiac procedures.

ATTACHMENT 11

Background of the Applicant

CARDIAC IMAGING EXPERIENCE

July 2018-June 2019

UMass Memorial Medical Center, Worcester, MA:

As a structural heart disease fellow, I have the responsibility of providing the first interpretation and analysis of the cardiac CT angiogram TAVR Protocol for access and procedural planning, then incorporating the findings into a concrete plan presentation to guide our TAVR team on the day of the procedure.

June 26-July 1, 2016

Cardiac CT Practicum at Johns Hopkins University, Baltimore, MD

An intensive 5-day course designed to accomplish Level 2 competency or progress to Level 3 competency in interpretation of cardiac CTA as recommended by the American College of Cardiology and American Heart Association. Subsequently, I passed the cardiac CT board exam (CBCCT).

July 2015-June 2017

Advanced Echocardiographic Imaging Experience:

University of Massachusetts Medical School, Worcester, MA

Under the direct supervision of World experts in advanced echocardiography: Dr. Gerard Aurigemma and Dr. Dennis Tighe. I spent a considerable time during second and third year of general cardiology fellowship learning, performing and interpreting trans-esophageal (TEE) and transthoracic (TTE) echocardiograms with 3D processing. Speckle tracking (strain) analysis and assisting in interventional imaging procedures for TAVR, MitraClip, ASD /PFO closures, Watchman LAA Closure devices implantation.

QUALITY IMPROVEMENT PROJECTS

June 2016

Institutional Peri-procedural Guidelines for Cardiovascular Procedures at UMass Memorial Medical Center

Led the efforts in cardiovascular division at UMass Memorial Medical Center to develop institutional guidelines and instructions to verify the preferred and consistent instructions (pre & post test) and warnings for each cardiovascular invasive and non-invasive test (NPO status, routine medications, post procedure activity, diet and same day discharge instructions among others)

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Background of the Applicant

COMMUNITY & VOLUNTEER SERVICE

June 2014

Syrian American Medical Society, 14th International Conference, Gaziantep, Turkey

Theme: (Assuring Quality Healthcare Delivery in a War Zone)

Participated in the humanitarian efforts provided by SAMS and UN to alleviate the suffering of Syrian refugees. my contribution was through teaching Syrian physicians and medical students who live in Turkey essential intensive care and cardiac emergency skills.

2010-2012

Atlanta Health Fairs, Atlanta, GA

Volunteered in a health fair sponsored by Emory University in Dekalb County, GA. Provided essential primary care needs for more than 160 uninsured people.

August 2008

Medical Productive Camp of Aleppo University, Aleppo, Syria

I actively took part in delivering donations and hand-outs such as clothing and food to the homeless and poor populations in Aleppo and the surrounding suburbs. I also visited children orphanages to provide contributions and support, both physical and emotional. I participated in educating people about infection prophylaxis and provided them with essential needs of vaccinations and medications.

HOBBIES & LANGUAGES

Sports: table tennis, soccer, basketball and volleyball

A main player in Aleppo Medical School Table tennis Team (2003-2005)

Languages: Arabic (Native speaker) & English (Advanced)

CAREER AIMS

Excel in my interventional cardiology practice and structural heart disease training. advance my knowledge and expertise in all aspects of interventional cardiology and pursue a career as an interventional cardiologist with a focus on structural heart disease. where I can serve the community that I live in and continue to learn and share my knowledge with others through teaching and research.

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Background of the Applicant

REFERENCES

Frederick Felt, MD

Director, Interventional Cardiology Fellowship Program
Associate Professor of Medicine, New York University School of Medicine
530 First Avenue, HCC-14, New York, NY 10016. Office: 212-263-5656
frederick.felt@nyumc.org

Nikolaos Kakouros, MBBS MRCP PhD MD(Res) FACC FSCAI

Assistant Professor of Medicine
Director, Structural Heart Disease Fellowship Program
Co-director, Transcatheter Aortic Valve Replacement program
Division of Cardiovascular Medicine, University of Massachusetts Medical School
55 Lake Avenue North, Worcester, MA 01655
Tel: +1 774-441-6310 Fax: +1 774-441-6303
nikolaos.kakouros@umassmemorial.org

John F. Keaney, Jr., MD

Medical Director, Heart and Vascular Center of Excellence
Chief, Cardiovascular Medicine
University of Massachusetts Medical School and UMass Memorial Medical Center
Mary C. DeFeudis Professor of Biomedical Research, UMass Medical School
Associate Editor New England Journal of Medicine
john.keaney@umassmed.edu

Gerard P. Aurigemma, MD, FASE, FAHA, FACC

Director, Noninvasive Cardiology
Professor of Medicine and Radiology, University of Massachusetts Medical School
gerard.Aurigemma@umassmemorial.org

Naomi Botkin, MD, FACC

Program Director, Fellowship in Cardiovascular Medicine
Associate Professor of Medicine, University of Massachusetts Medical School
55 Lake Avenue North, Worcester, MA 01655
Office: 508-856-3064 Fax: 508-856-4571
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Jeffrey J. Rade, MD

Director of Cardiac Catheterization Laboratory
Professor of Medicine, University of Massachusetts Medical School
jeffrey.rade@umassmemorial.org

Richard M. Forster, MD

Clinical Associate Professor of Medicine, Vice Chair for Graduate Medical Education
Program Director, Internal Medicine Residency, Chief of Hospital Medicine
University of Massachusetts Medical School
richard.forster@umassmemorial.org

Arshed A. Quyyumi, MD, FACC, FRCP

Director of Emory Clinical Cardiovascular Research Institute (ECCRI)
Professor of Medicine and Cardiology
Emory University, School of Medicine, Atlanta, GA
aquyyum@emory.edu

ATTACHMENT 11

Background of the Applicant

Mohammad Tarek Kabbany, M.D.

Email: Tarek.kabbany@gmail.com

Mohammad.kabbany@aah.org

Phone: (216) 372-3177

1. PERSONAL INFORMATION

A. Professional Experience:

Advanced Heart Failure & Transplant Cardiologist, Advocate Christ Medical Center. Chicago. IL

Date of Service: 08/2021-Present

B. Education:

Medical Education: Aleppo University Faculty of Medicine, Aleppo, Syria

Dates of Attendance: 9/2004-02/2011

Degree: MD

Honors: Graduated 4th in my class of 250 students.

Internship: Georgetown University/ Washington Hospital Center, Washington, DC

Dates of Attendance: 06/2012-06/2013

Department Chair: Dr. Leonard Wartofsky. MD

Residency: Georgetown University/ Washington Hospital Center, Washington, DC

Dates of Attendance: 06/2013-06/2015

Department Chair: Dr. Carmella Cole. MD

Cardiology Fellowship: Georgetown University/MedStar Heart & Vascular Institute, Washington, DC

Dates of Attendance: 07/2017- 06/2020

Department Chair: Dr. Allen Taylor. MD

Honors: Best Fellow Award/Fellow Excellence in Education and Service Award

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Background of the Applicant

Advanced Heart Failure & Transplant Fellowship: Northwestern University, Chicago.IL

Dates of Attendance: 07/01/2020-6/30/2021

Department Chair: Clyde W. Yancy

C. Research Experience:

Post-doctoral Research Fellow, National Heart, Lung and Blood Institute, Bethesda.MD.

Dates of Attendance: 07/2015-6/2017

Principal investigator: Nehal N. Mehta, MD MSCE FAHA .Chief, Section of Inflammation and Cardiometabolic Disease

Post- doctoral Fellow, Emory Clinical Cardiovascular Research Institute, Atlanta, Georgia.

Dates of Attendance: 08/2011-06/2012

Principal investigator: Arshed A. Quyyumi, MD, FACC, FRCP. Director of Emory Cardiovascular Research Institute

D. Licensure:

State: State of Illinois
License No: 036.152139
Initial Date: 03/12/2020

State: District of Columbia
License No: MD043489
Initial Date: 06/25/2015

DEA : Issue date 12/12/2017

E. Certification:

Board Certification:

American Board of Internal Medicine	Date of Certification:	2015
National Board of Echocardiography	Date of Certification:	2019
American Board of Cardiovascular Disease	Date of Certification:	2020
American Board of Advanced Heart Failure &Transplant Cardiology.	Date of Certification:	2022
National Board of Echocardiography	Date of Certification:	2019

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Background of the Applicant

ECFMG Certification	08/2011
USMLE STEP 3	05/2014
USMLE STEP 2 CK	08/2011
USMLE STEP 2 CS	01/2011
USMLE STEP 1	06/2010

F. Languages Spoken:

English (fluent)

Arabic (fluent)

2. RESEARCH AND PUBLICATIONS

- Mohammad Tarek Kabbany, Aditya A. Joshi, Nehal N. Mehta. Cardiovascular Diseases In Chronic Inflammatory Disorders. ACC Prevention Clinical Topics. 2016, July; Pub Status: Published.
- Dey AK, Joshi AA, Chaturvedi A, Lerman JB, Aberra TM, Rodante JA, Teague HL, Harrington CL, Rivers JP, Chung JH, Kabbany MT, Natarajan B, Sorokin AV, Ahlman MA, Playford MP, Gelfand JM, Mehta NN. Association Between Skin and Aortic Vascular Inflammation In Patients With Psoriasis: A Case-Cohort Study Using Positron Emission Tomography/Computed Tomography. JAMA Cardiol. 2017 Sep 1;2(9):1013-1018. doi: 10.1001/jamacardio.2017.1213. Cited In PubMed; PMID 28564678. Pub Status: Published.
- Jacob W. Groenendyk; Parag Shukla; Amit K. Dey; Youssef A. Elnabawi ; Milena Aksentijevich ; Harry Choi; Leonard D. Genovese ; Charlotte L. Harrington ; Balaji Natarajan ; Aditya Goyal ; Aarthi S. Reddy; Justin Rodante; Mohammad Tarek Kabbany ; Martin P. Playford ; Aditya A. Joshi ; Mark A. Ahlman ; Joel M. Gelfand; David A. Bluemke; Nehal N Mehta. Association of aortic vascular uptake of 18FDG by PET/CT and aortic wall thickness by MRI in psoriasis: A prospective observational study. European Journal of Nuclear Medicine and Molecular Imaging. 2019 Nov;46(12):2488-2495.doi: 10.1007/s00259-019-04454-w. Epub 2019 Aug 5. Cited in PubMed; PMID 31385013. Pub Status: Published.
- Amit K. Dey, Ranjitha Gaddipati , Youssef A. Elnabawi, Emily Ongstad, Aditya Goyal, Jonathan H. Chung, Heather L. Teague, Justin A. Rodante, Aparna A. Sajja, Alexander V. Sorokin, Milena Aksentijevich, Harry Choi, Aarthi S. Reddy, Nevin J. Varghese, Jacob Groenendyk, Agastya Belur, Leonard Genovese, Joshua Rivers, Joseph Lerman, Mohammad Tarek Kabbany, Charlotte Harrington, Jenis Argueta-Ameyra, Noor Khalil, Andrew Keel, Yvonne Baumer , Marcus Y. Chen, David A. Bluemke, Aditya A. Joshi, Mariana J. Kaplan, Alan T. Remaley, Martin P. Playford, Sotirios Karathanasis, Joel M. Gelfand, Ruchi Gupta and Nehal N. Mehta . Association Between Soluble Lectinlike Oxidized Low-Density Lipoprotein Receptor-1 and Coronary Artery Disease In Psoriasis. JAMA Dermatol. 2020;156(2):151-157. doi:10.1001/jamadermatol.2019.3595Cited in PubMed; PMID 31746956. Pub Status: Published.

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Background of the Applicant

- Poole J, Mavromatis K, Binongo JN, Khan A, Li Q, Khayata M, Rocco E, Topel M, Zhang X, Brown C, Corriere MA, Murrow J, Sher S, Clement S, Ashraf K, Rashed A, Kabbany T, Neuman R, Morris A, Ali A, Hayek S, Oshinski J, Yoon YS, Waller EK, Quyyumi AA. Effect of Progenitor Cell Mobilization With Granulocyte-Macrophage Colony-Stimulating Factor in Patients With Peripheral Artery Disease A Randomized Clinical Trial. JAMA. 2013, Dec; 310(24): 2631-2639. Cited in PubMed; PMID: 24247554. Pub Status: Published.

3. HONORS AND AWARDS

- Best Fellow Award/Fellow Excellence in Education and Service Award during Cardiovascular Fellowship. MedStar Heart & Vascular Institute.2020.
- American Federation for Medical Research Scholar Award .Washington. DC April 2016
"Determinants of Vascular Inflammation by 18-Fluorodeoxyglucose PET/MRI: Findings from the Psoriasis, Atherosclerosis and Cardiometabolic Disease Initiative"
- American College of physician (ACP) DC chapter case report award, June 2014
- Graduated with Distinction and ranked Graduated 4th in my class of 250 students.

4. PROFESSIONAL SOCIETY MEMBERSHIP

- | | |
|------------------------------------|--------------------|
| ➤ Heart Failure society of America | 07/2020 to present |
| ➤ American College of Cardiology | 07/2017 to present |
| ➤ American College of Physicians | 07/2012 to present |
| ➤ Syrian American Medical Society. | 05/2010 to present |
| ➤ Syrian Red Cross | 08/2006 - 12/2012 |

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Background of the Applicant

CURRICULUM VITAE

| 1
LUAY RIFAI, MD

LUAY RIFAI, MD

1646 River Street. Apt# 620
Des Plaines, IL 60016
Phone: (708) 837-9518
Luay.Rifai@AdvocateHealth.com

Education and Training

- **Cardiovascular Disease Fellowship**
Advocate Lutheran General Hospital (ALGH). Park Ridge, IL 2013 - 2016
- **Heart Failure Fellowship**
Advocate Christ Medical Center (ACMC). Oak Lawn, IL 2012 - 2013
- **Internal Medicine Residency**
University of Illinois at Chicago (UIC) – ACMC. Chicago, IL 2009 - 2012
- **Cardiology Research Fellow**
Emory University, Grady Memorial Hospital. Atlanta, GA 2008 - 2009
- **Bachelor of Medicine and Surgery**
University of Jordan, Faculty of Medicine. Amman, Jordan 1999 - 2006

Externships

- **Pulmonary Hypertension**
Pulmonary Hypertension Center – ACMC. Oak Lawn, IL 05/2015
- **Cardiology**
Adult Echocardiography Clinic - Al-Basel Heart Institute. Damascus, Syria 03-05/2008
- **Pulmonology**
Outpatient clinics affiliated with ACMC. Chicago, IL 01-02/2008
- **Cardiology**
Midwest Heart Foundation/Advocate Good Samaritan Hospital. Downers Grove, IL 11/2007
- **Cardiology**
Medical Care Center - Shami Hospital. Damascus, Syria 08-10/2007
- **Pulmonology**
George Washington University School of Medicine. Washington, DC 10-11/2005
- **Allergy & Immunology**
09-10/2005

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Background of the Applicant

| 2
LUAY RHEAT MD

Northwestern University – Feinberg School of Medicine, Chicago, IL

Licenses and Certifications

• American Board of Internal Medicine, No. 330901	2012 - 2022
• Fully Licensed Physician and Surgeon – Illinois No. 036.129990	2012 - 2017
• Advanced Cardiac Life Support (ACLS) Course Instructor	2012 – 2015
• National Board in Echocardiography – eligible	2015
• Certification Board of Nuclear Cardiology – eligible	2015
• Certification American Board of Vascular Medicine – eligible	2015
• ECFMG, No. 0-711-284-0	2007
• Fully Licensed Physician - Syria, No. 42494	2006

Cardiology Research Experience:

Participated in study design and methodology, protocol writing, patient recruitment, chart reviews, supervising treadmill tests, performing brachial artery ultrasound technique, assessment of cerebral oximetry testing, specimen collection and storage, attending fellows' conferences, data analysis, and manuscript writing.

❖ **Heart Failure Institute / Advocate Christ Medical Center** Oak Lawn, IL 2010 - 2015

Director: Marc A. Silver, M.D.

Research focus includes the use of cerebral oximetry utilizing near-infrared spectroscopy to monitor cerebral tissue oxygen saturation in heart failure patients, in addition to novel biomarkers integral to the disease process.

Other areas of interest include mechanical circulatory support devices and management of pulmonary hypertension.

❖ **Emory University / Grady Memorial Hospital** Atlanta, GA 2008 - 2009

Director: Bobby V. Khan, M.D., PhD

Participated in multiple research projects, including:

- Effects of Yoga on Inflammation and Exercise Capacity in Patients with Chronic Heart Failure. (PI: Dr Bobby Khan)
- CVT 3041: Evaluating the Validity, Reliability, and Responsiveness of a New Female-specific Angina Questionnaire in Women with Chronic Angina Treated with Ranolazine Extended-release Tablets. (PI: Dr Nanette Wenger)
- TOPCAT: Treatment of Preserved Cardiac function heart failure with an Aldosterone antagonist. Funded by NHLBI, NIH/DHHS. (PI: Dr Sonja McKinlay)

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Background of the Applicant

| 3
LILLY RIFAI MD

- TACC: The Atlanta Cardiomyopathy Consortium. - Heart Failure Registry and Biobank. (PI: Dr Javed Butler)

Publications:

Original Research

- Rifai L, Pisano C, Hayden J, Sulo S, Silver MA. Impact of the DASH diet on endothelial function, exercise capacity, and quality of life in patients with heart failure. *Proc (Bayl Univ Med Cent)*. 2015 Apr;28(2):151-6. PMID: 25829641.
- Rifai L, Winters J, Friedman E, Silver MA. Initial Description of Cerebral Oximetry Measurement in Heart Failure Patients. *Congestive Heart Failure*. 2012 Mar;18(2):85-90. PMID: 22432554.
- Pullen PR, Thompson WR, Benardot D, Brandon LJ, Mehta PK, Rifai L, Vadnais DS, Parrot JM, Khan BV. The Benefits of Yoga for African American Heart Failure Patients. *Medicine & Science in Sports & Exercise - J Am Col Sports Medicine*. 42.4 (2010): 651-657. PMID: 19952833.
- Rifai L, Taylor W, Key K, Silver MA. Safety and Prognostic Value of Cerebral Oximetry Monitoring in Heart Failure Patients during Cardiopulmonary Exercise. (in review)
- Rifai L, Pisano C, Upadhyaya M, Silver MA. Higher Serum Galectin-3 Levels Correlate to Lower Cerebral Tissue Oxygenation in Heart Failure Patients. (in review)

Review Articles

- Rifai L, Silver MA. A Review of the DASH Diet As An Optimal Dietary Plan for Symptomatic Heart Failure. *Prog Cardiovasc Dis*. 2016;3, doi: <http://dx.doi.org/10.1016/j.pcad.2015.11.001> (accepted for publication.)
- Eapen DJ, Kalra GL, Rifai L, Eapen CA, Merchant N, Khan BV. Raising HDL cholesterol in women. Dove Medical Press – *Int J Womens Health*. 2010;1 181–191. PMID: 21072287.
- Rifai L, Khan BV, Keith F. Do the Current Medical and Economic Times Dictate the Need for the “Polypill”? *The Journal of Clinical Hypertension*. 2009; 11(12):775-776. PMID: 20021541.
- Rifai L. Plaque stabilizers: a truth or a myth? (in review)

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Background of the Applicant

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L. A. V. RIFAI, MD

Case Reports

- Rifai L, Dia M. ST segment elevation in one lead: A Case Report. *Annals of Noninvasive Electrocardiology* 2012;17(2):1–2. PMID: 22537334.
- Rifai L, Trabolsi M, Dia, M. Coronary Embolus Complicating Peripartum Cardiomyopathy. *J Invasive Cardiol* 2011;23(10):E237–E240. PMID: 21972169.
- Rifai L, Modi H, Avula SB. Treatment of recurrent intractable epistaxis in a patient on clopidogrel therapy following drug-eluting stent placement: a case report. *Indo-European Course in Revascularization (IECR) Heart Journal*. 2010; 2: 21-23.
- Johnson D, Rifai L. Coronary Ectasia Presenting with Acute Coronary Syndrome in a Man on Breast Cancer Therapy. (in review)

Published Abstracts, Presentations

Oral Presentations:

- Rifai L. The Critically Ill Pulmonary Hypertension Patient; a case presentation of PAH with CKD. *Chicagoland pulmonary hypertension forum. Moderated session. Chicago, Aug 2015.*
- Rifai L, Patel N, Krive M, Smith ST. Treating Aortic Stenosis in the Real World. A Debate: Medical, Surgical or Transcatheter. *Cardiovascular Grand Rounds – Advocate Lutheran General Hospital. Mar 2015.*
- Rifai L, Key K, Taylor W, Silver MA. Can Early Changes in Cerebral Oxygenation During Submaximal Exercise Predict Outcomes in Heart Failure Patients? *CHEST 2012 Annual Meeting; Atlanta, GA. Oct 2012.*
Published abstract: CHEST. 2012;142 (4_MeetingAbstracts):82A.
doi:10.1378/chest.1389691
- Rifai L, Key K, Taylor W, Silver MA. Safety and Prognostic Value of Cerebral Oximetry Monitoring in Heart Failure Patients during Cardiopulmonary Exercise. *Heart Failure Society of America (HFSA) - 16th Annual Scientific Meeting; Seattle, WA. Sept 2012.*
Published abstract: Journal of Cardiac Failure. Volume 18, Issue 8, Supplement, Page S3, August 2012. DOI: <http://dx.doi.org/10.1016/j.cardfail.2012.06.011>

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Background of the Applicant

| 5
LUNARY RESEARCH

- Rifai L, Taylor W, Key K, Silver MA. Safety and Prognostic Value of Cerebral Oximetry Monitoring in Heart Failure Patients during Cardiopulmonary Exercise. *International Society of Heart & Lung Transplantation (ISHLT). 32nd Annual Meeting & Scientific Sessions. April 2012. Prague, Czech Republic.*
Published abstract: *The Journal of Heart and Lung Transplantation Vol. 31, Issue 4, Supplement, Pages S51-S52. (2012)*
- Rifai L, Silver MA. Initial description of cerebral oximetry measurement in heart failure patients.
Southern Regional Meeting, New Orleans - Feb 2011.
Published abstract: *Journal of Investigative Medicine. Feb 2011, 59(2)*

Poster Presentations:

- Ziffra J, Keshmiri H, Rifai L, Silver MA. Can Supplemental Oxygen Blunt Declines in Peripheral and Cerebral Oxygen Saturation in Heart Failure Patients? *CHEST 2015, Montreal, Canada.*
Published abstract: *CHEST Journal, 10/2015; 148(4_MeetingAbstracts):59A.*
DOI: 10.1378/chest.2267528
- Keshmiri H, Ziffra J, Obeid FA, Rifai L, Silver MA. Additive Utility of Peak Expiratory Flow Rate in the Assessment of Chronic Stable Heart Failure Patients. *CHEST 2015, Montreal, Canada.*
Published abstract: *CHEST Journal, 10/2015; 148(4_MeetingAbstracts), 56A-56A.*
DOI: 10.1378/chest.2278832
- Nasir S, Patel M, Rifai L, Passen E. Revealing the Magnitude of an Extrinsic Mass Compressing the Left Atrium. *American Society of Echocardiography. Boston, MA. June 2015.* Published abstract: *JASE, June 2015.*
- Rifai L, Pisano C, Upadhyaya M, Silver MA. Higher Serum Galectin-3 Levels Correlate to Lower Cerebral Tissue Oxygenation in Heart Failure Patients. *International Society of Heart & Lung Transplantation (ISHLT). 34th Annual Meeting & Scientific Sessions. April 2014. San Diego, LA.*
Published abstract: *The Journal of Heart and Lung Transplantation. Volume 33, Issue 4, Supplement, Pages S274-S275, April 2014*
- Rifai L, Hayden J, Pisano C, Silver MA. Impact of DASH Diet on Endothelial Function in Heart Failure Patients.
American Heart Association Scientific Sessions. November 2013. Dallas, TX.
Published abstract: *Circulation. 2013; 128: A10406*
- Rifai L, Key K, Taylor W, Silver MA. Rest Cerebral Oxygenation Is a Biomarker in Heart Failure Patients.
International Society of Heart & Lung Transplantation (ISHLT). 32nd Annual Meeting & Scientific Sessions. April 2012. Prague, Czech Republic.
Published abstract: *The Journal of Heart and Lung Transplantation Vol. 31, Issue 4,*

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Background of the Applicant

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LUAY RHAI MD

Supplement, Pages S153-S154.

- **Rifai L, Aubeid F, Shen M, Lerma E, Silver MA.** Evaluating the utility of readmission risk score in heart failure patients. *Annual Advocate Research Forum. Advocate Christ Medical Center, October 2012. Oak Lawn, IL.*
- **Wardi A, Rifai L, Dia M.** Reversible Cardiorenal Syndrome. *American College of Physicians Associates Day; October 2011; Chicago, Illinois.*
- **Safadi AR, Rifai L, Ali A, Zalzaleh G.** Elevated Methylmalonyl Acid With Normal B12 Level. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Azar A, Rifai L, Marcic S.** Unusual case of secondary amyloidosis. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Ashraf MS, Rifai L, Trabolsi M, Dia M.** A mother's heart can be full of surprises. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Rifai L, Khalil D, Safadi AR, Dia M:** One lead ST elevation. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Moughrabieh MA, Rifai L:** PRES: A Rare Complication of Avastin. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Gomez G, Rifai L:** Atypical stiff heart. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Trabolsi M, Rifai L, Kawji M, Sanghani R.** Paralysis & The Importance of Further Analysis. *American College of Physicians Associates Day; October 2010; Chicago, Illinois.*
- **Rifai L, Markos MA.** Cough N' Crack: A Rare Complication of an Everyday-Symptom. *American College of Physicians Associates Day. October 2009; Chicago, Illinois.*

Teaching Experience

- Regular lectures to staff on clinical cardiology topics, heart failure and cardiology research.
- Preceptor, rotating medical student, cardiology consults at ALGH.

Memberships

- Member - American Heart Association
- Member - Heart Failure Society of America
- Member - International Society of Heart & Lung Transplantation
- Member - American Federation for Medical Research
- Member - Syrian-American Medical Society

ATTACHMENT 11

Background of the Applicant

- Member - American College of Physicians

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UNIVERSITY OF ALABAMA

Awards

- ❖ Fellow of the Year Award – Department of Medicine, Best teacher and role model in fellowship programs at ALGH, May 2015.
- ❖ Jay N. Cohn New Investigator Award - Clinical/Integrative Physiology Award finalist, Heart Failure Society of America (HFSA), 16th Annual Scientific Meeting, Sept 2012.
- ❖ Excellence in Research Award - Department of Medicine, UIC, APMC, Jun 2012.
- ❖ Research Trainee Award, Southern Society of Clinical Investigation (SSCI), Southern Regional Meetings, Feb 2011.
- ❖ Excellence Award - 1st Place, 12th Annual Research Competition, UIC, APMC, May 2012.
- ❖ Excellence Award - 1st Place, 11th Annual Research Competition, UIC, APMC, May 2011.
- ❖ Winner, Annual Clinical Vignette Competition, APMC, Mar 2010.

Volunteer Experience

- Old Irving Park Community Clinic 2012 - 2015
A clinic that was formed to provide free primary medical and specialty care to patients without insurance. Spent time providing cardiovascular care to these patients.
- BASMA - Children with Cancer Support Association, 2007 - 2010
Volunteer in the "Awareness Committee", Director of "Database" sub-committee, Syria.
A nation-wide volunteer-powered organization that supports children with cancer, in cooperation with regional and international children's cancer centers. www.Basma-Syria.org
- Cancer Research Music Charity 2006
A fund raiser project in benefit for cancer research. Contributor and Co-organizer under the title of "The Collective - Rocking for Charity", as endorsed by Cancer Research UK.

Extracurricular Activities

- Professional electric guitarist: instrumental composer, performer, and instructor.
Music album releases. Participant in regional music festivals.

ATTACHMENT 11

Background of the Applicant

- Advanced computer expertise in various hardware and software applications including technical maintenance.
- Bicycle riding.

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LEAVY RICHARD MD

References

Marc A. Silver, MD FACP FACC FCCP FAHA
Chairman, Department of Medicine
Director, Heart Failure Institute
Advocate Christ Medical Center
Clinical Professor of Medicine,
University of Illinois, Chicago
marc.silver@advocatehealth.com
Office: 708-684-5562
Fax: 708-684-2500

Alan S. Brown, MD FACC FAHA FNLA
Director, Department of Cardiology
Advocate Lutheran General Hospital
Director, Midwest heart Disease Prevention Center
Midwest Heart Specialists at Advocate Healthcare
Clinical Associate Professor, Loyola Stritch School of Medicine
alan.brown@advocatehealth.com
Office: 847-723-8362
Fax: 847-723-2131

M. Ziad Sinno, MD FACC
Good Samaritan Hospital, Downers Grove, IL
Midwest Heart Specialists at Advocate Healthcare
mohamed.sinno@advocatehealth.com
Office: 630-719-4799
Fax: 630-963-7420

ATTACHMENT 11

Background of the Applicant

Curriculum Vitae, Wassim Ballany, M.D. 05/10/2025

Wassim Ballany, MD

Cardiologist/Electrophysiologist Consultants in Cardiology & Electrophysiology

Cell Phone: (312) 860-0711
Email: wballany@gmail.org

Business Address:
3545 W 95th Street
Evergreen Park, IL 60805

Home Address:
220 Meadowbrook Ln
Hinsdale, IL, 60521

Post-Graduate Training:

Advanced Electrophysiology Fellowship / Chief Fellow: Aurora St Luke's
Medical Center, Milwaukee, WI
07/2015-06/2016

Electrophysiology Fellowship:
Aurora St Luke's Medical Center, Milwaukee, WI
07/2014 – 06/2015

Cardiology Fellowship:
John H. Stroger Hospital of Cook County/ Rush University Medical Center,
Chicago, IL 07/2011- 06/2014

Chief Resident:
Wayne State University, Internal Medicine Department, John D. Dingell VA
Medical Center, Detroit, MI 07/2010- 07/2011

ATTACHMENT 11

Background of the Applicant

Curriculum Vitae, Wassim Ballany, M.D. 05/10/2025

Residency- Internal Medicine:
Wayne State University, Detroit, MI
Internal Medicine Residency Program
07/2007- 07/2010

Residency- Clinical Pharmacology:
University of Aleppo- Aleppo University Hospital, Aleppo, Syria 09/2005-
06/2007

Medical Education/ Degree:
University of Aleppo, School of Medicine, Syria
09/1999 - 09/2005
Degree: Medical Doctor (M.D.) 09/2005

Baylor College Of Medicine, Houston Tx: Electives 1/2005-5/2005

Professional Memberships:

- American College of Cardiology
- American College of Physicians
- American Medical Association
- Heart Rhythm Society
- Syrian Medical Association

Honors / Awards:

- Award for being ranked the 2nd best High School Graduate in Syria- 1999
- Award for being ranked among the top 1% graduate of Medical School of University of Aleppo- 2005
- Resident/Fellow of the month. Aurora Graduate Medical Education 8/2015

Active Medical Licensure:

State Of Wisconsin:
Profession: Physician
Permanent ID # 62106
Status: Active

State Of Illinois:
Profession: Physician
Permanent ID # 036127267
Status: Active

ATTACHMENT 11

Background of the Applicant

Curriculum Vitae, Wassim Ballany, M.D. 05/10/2025

Certifications:

- ECFMG Certificate: # 0-677-385-7, Date issued: 10/23/2006
- American Board of Internal Medicine: Date certified 08/26/2010
- National Board of Echocardiography: Date certified 10/2013
- Certification Board of Nuclear Cardiology: Exam passed 2/2014
- American Board of Internal Medicine, Cardiovascular Disease: Date certified 01/06/2015
- American Board of Internal Medicine, Clinical Cardiac Electrophysiology: Date certified 12/04/2015

Licensing Examinations:

- USMLE Step 1: 08/2006 Score: 246/99
- USMLE Step 2 CK (Clinical Knowledge): 04/2006 Score: 263/99
- USMLE Step 2 CS (Clinical Skills): 05/2005
- USMLE Step 3: 01/2009

Research Experience:

- 08/2008 Wayne State University, Detroit Medical Center, MI, Studying the characteristics and outcomes of patients with Peripartum Cardiomyopathy.
- 08/2008 Wayne State University, Detroit Medical Center, MI, Studying the significance of ischemic changes in ECG in patients with LBBB undergoing Sestamibi stress test.
- 1/2014 Rush University Medical Center, Studying the impact of regimented aminophylline use on extra-cardiac radioisotope activity in patients undergoing Regadenoson stress SPECT myocardial perfusion imaging.
- 01/2016 Arora St Luke's Medical Center, Milwaukee, WI. Studying the efficacy, safety and feasibility of zero-fluoroscopy atrial fibrillation and flutter ablation procedures using Carto mapping system.

ATTACHMENT 11

Background of the Applicant

Curriculum Vitae, Wassim Ballany, M.D. 05/10/2025

Publications:

- Ballany W, Mansour K, Morales Demori R, Al-Amoodi M, Doukky R. The impact of regimented aminophylline use on extra-cardiac radioisotope activity in patients undergoing Regadenoson stress SPECT myocardial perfusion imaging: a sub-study of the ASSUAGE trial. J Nucl Cardiol. 2014 Jun;21(3):496-502
- Beaty EH, Ballany W, Trohman RG, Madias C. Ventricular tachycardia associated with radiation-induced cardiac sarcoma. Tex Heart Inst J. 2014 Dec 1;41(6):620-5

Abstracts/Posters:

- Singh KY, Zahwe F, Ballany W, Hayes C, Dahme R, Niazi I. Echocardiographic Response to Dual Left Ventricular Versus Single Optimal Left Ventricular Cardiac Resynchronization Therapy. Poster presentation for Heart Rhythm Society 2016 annual meeting, May 4 -7, 2016, San Francisco, CA.
- Singh KY, Zahwe F, Omery B, Ballany W, Shearer RL, Mangesha T, Mortada ME, Sra J, Choudhuri I. Benefit of Implantable Cardioverter-Defibrillator in Patients with Improved Left Ventricular Systolic Function. Poster presentation for Heart Rhythm Society 2016 annual meeting, May 4 -7, 2016, San Francisco, CA.
- Singh KY, Zahwe F, Omery B, Ballany W, Shearer RL, Mangesha T, Mortada ME, Sra J, Choudhuri I. Predictors of Mortality in Patients with Transient Severe Left Ventricle Systolic Dysfunction. Poster presentation for Heart Rhythm Society 2016 annual meeting, May 4 -7, 2016, San Francisco, CA.
- Anas Alani, Tamam Mohamad, Wassim Ballany, Jalal Ghali. Alcohol and Peripartum Cardiomyopathy: The sober reality. ACP Michigan Chapter 2010.
- W. Ballany, M. Singh, G. Singh, D. Levin. Preliminary results of a Structured Observership Program for International Medical Graduates. Poster at the International Conference of Education, Research and Innovation, Madrid, Spain. 2010

Oral Presentations/Lectures:

- Sinus Venosus ASD with Anomalous Pulmonary Venous Return, Rush University Medical Center, Chicago, IL 01/2012
Curriculum Vitae, Wassim Ballany, M.D. 03/07/2017
- Spontaneous Coronary Artery Dissection, Rush University Medical Center, Chicago, IL 06/2012
- ICD Indications; Electrophysiology Conference, Rush University Medical Center, Chicago, IL 07/2012

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Background of the Applicant

Curriculum Vitae, Wassim Ballany, M.D. 05/10/2025

- Antiarrhythmic Agents in Pregnancy; Electrophysiology Conference, Rush University Medical Center, Chicago, IL 05/2014
- A Case of Fascicular Ventricular Tachycardia, BioSense Webster Fellows Program at The AF/VT Summit, Chicago IL, 12/2014
- Wide Complex Tachycardias; Cardiology Fellows Lecture Series, Aurora St.Luke's Hospital, 9/3015.
- Advances and Outcomes of Atrial Fibrillation Ablation: New Frontiers in Cardiovascular Disease Symposium, May 5, 2018.
- PVCs on the ECG – When to Worry?: 15th Annual Advocate Heart Institute – Prevention to Cure Symposium, February 9, 2022.
- Telemedicine and Remote Monitoring in Cardiovascular Care. The Role of Technology in Enhancing Patient Care and Monitoring: 18th Annual Advocate Heart Institute – Prevention to Cure Symposium, February 12, 2025.

Hobbies & Interests:

- Watching sports
- Cycling
- Running
- Blogging
- Podcasting
- Traveling and going to new places
- Dining out

Language Fluency (Other than English):

Arabic

ATTACHMENT 11

Background of the Applicant

William Spear, Hiroki Ito, Jeffrey Frehage, Junaid Ahmed, David Wilber, Fred Leya, Peter Santucci. Major Arrhythmic Complications following Alcohol Septal Ablation for Hypertrophic Cardiomyopathy. *Heart Rhythm* Vol 5; 5S, S312; May 2008

Spear, William. Wilber, David. *Cardiac Arrhythmias*. Interface of Neurology and Internal Medicine. Ed. Jose Biller Philadelphia, PA. Lippincott Williams and Wilkins. 2008

William Spear, MD, Mary Toon, RN, Marianne Heenan, RN, MSN, Aglaia Florides, RN, BSN, Mark A Mitchell, DO, Ray W Helms, MD, Adam R Shapira, MD, Saumil Oza, MD, Joseph G Akar, MD, PhD, Niraj Varma, MD, David J Wilber, MD, Peter Santucci, MD. *Patient perspectives on pacemaker and implantable cardioverter defibrillator reliability*. Heart Rhythm Society Meeting, Denver, CO, May 2007.

Neil R Brysiewicz, BS, Mark A Mitchell, DO, Ray W Helms, MD, Adam R Shapira, MD, Saumil R Oza, MD, **William Spear, MD**, Varma Niraj, MD, FRCP, Joseph G Akar, MD, PhD, Peter Santucci, MD, David J Wilber, MD Initial Experience with automated pacemapping for localization of ventricular tachycardia. Heart Rhythm Society Meeting Denver, CO. May 2007

BOOK CHAPTERS

Spear, William. Wilber, David. *Cardiac Arrhythmias*. Interface of Neurology and Internal Medicine. Ed. Jose Biller Philadelphia, PA. Lippincott Williams and Wilkins. 2008

FEATURED SPEAKER AND PRESENTATIONS

- May 2018 – Poster Presentation – Challenging the ED Paradigm: A New Management Strategy for AF in the Emergency Department, Heart Rhythm Society (HRS), Boston, MA.
- April 2018 – Presenter – Challenging the ED Paradigm: A New Management Strategy for AF in the Emergency Department. Advocate Nursing Research Symposium
- April 2018 – Poster Presentation – A New Management Strategy for AF in the Emergency Department, European Cardiac Arrhythmia Society Congress (ECAS)-Paris, France.
- April 2016 – A Comparison of Peri-procedural Complications with Novel oral Anti-Coagulants vs. Warfarin during Atrial Fibrillation Ablation. Advocate Nursing Research Symposium
- 2015 Invited Speaker, Robotic Ablation techniques in complex left atrial arrhythmia, Winter School, Toronto Ontario
- 2015 invited Speaker, Robotic Ultrasound and Lasso Control, Winter School, Toronto Canada
- 2014 Invited Speaker, Safety and efficacy of robotic AF ablation. Boston AF Symposium
- 2014 Left Atrial Appendage Occlusion, Advocate Christ Heart and Vascular Symposium
- 2013 Increasing Efficiency and Safety of Robotic Ablation, Heart Rhythm Society, Invited Speaker
- 2012 Pharmacologic Management of Atrial Fibrillation, Advocate Christ Heart and Vascular Symposium
- 2010 Hybrid Ablation for Atrial Fibrillation, Advocate Christ Heart and Vascular Symposium
- 2009 Catheter Ablation for Atrial Fibrillation, Advocate Christ Heart and Vascular Symposium
- 2008 Ablation of Atrial Fibrillation, Grand Rounds, Advocate Christ Medical Center

OTHER PREVIOUS RESEARCH

Spear, W, Multach, M, Aime, G, Garg, A, Preston, R. *Delay in the Treatment of Urgent Hypertension in the Emergency Department*. American College of Physicians Regional Meeting, Sept. 2002.

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Background of the Applicant

PROFESSIONAL ORGANIZATIONS & HONORS

Fellow, Heart Rhythm Society, FHRS

Fellow, American College of Cardiology, FACC

Chief Fellow, Cardiovascular Medicine, Loyola University Medical Center

Alpha Omega Alpha Honor Society, University of Miami School of Medicine

Iron Arrow Honor Society, University of Miami School of Medicine

ABSTRACT AND JOURNAL PUBLICATIONS

Natale, A., Mohanty, S., Liu, P.Y., Mittal, S., Al-Ahmad, A., De Lurgio, D.B., Horton, R., **Spear, W.**, Bailey, S., Bunch, J. and Musat, D., 2020. Venous vascular closure system versus manual compression following multiple access electrophysiology procedures: the AMBULATE trial. *Clinical Electrophysiology*, 6(1), pp.111-124.

Osorio, J., Rajendra, A., Varley, A., Henry, R., Cunningham, J., **Spear, W.** and Morales, G., 2020. General anesthesia during atrial fibrillation ablation: standardized protocol and experience. *Pacing and Clinical Electrophysiology*, 43(6), pp.602-608.

Natale, A; **Spear, William** et al. Ambulate Trial. Late Breaking Clinical Trial Oral presentation American Heart Association, November 2018

Kothari, MD; Sujeen Adhikari, MD; Michelle Nellett, APRN; & **William Spear, MD** Challenging the ED Paradigm: A New Management Strategy for AF in the Emergency Department, Heart Rhythm Society (HRS), Boston, MA. May 2018

Sorabh Kothari, MD; Sujeen Adhikari, MD; Michelle Nellett, APRN; & **William Spear, MD** A New Management Strategy for AF in the Emergency Department, European Cardiac Arrhythmia Society Congress (ECAS)-Paris, France. April 2018

Mauricio S. Arruda, MD, **William Spear, MD***, J. Peter Weiss, MD**, MSc, Harish Manyam, MD, Atsuhiko Yagishita, MD, Scott Hughes, PhD†, Qun Sha, MD†, and Nathan Kastelein, MS†. Feasibility and Safety of a Novel 3-Dimensional RF Energy Monitoring System: Optimizing RF Lesion Formation to Improve AF Ablation Outcomes. 2015. Heart Rhythm Society Meeting, Abstract Presentations.

William H. Spear, M.D., Michelle Nellett, R.N., Qun Sha, M.D. First Human Experience with Robotic Intracardiac Ultrasound (ICE) Manipulation During Catheter Ablation of Atrial Fibrillation (AF) in the United States. 2014, Abstract Presentation. AF Symposium, Orlando, FL.

Spear, William. The Unseen Risks in the EP Lab, The Inconvenient Truth. EP Lab Digest, 2012, Jan;12(1):26-27.

Porter M, **Spear W**, Akar J, Helms R, Santucci, P, Wilber D. Prospective study of atrial fibrillation termination during ablation guided by automated detection of fractionated electrograms. J Cardiovasc Electrophysiol. 2008 Jun;19(6):613-20.

ATTACHMENT 11

Background of the Applicant

Co-Investigator. The Safety and Effectiveness Trial for a Leadless Cardiac Pacemaker (The Leadless II) trial.
 Principle Investigator AFEP: Atrial Fibrillation Emergency Protocol. To evaluate the safety and effectiveness of a standardized protocol for new onset Atrial Fibrillation in the ED

Principal Investigator, A comparison of Robotic vs Contact Force catheter ablation for Treatment of paroxysmal Atrial Fibrillation (Smart AF Trial),

Principal Investigator. Efficiency and Safety of AF Ablation with Innovative Left Atrial Mapping Technique

Chair, Atrial Fibrillation Ablation committee, Advocate Christ Medical Center. 2008- Present

Chair, Left Atrial Appendage Occlusion committee, Advocate Christ Medical Center 2015- Present

Advisory Board, Biosense Webster, Boston Scientific, 2011-Present

EDUCATION AND HONORS

Loyola University Medical Center	Maywood, IL
Fellow, Clinical Cardiac Electrophysiology	2007-2008
Chief Fellow, Cardiovascular Medicine	2006-2007
Fellow, Cardiovascular Medicine	2004-2007
University of Miami Miller School of Medicine	Miami, FL
Internal Medicine Residency	2001-2004
Alpha Omega Alpha, Doctorate in Medicine	1997-2001
Northwestern University	Evanston, Illinois
<i>Graduated with Departmental Honors</i>	1993-1997

CERTIFICATIONS AND LICENSURES

MEDICAL LICENSURES

State of Illinois Medical Licensure	Active
State of Indiana	Active
Federal DEA Licensure	Active
State of Illinois DEA Licensure	Active

AMERICAN BOARD OF INTERNAL MEDICINE

Board Certified, Clinical Cardiac Electrophysiology
 Board Certified, Cardiovascular Medicine
 Board Eligible, Internal Medicine

ATTACHMENT 11

Background of the Applicant

WILLIAM H. SPEAR, MD, FACC, FHRS

627 Edgemont Lane ♦ Park Ridge, IL 60068 ♦ 708.906.7703 ♦ wspear21@gmail.com

CURRENT EMPLOYMENT

Consultants in Cardiology and Electrophysiology, LLC Senior Partner, Clinical Cardiac Electrophysiology and General Cardiology	Evergreen Park, IL 2008-present
Advocate Christ Medical Center Medical Director, Atrial Fibrillation Ablation Program	Oak Lawn, IL 2008-present
Powers Health System Staff Electrophysiologist, Chairman, Cardiovascular Quality and Improvement	Munster, IN 2008-Present

CURRENT AND RECENT CLINICAL ACTIVITIES & RESEARCH

Principal Investigator, REMATCH Trial, Ablation trial looking at redo persistent AF ablation utilizing pulse field ablation with the Farapulse system. Utilized both farawave and farapoint novel ablation catheter.

Principal Investigator, SIMPLAAFY Trial, A real world trial evaluating post operative drug regimens for the Watchman FLX Pro Device.

Principal Investigator, HEAL LAA Registry, A real world registry to collect data on the Watchman FLX Pro Left atrial appendage closure device.

Principal Investigator, Champion Trial, A randomized trial comparing Watchman FLX device to DOAC in patients with atrial fibrillation. 2020-present

Principal Investigator, The Ambulate Trial, A Randomized, Multi-Center Trial to Compare the Cardiva Mid-Bore VVCS to manual compression in closure of multiple femoral venous access sites in 6-12Fr Sheath sizes(Ambulate)
2017- 2020

Principal Investigator, aMaze Trial Left Atrial Appendage Ligation with the Lariat+® Suture Delivery System As Adjunctive Therapy to Pulmonary Vein Isolation for Persistent or Longstanding Persistent Atrial Fibrillation
2016-2019

Principal Investigator, Magnetic VT Study, Randomized Trial comparing the efficacy of robotic Vs manual ablation for Ventricular Tachycardia.
2016-2020

Principal Investigator, DECAAF II Study – Efficacy of DE-MRI-Guided Fibrosis Ablation vs Conventional Catheter Ablation of Atrial Fibrillation
2016-2020

Principal investigator, AMULET Left Atrial Occlusion IDE Trial
2017-present

Principle Investigator, reMARQable - nMARQ(tm) Pulmonary Vein Isolation System for the Treatment of Paroxysmal Atrial Fibrillation.
2014-2016

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Background of the Applicant

Aime, G. Multach, M. **Spear**, W. Garg, A. Preston, R. *Acute Treatment of Severe Hypertension in the Emergency Department of a Public Teaching Hospital*. American College of Physicians Regional Meeting, Sept. 2002

Spear, William H. *The Suppression of Distortion Product Otoacoustic Emissions*. Honors Thesis, Northwestern University. May 1997. Designed and conducted research on the effect of suppressor tones on the distortion product otoacoustic emissions of human subjects.

INTERESTS AND ACTIVITIES

Golf and travel.

REFERENCES

Available upon request.

ATTACHMENT 11

Background of the Applicant

Professional Memberships

American Heart Association

American College of Cardiology

American Society of Cardiovascular Computer Tomography

American Society of Nuclear Cardiology

American College of Physicians

Publications and Abstracts

Olgbenga A, Shankar VS, Zaidi A, Simon B and Huang CLH, "Modulation of the osteoclast Ca receptor by extracellular protons: Possible linkage between Ca sensing and extracellular acidification.", *Biochemical and Biophysical Research Communications*, January 1994 Volume 199, Pages: 742-747.

Olgbenga A, Shankar VS, Zaidi A, Bascal ZA, Dacke CG "Quantitative studies on the effect of prostacyclin on freshly isolated rat osteoclasts in culture." *Journal of Endocrinology*, January 1994, Volume 234, Pages: 375-381

Levisay J, Zaidi A, Vaitkus P "Natural History of Asymptomatic Diastolic Dysfunction Discovered at Cardiac Catheterization.", *Catherization and Cardiovascular Interventions*, May 2006, Volume 67, Issue 5, Pages 788-789.

Zaidi A, Vaitkus P. "Outcome of Heart Transplantation in Patients With Sarcoid Cardiomyopathy". *The Journal of Heart and Lung Transplantation*, July 2007, Volume 26, Issue 7, Pages 714-717.

Luu J, Zaidi A, Kao J. "Cocaine Use Decreases the Positive Predictive Value of Dipyridamole Technetium-99m Sestamibi Stress Scintigraphy for Obstructive Coronary Artery Disease". *Journal of Nuclear Cardiology*. August 2008, Volume 15, Issue 4, Pages S16-17.

Zaidi A, Vidovich M. Case Report of Late Stent Thrombosis Associated with Influenza Vaccination. *Case Reports in Medicine*. 2009. In Press.

Languages

English, Urdu/Hindi, French

Other

Citizenship: United Kingdom

USA Permanent Resident (Green Card)

ATTACHMENT 11

Background of the Applicant

Ali Zaidi, M.D.

Personal Information

Home Address: 1511 West Harrison Street, Chicago, IL 60607
Phone Numbers: 773 412 6712 (mobile)
e-mail: alizaid1@uic.edu

Present Position

2007 – 2010 Fellow in Cardiovascular Diseases
University of Illinois at Chicago.

Education

1994-1997 Masters Degree (MA), Physiology
University of Cambridge, United Kingdom

1994-2000 Medical Doctorate (MD)
University of Cambridge, United Kingdom

Post Graduate Training

2007 - 2010 Cardiovascular Disease Fellowship
University of Illinois at Chicago.

2004 - 2007 Internal Medicine Residency
University of Illinois at Chicago.

2003 - 2004 Anesthesia and Critical Care Residency
University of London, Guys and St Thomas's Hospital, United Kingdom

2000 - 2003 Internal Medicine Residency
University of Cambridge, United Kingdom

ATTACHMENT 11

Background of the Applicant

Publications and Abstracts

Olgbenga A, Shankar VS, Zaidi A, Simon B and Huang CLH, "Modulation of the osteoclast Ca receptor by extracellular protons: Possible linkage between Ca sensing and extracellular acidification.", *Biochemical and Biophysical Research Communications*, January 1994 Volume 199, Pages: 742-747.

Olgbenga A, Shankar VS, Zaidi A, Bascal ZA, Dacke CG "Quantitative studies on the effect of prostacyclin on freshly isolated rat osteoclasts in culture." *Journal of Endocrinology*, January 1994, Volume 234, Pages: 375-381

Levisay J, Zaidi, A, Vaitkus P "Natural History of Asymptomatic Diastolic Dysfunction Discovered at Cardiac Catheterization.". *Catherization and Cardiovascular Interventions*, May 2006, Volume 67, Issue 5, Pages 788-789.

Zaidi A, Vaitkus P. "Outcome of Heart Transplantation in Patients With Sarcoid Cardiomyopathy". *The Journal of Heart and Lung Transplantation*, July 2007, Volume 26, Issue 7, Pages 714-717.

Luu J, Zaidi A, Kao J. "Cocaine Use Decreases the Positive Predictive Value of Dipyridamole Technetium-99m Sestamibi Stress Scintigraphy for Obstructive Coronary Artery Disease". *Journal of Nuclear Cardiology*. August 2008, Volume 15, Issue 4, Pages S16-17.

Zaidi A, Vidovich M. Case Report of Late Stent Thrombosis Associated with Influenza Vaccination. *Case Reports in Medicine*. 2009. In Press.

Languages

English, Urdu/Hindi, French

Other

Citizenship: United Kingdom

USA Permanent Resident (Green Card)

ATTACHMENT 11

Background of the Applicant

Board Certification

2007 - 2017	American Board of Internal Medicine
2003	USMLE: Step 1 – 250 (99), Step 2 – 265 (99), Step 3 – 237 (95), CSA
2002	Membership of Royal College of Physicians, (MRCP), England, UK

Pending Board Examinations

2009-2010	Cardiology, Echocardiography, Nuclear Cardiology, Cardiac CT
-----------	--

Medical Licensure

2007 - 2011	Licensed Physician and Surgeon, Illinois (036-117-746)
-------------	--

Honors / Awards

2005	Resident of the Year Award <i>University of Illinois at Chicago.</i>
2002	Resident of the Year Award <i>University of Cambridge, United Kingdom</i>
1999	Edgar Palmer Travel Scholarship <i>University of Cambridge, United Kingdom</i>
1996	Isaac Newton Trust Award, for recognition of academic achievement <i>University of Cambridge, United Kingdom</i>
1996	John Carpenter Scholarship, for recognition of academic achievement <i>University of Cambridge, United Kingdom</i>
1996	Worshipful Company of Barbers Prize, for recognition of academic excellence <i>University of Cambridge, United Kingdom</i>

Professional Memberships

American Heart Association

American College of Cardiology

American Society of Cardiovascular Computer Tomography

American Society of Nuclear Medicine

American College of Physicians

ATTACHMENT 11

Background of the Applicant

Ali Zaidi, M.D.

Personal Information

Home Address: 1511 West Harrison Street, Chicago, IL 60607
Phone Numbers: 773 412 6712 (mobile)
e-mail: alizaid1@uic.edu

Present Position

2007 – 2010 Fellow in Cardiovascular Diseases
University of Illinois at Chicago.

Education

1994-1997 Masters Degree (MA), Physiology
University of Cambridge, United Kingdom
1994-2000 Medical Doctorate (MD)
University of Cambridge, United Kingdom

Post Graduate Training

2007 - 2010 Cardiovascular Disease Fellowship
University of Illinois at Chicago.
2004 - 2007 Internal Medicine Residency
University of Illinois at Chicago.
2003 - 2004 Anesthesia and Critical Care Residency
University of London, Guys and St Thomas's Hospital, United Kingdom
2000 - 2003 Internal Medicine Residency
University of Cambridge, United Kingdom

ATTACHMENT 11

Background of the Applicant

Board Certification

2009	National Board of Echocardiography - testamur
2009	Certification Board of Nuclear Cardiology - testamur
2007 - 2017	American Board of Internal Medicine
2003	USMLE: Step 1 – 250 (99), Step 2 – 265 (99), Step 3 – 237 (95), CSA
2002	Membership of Royal College of Physicians, (MRCP), England, UK

Pending Board Examinations

2009-2010	Cardiology, Cardiac CT
-----------	------------------------

Medical Licensure

2007 - 2011	Licensed Physician and Surgeon, Illinois (036-117-746)
-------------	--

Honors / Awards

2005	Resident of the Year Award <i>University of Illinois at Chicago.</i>
2002	Resident of the Year Award <i>University of Cambridge, United Kingdom</i>
1999	Edgar Palmer Travel Scholarship <i>University of Cambridge, United Kingdom</i>
1996	Isaac Newton Trust Award, for recognition of academic achievement <i>University of Cambridge, United Kingdom</i>
1996	John Carpenter Scholarship, for recognition of academic achievement <i>University of Cambridge, United Kingdom</i>
1996	Worshipful Company of Barbers Prize, for recognition of academic excellence <i>University of Cambridge, United Kingdom</i>

ATTACHMENT 12

Purpose of the Project

The Applicant seeks approval from the Health Facilities and Services Review Board to establish Midwest Ambulatory Surgical Center, LLC, an Ambulatory Surgical Treatment Center ("ASTC") at 3523 W. 95th Street, Evergreen Park, IL 60805 and provide Cardiac Catheterization Services. The market area is consistent with the Board-defined geographic service area which is 10-mile radius from the existing facility. More generally, the patient base resides in Cook County.

The ASTC will offer new pathways to the highest-quality cardiac catheterization services available, providing services to patients otherwise traveling far distances for their basic health care needs. No other cardiac catheterization-focused ASTC exists within the geographic service area of this Project, delivering essential heart care to the region.

This Project shall be led by clinical and interventional cardiologist Dr. Nouri Al-Khaled and supported by cardiologists such as those rounding out the corporate managers of Midwest Ambulatory Surgical Care, LLC. Although the broader geography of the Project includes large hospitals and academic medical centers, there is a shortage of cardiac care offerings. Heart disease and heart-related injuries are the number one killer in Illinois, and areas lacking cardiac surgeons are most at risk.

Midwest Ambulatory Surgical Center, LLC will be a world-class facility offering cardiac services in an area plagued by hypertension, heart disease, and other cardiovascular needs. The facility shall utilize the newest interventions for treating renal artery stenosis, including state-of-the-art procedures to shave away plaque in patients with peripheral artery disease. The facility will also be equipped with surgical expertise and medical equipment to perform transcatheter aortic valve replacements ("TAVR"), a cutting-edge technology for replacing the aortic valve without opening the chest cavity.

The establishment of this ASTC directly responds to the demonstrated burden of cardiovascular disease in Illinois, where heart disease remains the leading cause of death for both men and women. In 2021 alone, more than 26,000 Illinois residents died from heart disease, and heart disease and stroke together accounted for nearly 27 percent of all deaths statewide. These figures underscore not only the prevalence of cardiovascular conditions, but also the continued strain placed on existing cardiac care infrastructure.

This burden is particularly harmful in areas facing shortages of specialized cardiac services. Communities with higher rates of hypertension, poverty, and limited access to healthcare experience a disproportionate share of cardiovascular morbidity and mortality. Patients in these areas frequently face delayed diagnoses and prolonged wait times for interventional care, increasing the risk of adverse outcomes.

The disproportionate impact of heart disease on medically underserved populations highlights the importance of strategically located outpatient cardiac facilities. Facilities situated closer to where patients live improve access to timely intervention, reduce barriers related to transportation and scheduling, and support earlier engagement in care. The proposed ASTC is designed to meet these needs by providing advanced cardiac services in a more accessible setting.

Peer-reviewed research consistently demonstrates that improved geographic access to cardiovascular and related care is strongly associated with better disease awareness, earlier intervention, and improved clinical outcomes. Large population-based studies of underserved urban communities, including a study focused on Chicago's South Side, show that neighborhoods with enhanced access to care experience significantly lower rates of uncontrolled and undiagnosed hypertension. Hypertension is among the most significant risk factors for heart disease and stroke and remains highly prevalent in the proposed service area. By reducing travel time and removing logistical barriers to specialty care, the proposed ASTC aligns with evidence-based strategies shown to mitigate cardiovascular risk and improve outcomes in underserved populations.

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In addition to addressing access gaps, substantial clinical evidence supports the safety and efficiency of performing advanced cardiac diagnostic and interventional procedures in ambulatory surgery centers. Comparative analyses of inpatient and outpatient cardiac catheterization and percutaneous coronary interventions show no statistically significant differences in complication rates when procedures are performed by experienced interventional teams under appropriate protocols.

Outpatient cardiac procedures are also associated with meaningful cost efficiencies. Studies demonstrate reductions in hospital-related costs of approximately 25 percent when cardiac catheterization is performed on an outpatient basis. These efficiencies reflect lower overhead, shorter recovery periods, and more efficient use of healthcare resources, while maintaining high standards of patient safety and quality.

Regulatory and reimbursement policy developments further reflect the growing recognition of ambulatory surgery centers as appropriate and preferred sites of care for many cardiovascular services. Recent Medicare and CPT updates demonstrate a deliberate shift toward aligning reimbursement with contemporary interventional cardiology practice, procedural complexity, and site-of-service considerations. Beginning in 2026, CMS implemented significant revisions to interventional cardiology CPT codes to better mirror modern clinical workflows and the safe migration of advanced cardiovascular procedures to outpatient environments.

CMS has expanded the Ambulatory Surgery Center Covered Procedures List to include additional cardiovascular services, including electrophysiology and catheter-based interventions. This expansion represents explicit federal recognition that many advanced cardiovascular procedures can be safely and effectively performed outside the inpatient hospital setting when patients are appropriately selected and procedures are performed by experienced teams. The inclusion of these services in the ASC payment system is intended to improve access to advanced cardiovascular care, promote efficiency, and reduce overall Medicare expenditures by encouraging care delivery in lower-cost settings without compromising quality or patient safety.

From an operational perspective, ambulatory surgery centers deliver significant efficiencies when compared to hospital-based outpatient departments. ASCs operate with lower fixed overhead, more predictable scheduling, and highly specialized staffing models focused on specific procedure types. These characteristics reduce delays, minimize case cancellations, and allow for higher throughput while maintaining rigorous safety protocols.

Cardiovascular ASTCs also benefit from standardized workflows and specialized care teams that improve procedural coordination and documentation accuracy. The alignment of clinical, coding, and operational practices in an ASTC setting supports compliance with evolving CPT requirements and ensures that procedures are appropriately documented and reimbursed. This integration reduces administrative inefficiencies and minimizes billing variability that often accompanies hospital-based care.

The site-of-service efficiencies achieved by ASTCs generate measurable cost savings for payers and patients alike. Lower facility fees, reduced ancillary service utilization, and shorter post-procedure recovery times translate into lower total episode-of-care costs. Medicare analyses consistently show that shifting appropriate cardiovascular procedures from hospital outpatient departments to ASTCs yields substantial savings while achieving equivalent clinical outcomes.

Importantly, these efficiencies do not come at the expense of patient safety or quality of care. Clinical outcomes data demonstrate that ASC-based cardiovascular procedures, when performed by experienced interventional cardiologists and supported by appropriate protocols and equipment, achieve outcomes comparable to hospital outpatient settings.

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Taken together, the evolution of Medicare CPT policy and payment structures, combined with the inherent operational efficiencies of ambulatory surgery centers and strong evidence supporting outpatient cardiovascular care, establish a clear and compelling public need for this ASTC. Approval of this application will enable Midwest Ambulatory Surgical Center to address critical cardiovascular care needs in the service area while complementing, rather than duplicating or displacing, existing healthcare providers.

Charge Code Detail Description	CPT Code	Count
93458-CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP	93458	1,232
92928-PTCA ANGIOPLASTY CATHETER PLACE INTRACOR STENT SINGLE COR	92928	511
33340-PERQ CLSR TCAT L ATR APNDGE W/ENDOCARDIAL IMPLNT	33340	309
93460-CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP	93460	306
33208-INSERT NEW OR REPLACE PERM PACEMAKER W TRANSVEN ELECTRDE	33208	139
37225-REVASCULARIZATION ENDOVASC FEMORAL/POPLITEAL UNIL W ATHERE	37225	112
93459-CATH PLACED IN CORONARY ANGIOGRAPHY W MD SUP - INTERP LT HE	93459	106
93454-CATH PLACE IN CORONARY ARTERY FOR ANGIOGRAPHY INJ MD SUP A	93454	47
37228-REVASCULARIZATION ENDOVASC TIBIAL/PERONEAL UNIL W ANGIOPLAS	37228	28
93456-CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP	93456	25
36247-PLACE CATH SUBSUBSELECT ART,ABD/PEL	36247	25
Total		2,840

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— TODAY'S PRACTICE —
In Collaboration With MedScribe

The Real-World Impact of 2026 Coding Changes on Interventional Cardiology and ASCs

Operational, documentation, and reimbursement considerations for interventional teams navigating 2026 coding and payment changes.

By Nicole F. Knight, LPN, CPC, CCS-P

As of January 1, 2026, a significant overhaul of American Medical Association Current Procedural Terminology (CPT) codes and related Centers for Medicare & Medicaid Services (CMS) fee schedules has taken effect, aimed at aligning procedural coding with contemporary clinical practice. These changes have broad implications for interventional cardiologists, peripheral vascular specialists, electrophysiologists, practice administrators, and coders alike.

For cath lab teams, the 2026 CPT code updates, CMS Physician Fee Schedule (PFS) final rule changes, and CMS Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System final rule changes are not abstract billing revisions. They directly reflect what happens in the lab, in real time, during coronary and peripheral interventions. Decisions made by interventional cardiologists, nurses, and technologists regarding access, lesion selection, vessel treatment sequence, devices used, and procedural complexity now carry greater coding and reimbursement implications than ever before.¹

The 2026 restructuring of percutaneous coronary intervention (PCI) codes introduces clearer differentiation between standard and complex interventions. Whether a case qualifies for higher-complexity reporting depends on details that must be recognized, documented, and supported by the cath lab team at the time of the procedure. Factors such as multivessel

treatment, bifurcation work, atherectomy use, or prolonged procedural effort are often evident to cath lab staff long before a coder ever reviews the operative report.^{1,2}

Similarly, the complete overhaul of lower extremity revascularization (LER) coding shifts reporting from broad procedural categories to specific vascular territories and individual vessels.² Accurate code assignment hinges on precise identification of which arteries were treated, how many distinct territories were involved, and whether interventions occurred above, at, or below the knee or in newly recognized inframalleolar vessels. This level of detail requires close alignment between physicians and cath lab staff who document wire placement, angiographic findings, and treatment endpoints during the case.

Beyond coding mechanics, the 2026 updates also influence how cath labs plan and deliver care. Changes in payment policy and the expansion of approved cardiovascular procedures in ambulatory surgery centers (ASCs), particularly for electrophysiology (EP) and ablation, are prompting health systems to reevaluate site-of-service decisions, staffing models, room utilization, and case scheduling.³ Cath lab leaders and frontline staff play a critical role in operationalizing these shifts while maintaining patient safety and procedural efficiency.

When cath lab teams understand how care delivery decisions made during the case intersect with CPT definitions and Medicare payment rules, documentation

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becomes a shared operational responsibility that helps ensure (1) procedural complexity is accurately reflected in documentation; (2) vascular territories and treated vessels are clearly and consistently identified; (3) compliance risk is minimized through standardized reporting; and (4) the full clinical scope and associated financial value of cath lab services are captured.

This article aims to provide an overview of code changes affecting interventional cardiology and ASCs, highlighting a key reality for interventional and ASC teams: Accurate reimbursement and regulatory compliance begin at the site of service, not at the coding desk.

CORONARY INTERVENTION: PCI CODING CHANGES

A central focus of the 2026 CPT updates for interventional cardiology is the restructuring of PCI coding. Historically, PCI reporting relied on a narrow set of codes that failed to fully capture the procedural complexity, time commitment, and resource use associated with contemporary PCI practice.

Changes and updates from the 2026 CPT revisions include the following:

- New category I PCI codes are introduced, including a complex PCI code (92930) designed to better capture procedures involving multiple lesions, bifurcations, or more extensive stenting. Cardiologists report this code provides enhanced relative value unit (RVU) recognition compared with older codes.¹
- In addition, a new category I code (92945) for chronic total occlusion (CTO) PCI formally recognizes the added technical complexity, procedural time, and resource intensity associated with CTO interventions, aligning coding more closely with contemporary interventional practice.
- Established PCI codes, such as 92928, experienced reduced reimbursement, while newly created codes for more complex cases received higher work RVUs.⁴

These revisions aim to improve payment accuracy for complex coronary interventions and align coding with procedural effort. Physicians and practices will need to closely review code descriptors to ensure correct code selection.¹

PERIPHERAL VASCULAR: OVERHAUL OF LER CODING

Perhaps the most sweeping changes in the cardiovascular domain are in LER coding, traditionally one of the most confusing and outdated areas in vascular CPT.

Updates for 2026 include the following:

- The existing code set of 16 codes has been completely replaced with 46 new CPT codes (37254-37299). These new codes are organized by vascular territory rather than broad procedure type (eg, angioplasty, stenting), fostering more precise reporting.²
- A new inframalleolar vascular territory (below the ankle) is now recognized, expanding procedural capture for pedal and foot artery interventions, an area of increasing clinical activity in patients with chronic limb-threatening ischemia.⁵
- Detailed guidance defines distinct vessels and lesion complexity, enabling coders to differentiate straightforward versus complex treatments and apply the correct base/add-on codes per vessel.

Collectively, these revisions modernize vascular coding and are anticipated to reduce ambiguity, improve reimbursement accuracy, and better reflect clinical microanatomy and therapeutic complexity.⁶

OTHER CARDIOVASCULAR CPT CHANGES OF NOTE

In addition to PCI and LER updates, the 2026 CPT code set brings other cardiovascular coding changes that may indirectly affect practitioners.

Coronary plaque assessment received a category I code, replacing temporary category III codes and recognizing artificial intelligence-augmented imaging analyses more fully.² Additionally, new remote physiologic monitoring codes expand capacity to report device data capture and interaction requirements, which can influence cardiology practices managing patients with implanted or wearable technologies.⁷

Together, these updates underscore an ongoing trend to incorporate technologic innovation into procedural reporting.

MEDICARE PFS FINAL RULE: PAYMENT POLICY CHANGES

The 2026 Medicare PFS final rule establishes payment policies that apply to the updated CPT codes and also introduces system-wide adjustments. For example, the conversion factor that determines Medicare fee-for-service payment rates increased for 2026, with the qualifying alternative payment model (APM) conversion factor rising to \$33.57 and the non-APM to \$33.40, providing a modest overall payment increase.⁴

CMS also finalized changes to the practice expense methodology, introducing "efficiency adjustments" that shift payment weights between facility- and nonfacility-

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based services, influencing how procedural code reimbursements, including PCI and peripheral interventions, are valued.⁸

In response to broader stakeholder input, CMS calibrated RVUs for many newly created and revised codes, including cardiovascular service codes. Some codes see increased valuation, while others may be offset by crosswalk methodologies or efficiency adjustments.³

These Medicare PFS provisions, along with CPT changes, may result in significant net payment shifts for cardiology practices, emphasizing the need for proactive revenue cycle preparation and financial modeling.⁹

EXPANSION OF APPROVED PROCEDURES IN THE ASC SETTING

An important non-CPT update in 2026 involves the ASC Covered Procedures List (CPL) under the Hospital Outpatient Prospective Payment System final rule.

CMS finalized the addition of cardiac catheter ablation procedures to the ASC CPL, expanding the range of cardiovascular services that can be performed and reimbursed in the ASC setting.¹⁰ This decision responds to long-standing advocacy by professional societies like the American College of Cardiology and Heart Rhythm Society and signifies a regulatory shift toward broader ambulatory care access for EP procedural services.¹⁰

The inclusion of EP ablation in the ASC setting is poised to reduce costs for payers and patients, while also potentially increasing procedure volume in outpatient facilities. Providers should update their operational workflows and compliance protocols to capture these opportunities.

PRACTICAL IMPACTS FOR CLINICIANS AND PRACTICES

The combined CMS and CPT policy changes for 2026 require cardiovascular practices to:

- Educate clinical and coding teams on new CPT codes, especially for PCI and LER codes, to ensure accurate claims submission
- Update billing software and electronic health records with revised 2026 CPT code sets before January 1 implementation
- Engage finance and operational leaders to project reimbursement impacts of the Medicare PFS adjustments on procedure revenue and practice sustainability
- Provide targeted education for physicians, coders, and auditors on 2026 CPT changes, with a focus on documentation requirements that support procedural complexity and coding

- Evaluate and prepare for expanded EP services added to the ASC CPL, including operational, documentation, and billing considerations necessary to safely and compliantly shift EP procedures to the outpatient setting

CONCLUSION

The 2026 CPT code updates and Medicare PFS final rule changes represent one of the most consequential sets of coding and payment transformations for cardiovascular services in recent years. With granular PCI updates, an expanded LER code set, and newly covered ASC procedures such as cardiac ablation, practices must act now to align clinical documentation, coding strategy, and reimbursement workflows with this evolving regulatory landscape. Staying ahead of these changes not only ensures compliance but positions cardiovascular teams to optimize payment in a shifting reimbursement environment. ■

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Disclosures: None.

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Safety of Outpatient Cardiac Catheterization*

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In this study, we compared the procedure-related complications of inpatient and outpatient cardiac catheterization when performed at the same institution by the same group of cardiologists. The majority of the studies were done using a brachial arterial cutdown approach. The mean age, sex, cardiac diagnosis, mean left ventricular ejection fraction, and the distribution of coronary arterial lesions were similar in both groups. There were relatively more patients in the New York Heart Association's class 4 in the inpatient group ($p < 0.01$). In the outpatient group (676 patients), there were no major complications, and the rate of minor complications was 1 percent. In the inpatient group (1,106 patients), the rate of major complications was 0.4 percent and of minor

complications 1.4 percent. The rates of major, minor, and total complications were statistically similar between the two groups. In the outpatient group the presence of left main coronary arterial disease, triple-vessel coronary disease, a left ventricular ejection fraction less than 30 percent, or a history of a recent myocardial infarction did not alter rates of complications. The hospital-related cost of the procedure on an outpatient basis was 26 percent less than on an inpatient basis. Our findings indicate that outpatient cardiac catheterization, using a brachial cutdown approach, is safe even in a higher risk subgroup of patients and provides significant financial savings.

With the advancement of coronary arterial surgery over the last decade, cardiac catheterization and coronary angiography have become frequently performed diagnostic procedures.¹ Previously, the usual policy was to admit the patient to the hospital one day prior to the study, followed by overnight observation after the cardiac catheterization. The increase in the number of studies performed and the ever-escalating cost of hospitalization have prompted some institutions to evaluate the safety of outpatient cardiac catheterization and coronary angiography.²⁻⁴ These studies examine the rates of complications in relatively small numbers of outpatients and do not report on the procedure-related complications of inpatient cardiac catheterization in the same institutions.

We initiated this study to compare rates of complications of outpatient and inpatient cardiac catheterization when performed in the same institution by the same group of cardiologists.

MATERIALS AND METHODS

From February 1981 to November 1983, there were 676 procedures for cardiac catheterization and coronary angiography performed on an outpatient basis by a group of five cardiologists. The control group consisted of 1,106 patients who had cardiac catheterization performed on an inpatient basis by the same group of cardiologists during 1983.

The inpatient group included patients who, in spite of optimal

medical management, were in the New York Heart Association's (NYHA) functional class 4 and patients who preferred to be hospitalized for the procedure. Advanced age, the likelihood of left main coronary arterial disease or triple-vessel disease, and history of recent myocardial infarction were not considered contraindications to outpatient cardiac catheterization.

Outpatients studied were asked to fast overnight. They were admitted to an observation unit, usually one hour before the procedure. After the cardiac catheterization, they were returned to the same unit, where they were monitored for around two hours, and then discharged. On the following day, they were seen in the outpatient clinic by the cardiologist who performed the study. The results of the study were discussed, and the patients were checked for procedure-related complications.

The medical and cardiac catheterization records were analyzed for final diagnoses and clinical data including functional classification and complications related to cardiac catheterization. Significant coronary arterial disease was interpreted as more than 50 percent narrowing in the left main coronary artery or more than 75 percent narrowing in any other major coronary arterial segment.

Complications were divided into major and minor. Major complications included the following: death occurring within 24 hours after the procedure; death following emergency surgery; myocardial infarction occurring within 24 hours after the procedure; pulmonary embolus occurring within 24 hours after the procedure; perforation or dissection of a major vessel or chamber; life-threatening dysrhythmias (ventricular tachycardia; ventricular fibrillation; asystole); and neurologic damage lasting longer than 24 hours. Minor complications included the following: thrombus or hemorrhage requiring surgical correction; hypotension requiring therapy for more than one hour; prolonged angina requiring hospitalization in the coronary care unit; and pyrogenic reaction (a temperature greater than 39.4°C [103°F] and shaking chills within 24 hours of the catheterization).

Outpatients were divided into higher and lower risk groups according to the diagnosis after catheterization. The higher risk group was comprised of patients who, from previous observations, were found to have a higher rate of cardiac catheterization-related complications (left main coronary arterial disease; triple-vessel coronary disease; left ventricular ejection fraction less than 30

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Table 1—Type of Procedure Performed*

Procedure	Outpatients	Inpatients
Brachial cut-down	661 (98)	1,061 (96)
Percutaneous femoral	15 (2)	45 (4)

*Table data are numbers of patients; numbers within parentheses are percentages.

percent).³ In addition, we elected to include patients with recent myocardial infarction (less than two months before the procedure) in this higher risk group. The lower risk group was comprised of the remaining patients studied on an outpatient basis. Financial data were retrieved from a computerized billing system.

Statistical Analysis

The χ^2 test was used for the comparison of two or more proportions in independent samples.⁴

RESULTS

Clinical and Laboratory Findings

The mean age in the outpatient group was 59 years (range, 16 to 76 years) and 61 years (range, 15 to 80 years) in the inpatient group. Male subjects accounted for 64 percent of the inpatients and 68 percent of the outpatients studied.

The brachial arterial cutdown approach was used in the majority of cases in both groups (Table 1). The Judkins percutaneous approach was used more commonly in the inpatient group ($p < 0.05$).

The distribution of the cardiac diagnosis after catheterization was similar in both groups, with coronary arterial disease being the most common diagnosis, followed by valvular heart disease (Table 2). The incidence of normal studies was statistically similar in both groups.

The angiographic findings in patients with coronary arterial disease are summarized in Table 3. There was no statistical difference in the severity of coronary arterial disease, as assessed by the number of coronary vessels with significant lesions, between the inpatient and outpatient groups.

The distribution of NYHA functional class was statistically different between the two groups ($p < 0.01$) (Table 4). In the outpatient group, 53 percent of the patients were in NYHA class 3, while in the inpatient group, there were more patients in NYHA class 4 than in class 3. The distribution of left ventricular ejection

Table 2—Diagnosis after Catheterization*

Diagnosis	Outpatients	Inpatients
Coronary arterial disease	439 (65)	641 (58)
Valvular disease	108 (15)	188 (17)
Cardiomyopathy	25 (4)	54 (5)
Congenital disease	16 (2)	46 (4)
Others	10 (2)	33 (3)
Normal	81 (12)	144 (13)

*Table data are numbers of patients; numbers within parentheses are percentages.

Table 3—Coronary Anatomy in Patients with Coronary Arterial Disease*

Data	Outpatients	Inpatients
Single-vessel disease	97 (22)	135 (21)
Double-vessel disease	106 (24)	172 (27)
Triple-vessel disease	202 (46)	272 (42)
Left main coronary arterial disease	34 (8)	62 (10)
Total	439 (100)	641 (100)

*Table data are numbers of patients; numbers within parentheses are percentages.

Table 4—NYHA Class and Left Ventricular Ejection Fraction of Patients*

Data	Outpatients	Inpatients
NYHA class		
1	10 (1)	23 (2)
2	147 (22)	236 (21)
3	360 (53)	415 (37)
4	159 (24)	432 (40)
Left ventricular ejection fraction		
<30 percent	55 (8)	98 (9)
30-49 percent	201 (30)	355 (32)
≥50 percent	420 (62)	653 (59)

*Table data are numbers of patients; numbers within parentheses are percentages.

fraction was statistically similar in both groups.

Complications

There were no major complications in the outpatient group (Table 5). Minor complications in the same group included three patients with diminished radial pulses that necessitated brachial arterial repair, three other patients with prolonged angina that necessitated admission to the coronary care unit, and one patient who developed an anaphylactic reaction to the contrast medium and recovered completely after hospitalization.

In the inpatient group, major complications included one death that occurred six hours following emergency bypass surgery for severe triple-vessel coronary disease; one patient developed acute myocardial infarction; and two patients developed ventricular tachycardia necessitating cardioversion. Minor complications included eight diminished or absent radial pulses which necessitated brachial arterial repair; four patients with prolonged chest pain necessitating trans-

Table 5—Rates of Complications in Patients*

Group	No. of Patients	Complications	
		Major	Minor
Outpatients	676 (100)	0	7 (1.0)
Higher risk	277 (41)	0	3 (1.1)
Lower risk	399 (59)	0	4 (1.0)
Inpatients	1,106 (100)	4 (0.4)	16 (1.5)

*Table data are numbers of patients; numbers within parentheses are percentages.

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fer to the coronary care unit; and four other patients who required therapy for hypotension for more than one hour.

There was no statistical difference in the incidence of major, minor, or total complications between the outpatient and inpatient groups. On the other hand, in the outpatient group the incidence of complications was similar in the higher risk and lower risk subgroups.

Financial Data

Analysis of financial data revealed that the average cost of an outpatient cardiac catheterization, including preliminary blood and electrocardiographic and radiologic studies, was \$774. The average cost for inpatient catheterization, based on a two-night stay in a semiprivate room, was \$1,050. The average savings by patients studied on an outpatient basis was \$276, representing a 26 percent reduction in the hospital-related costs of the procedure.

DISCUSSION

We compared in this study the procedure-related complications of inpatient and outpatient cardiac catheterization when performed at the same institution by the same group of cardiologists. The mean age, sex, cardiac diagnosis, mean left ventricular ejection fraction, and the distribution of coronary arterial lesions in patients with coronary arterial disease were similar in both groups. There were relatively more patients in NYHA class 4 in the inpatient group.

Rates of major, minor, and total complications were statistically similar in both groups. The presence of left main coronary arterial disease, triple-vessel coronary arterial disease, a left ventricular ejection fraction less than 30 percent, or the history of a recent myocardial infarction did not appear to alter the incidence of complications in the outpatient group.

Very few studies are available on the safety of outpatient cardiac catheterization.²⁻⁴ Mahrer and Eschoo² reported 308 adult patients who underwent outpatient cardiac catheterization using the percutaneous femoral approach. There was one death (0.3 percent) and three myocardial infarctions (1 percent).

This is a somewhat higher incidence for these complications when compared to the published figures for inpatient cardiac catheterization.^{7,8} The death and two of the myocardial infarctions occurred in patients with left main coronary arterial disease. Diethrich and others,³ on the other hand, recently reported low rates of major complications in outpatient cardiac catheterization using a brachial cutdown approach. The high rate of major complications reported by Mahrer and Eschoo² and others may be related to the high incidence of left main coronary arterial disease in their patients (20 percent); however, in this study, with the use of the brachial cutdown approach for outpatient cardiac catheterization, we found that the rate of complications in patients with left main coronary arterial disease was similar to the rest of the population studied.

In conclusion, our findings suggest the following: (1) outpatient cardiac catheterization using the brachial cutdown approach is a safe procedure, even in a subgroup of higher risk patients; and (2) outpatient cardiac catheterization provides significant financial savings.

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Article

Comparison of Inpatient and Outpatient Cardiac Rehabilitation Following Myocardial Infarction

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Abstract: Background: Models of second-phase cardiac rehabilitation (CR) following myocardial infarction (MI) differ across countries. The aim of this study was to compare outcomes in MI survivors participating in outpatient and inpatient CR programs. **Methods:** All patients hospitalized for acute MI in Poland between October 2017 and December 2018 ($n = 96,634$) were included in the study. Among them, 4411 patients were referred to and commenced outpatient CR, whereas 11,626 patients started inpatient CR within 30 days following discharge. **Results:** The mean follow-up period was 332.8 ± 128.1 days. Younger age, male sex, and a history of cancer were associated with a higher probability of participating in outpatient CR, whereas diabetes, heart failure, chronic kidney disease, chronic obstructive pulmonary disease, ST-elevation MI, and myocardial revascularization were associated with a lower likelihood of outpatient CR participation. Participation in outpatient CR was linked to a reduced risk of all-cause mortality, in both univariable (hazard ratio [95% confidence interval]: 0.37 [0.26–0.51]) and multivariable analyses (0.53 [0.38–0.74]). Outpatient CR was also associated with a lower risk of death, MI, or stroke (0.57 [0.48–0.67] in univariable analysis and 0.72 [0.61–0.84] in multivariable analysis), as well as a lower risk of death or cardiovascular hospitalization (0.78 [0.73–0.84] and 0.85 [0.80–0.91], respectively). **Conclusions:** Outpatient CR following MI tends to occur alongside a better prognosis compared to inpatient programs.

Keywords: cardiac rehabilitation; coronary artery disease; myocardial infarction; secondary prevention

1. Introduction

Myocardial infarction (MI) continues to pose a significant challenge to healthcare systems. The high number of hospital admissions and the associated costs of treating

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acute MI patients place a considerable economic strain on medical resources. In Poland, more than 80,000 individuals experience acute MI annually, with one-year mortality rates exceeding 17% [1]. Additionally, nearly half of all MI patients require rehospitalization within a year for various medical reasons [2,3]. Advancements in medical technology, modern diagnostic methods, and overall improvements in public health, following Poland's systemic transformation in 1989, have contributed to a substantial decline in mortality due to acute myocardial infarction (AMI) [4]. The standardized death rate for AMI decreased from 115.9 per 100,000 in 2000 to 33.0 in 2022. Despite these positive trends, further efforts are required to enhance the public awareness of early prevention strategies and to ensure comprehensive cardiac rehabilitation (CR) after MI, which could further reduce mortality rates. The latest European Society of Cardiology (ESC) and European Association for Cardio-Thoracic Surgery (EACTS) guidelines for post-revascularization cardiac care emphasize the importance of a multimodal management approach, which has been proven to enhance clinical outcomes and survival in AMI patients [5]. CR is strongly recommended and considered as crucial for invasive and non-invasive medical treatments [6]. CR is cost-effective, widely accessible, and associated with reduced cardiovascular morbidity and mortality [6–9]. Its benefits include improvements in physical activity, exercise capacity, psychological well-being, health-related quality of life, and risk factor control [10–12]. Current clinical practice guidelines recommend referral to CR following MI [10]. Although more than 80% of countries offer CR, the availability and structure of phase II CR vary worldwide [13–16]. In some countries, outpatient CR is the standard [17], whereas in others, it is primarily delivered as an inpatient (residential) program [11,16,18]. Additionally, some countries provide home-based or community-based CR programs [10,11]. While inpatient CR is often recommended for high-risk patients, in many countries, low-risk patients are still referred to residential CR [10,19,20]. The clinical benefits of CR following MI are well documented [6,8–11,20–22]. Although most published studies focus on outpatient CR, evidence suggests that inpatient CR is also associated with improved outcomes following MI [20,23–25]. However, no published analysis has directly compared outpatient and inpatient CR after MI. Both the European Society of Cardiology (ESC) guidelines and the American Heart Association (AHA) recommendations advocate for initiating cardiac rehabilitation (CR) as soon as possible after MI, preferably within the first 30 days. Early rehabilitation reduces both short-term and long-term mortality following MI [26]. The early introduction of exercise and therapy helps minimize left ventricular remodeling and improves cardiovascular performance [27]. Additionally, it lowers the risk of recurrent MI and cardiovascular-related rehospitalization. Patients who begin rehabilitation within 30 days have a significantly lower risk of rehospitalization due to cardiac causes. Early intervention also enhances medication adherence and encourages the adoption of a healthy lifestyle [28]. The SMARTCARE study demonstrated that patients who started CR within 14–30 days post-MI exhibited significantly better functional outcomes and lower mortality rates compared to those who initiated CR later or did not participate at all [29]. Based on this evidence and these recommendations, we analyzed the effects of CR when initiated within 30 days following discharge. Therefore, our study aimed to compare inpatient and outpatient cardiac rehabilitation following myocardial infarction among this group of patients.

2. Materials and Methods

2.1. Study Design and Population

This study included all adult patients hospitalized for acute MI in Poland between 1 October 2017 and 31 December 2018, who were referred to either inpatient or outpatient CR within 30 days following hospital discharge. Patients undergoing CR were classified into

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two distinct groups based on the setting in which they receive their rehabilitation program: inpatients and outpatients. Inpatients were defined as patients who remained hospitalized during the cardiac rehabilitation program. Outpatients participated in cardiac rehabilitation while living at home, attending structured CR sessions at a hospital, clinic, or rehabilitation facility several times per week. They did not require continuous hospitalization.

Exclusion criteria were as follows: patients aged < 18 years, patients who died during hospitalization, patients who initiated CR > 30 days after discharge, and patients who died or were rehospitalized for cardiovascular reasons within 30 days after discharge.

Medical histories were retrieved from the National Health Fund (NHF) database, which contains comprehensive records of hospitalizations, outpatient visits, and medical diagnoses. A diagnosis (e.g., hypertension, atrial fibrillation or other disease) was considered confirmed if it had been documented in the NHF system by any healthcare provider, including hospitals or outpatient clinics. CR participants were based on NHF records, which specify the type of rehabilitation program received and the setting in which it was conducted. Survival status was determined using national mortality records, while recurrent hospitalizations (including MI and stroke) were identified through the NHF database. A hospitalization was defined as an admission lasting >24 h, unless the patient died within 24 h.

Ethics committee approval was not needed as the authors analyzed the national databases. Informed consent was not required.

2.2. Endpoints

The primary endpoint was defined as death from any cause, whereas secondary endpoints were all-cause death or hospitalization due to any cardiovascular disease and all-cause death or myocardial infarction or stroke.

2.3. Statistical Analysis

Continuous variables are presented as the mean $\pm$ standard deviation, while categorical values are presented as percentages. The Shapiro–Wilk test was used to check the normality of the distribution. Normally distributed continuous variables were compared using the Student *t* test. The Mann–Whitney *U* test was used in the case of variables without a normal distribution. The Pearson χ^2 test was applied to all categorical variables. A *p* value of less than 0.05 was considered statistically significant.

Propensity score matching using nearest neighbor matching (1:2) with replacement, based on the variables listed in Table 1, was applied to create comparable groups of patients participating in outpatient and inpatient CR programs. The propensity score was calculated using logistic regression. Balance between the matched groups was assessed by examining the standardized differences, with a difference of <10% considered acceptable. We used the Kaplan–Meier method to construct unadjusted survival curves for each endpoint and performed log-rank tests to evaluate differences between matched cohorts. The association between participation in outpatient CR and the risk of endpoints was assessed using Cox proportional hazard regression analysis. The proportional hazard (PH) assumption of the Cox regression model was evaluated using scaled Schoenfeld residuals. A stepwise analysis was conducted, starting with all variables presented in Table 1, with a probability value of >0.05 used for variable selection. Subgroup analysis was performed to examine the relationship between participation in outpatient CR and outcomes in the multivariable model. The test for interaction within the Cox model was used to compare hazard ratios between the analyzed subgroups. Additionally, a multivariable stepwise logistic regression analysis was conducted to identify independent factors associated with participation in outpatient CR. As part of the sensitivity analysis, we repeated the analyses after excluding

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all patients who experienced an endpoint within 90 days following discharge. All statistical analyses were performed using the STATISTICA 13 software (TIBCO Software, Palo Alto, CA, USA).

Table 1. Baseline characteristics of the analyzed groups.

	Patients Participating in Inpatient Rehabilitation N = 11,626	<i>p</i>	Patients Participating in Outpatient Rehabilitation N = 4411	<i>p</i>	Matched Cohort of Patients Participating in Inpatient Rehabilitation N = 8822
Age, years	64.8 ± 10.5	<0.001	61.5 ± 10.4	0.74	61.6 ± 11.0
Sex					
Males, n (%)	8077 (69.5)	<0.001	3324 (75.4)	0.13	6753 (76.5)
Females, n (%)	3549 (30.5)	<0.001	1087 (24.6)	0.13	2069 (23.5)
The patients' history					
Hypertension, n (%)	7908 (68.0)	<0.001	2710 (61.4)	0.71	5449 (61.8)
Diabetes, n (%)	3068 (26.4)	<0.001	912 (20.7)	0.08	1940 (22.0)
Atrial fibrillation, n (%)	860 (7.4)	<0.001	231 (5.2)	0.85	469 (5.3)
Previous stroke, n (%)	225 (1.9)	<0.001	37 (0.8)	0.31	60 (0.7)
Previous myocardial infarction, n (%)	557 (4.8)	0.29	194 (4.4)	0.48	412 (4.7)
Previous PCI, n (%)	1010 (8.7)	0.01	328 (7.4)	0.74	670 (7.6)
Previous CABG, n (%)	92 (0.8)	0.56	31 (0.7)	0.82	59 (0.7)
Heart failure, n (%)	1491 (12.8)	<0.001	253 (5.7)	0.06	580 (6.6)
Chronic kidney disease, n (%)	500 (4.3)	<0.001	109 (2.5)	0.23	250 (2.8)
Previous dialysis, n (%)	35 (0.3)	0.02	4 (0.1)	0.84	9 (0.1)
Cancer in the history, n (%)	2454 (21.1)	0.57	950 (21.5)	0.86	1888 (21.4)
Chronic obstructive pulmonary disease, n (%)	1106 (9.5)	<0.001	254 (5.8)	0.94	511 (5.8)
Index hospitalization					
ST-elevation myocardial infarction presentation, n (%)	5133 (44.2)	<0.01	2051 (46.5)	0.07	4249 (48.2)
Coroangiography, n (%)	11,268 (96.9)	0.33	4263 (96.6)	0.07	8469 (96.6)
PCI, n (%)	10,201 (87.7)	<0.001	4101 (93.0)	0.28	8246 (93.5)
CABG, n (%)	1100 (9.5)	<0.001	23 (0.5)	0.80	49 (0.6)
Department					
Cardiology, n (%)	10,779 (92.7)	<0.001	4280 (97.0)	0.24	8591 (97.4)
Internal diseases, n (%)	617 (5.3)	<0.001	85 (1.9)	0.62	159 (1.8)
Other, n (%)	230 (2.0)	<0.001	46 (1.0)	0.19	72 (0.8)
Hospital					
Teaching, n (%)	2334 (20.1)	<0.001	1235 (28.0)	0.31	2396 (27.2)
District, n (%)	3815 (32.8)	<0.001	1865 (42.3)	0.27	3818 (43.3)
Municipal, n (%)	1876 (16.1)	<0.01	633 (14.4)	0.78	1285 (14.5)
Other, n (%)	3601 (31.0)	<0.001	678 (15.4)	0.61	1326 (15.0)

Values are presented as the mean ± standard deviation or n (%). PCI, percutaneous coronary intervention; CABG, coronary artery bypass grafting.

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3. Results

Overall, 4411 patients were referred to and initiated CR in an outpatient setting, while 11,626 patients were referred to and commenced CR in an inpatient setting within 30 days following discharge (Figure S1). The baseline characteristics of the analyzed groups are presented in Table 1. Patients who underwent outpatient CR were significantly younger and more frequently male compared to those participating in the inpatient program. The analyzed groups differed in several other variables. Using 1:2 propensity score matching, well-balanced groups with comparable covariates were formed (Table 1, Figure 1).

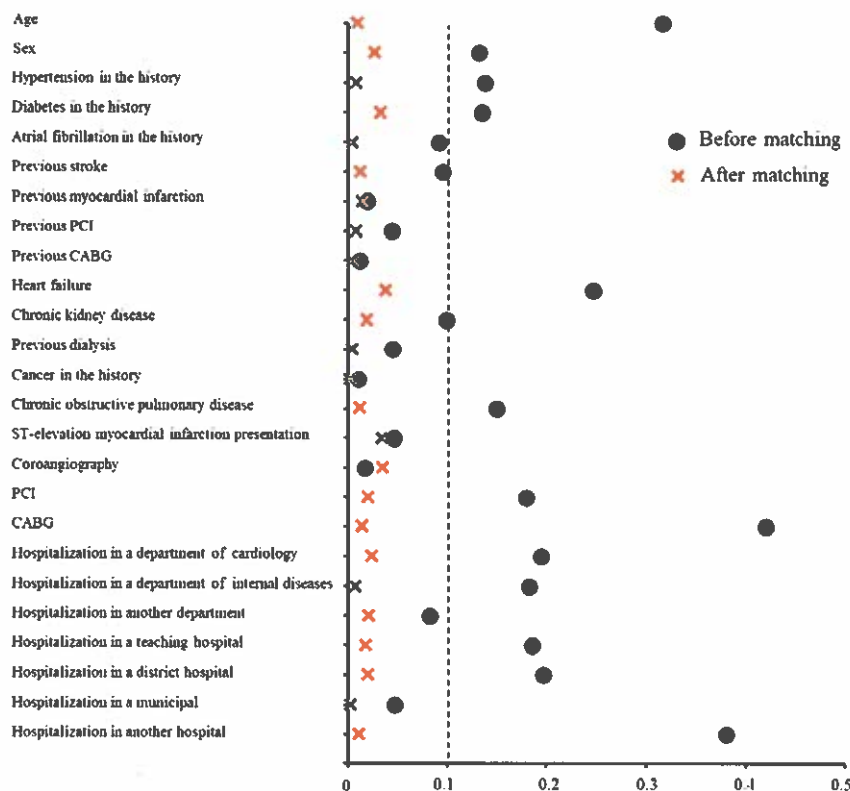


Figure 1. Standardized differences before and after propensity score matching, comparing covariate values for patients participating in inpatient and outpatient cardiac rehabilitation.

The mean follow-up duration was 332.8 (128.1) days (14,599.8 patient-years) for the entire study population and 335.3 (127.1) days for those who survived throughout the follow-up period. In total, 40 participants from the outpatient CR group and 288 participants from the inpatient CR group died during the observation period. Additionally, 146 outpatient CR participants and 535 inpatient CR participants experienced a myocardial infarction, while 18 and 88 patients, respectively, suffered a stroke. Furthermore, 1313 outpatient CR participants and 4118 inpatient CR participants required hospitalization for cardiovascular reasons at least once.

Table 2 presents variables independently associated with referral to and participation in outpatient CR. Younger age, male sex, a history of cancer, and hospitalization in a cardiology department were linked to a higher probability of participation in the outpatient

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program. Conversely, diabetes, heart failure, chronic kidney disease, chronic obstructive pulmonary disease, ST-elevation MI, and myocardial revascularization during the acute phase of MI were all independently associated with a higher probability of inpatient CR participation.

Table 2. Factors independently related to participation in the outpatient cardiac rehabilitation program following myocardial infarction (the whole cohort; $n = 16,037$).

Variable *	Odds Ratio (95% Confidence Intervals)
Age per 10 years	0.79 (0.77–0.83)
Male sex	1.32 (1.21–1.43)
Diabetes	0.88 (0.80–0.97)
Previous stroke	0.53 (0.37–0.76)
Heart failure	0.50 (0.43–0.58)
Chronic kidney disease	0.79 (0.63–1.00)
Cancer in the history	1.16 (1.05–1.27)
Chronic obstructive pulmonary disease	0.67 (0.58–0.79)
ST-elevation myocardial infarction presentation	0.84 (0.78–0.91)
PCI during the index hospitalization	0.63 (0.53–0.74)
CABG during the index hospitalization	0.04 (0.02–0.06)
Department	
Cardiology	1.63 (1.15–2.29)
Internal diseases	0.62 (0.41–0.93)
Other	1.00
Hospital	
Teaching	3.47 (3.10–3.88)
District	2.50 (2.25–2.76)
Municipal	1.76 (1.55–1.99)
Other	1.00

* the following variables were included in the statistical model: age, sex, hypertension, diabetes, atrial fibrillation, heart failure, stroke, MI, chronic kidney disease, dialysis, chronic obstructive pulmonary disease, a history of cancer, ST-elevation MI at presentation, coronary angiography, PCI, CABG, hospital, and department.

One-year all-cause mortality was 1.1% among outpatient CR participants and 2.8% among inpatient CR participants ($p < 0.001$). When analyzing matched groups, all-cause mortality remained lower among outpatient CR participants (1.1% vs. 1.8%, $p < 0.01$; Figure 2A). The composite endpoint of all-cause death, MI, or stroke occurred in 3.9% and 7.0% of patients in the outpatient and inpatient CR groups, respectively ($p < 0.001$), in the unmatched analysis and in 3.9% vs. 5.7% ($p < 0.001$) when comparing matched groups (Figure 2B). The endpoint comprising all-cause death or hospitalization for cardiovascular reasons was observed less frequently in outpatient CR participants than in inpatient CR participants, both in unmatched groups (27.4% vs. 34.2%, $p < 0.001$) and in matched groups (27.4% vs. 31.4%, $p < 0.001$; Figure 2C). The proportional hazard (PH) assumption was met for the variable related to all-cause death or hospitalization for cardiovascular purposes. However, for the variables all-cause death and all-cause death, myocardial infarction, or stroke, residual results might suggest a slight time-varying effect.

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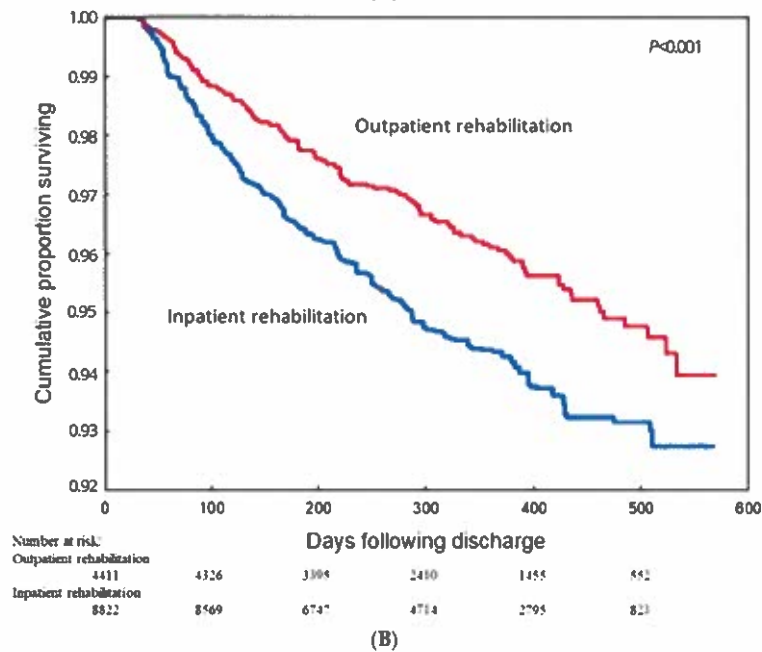
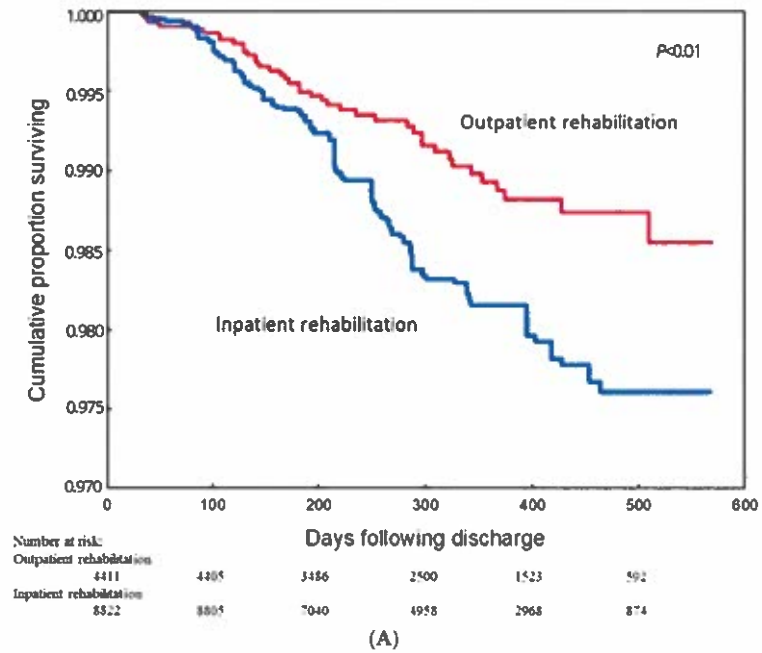


Figure 2. Cont.

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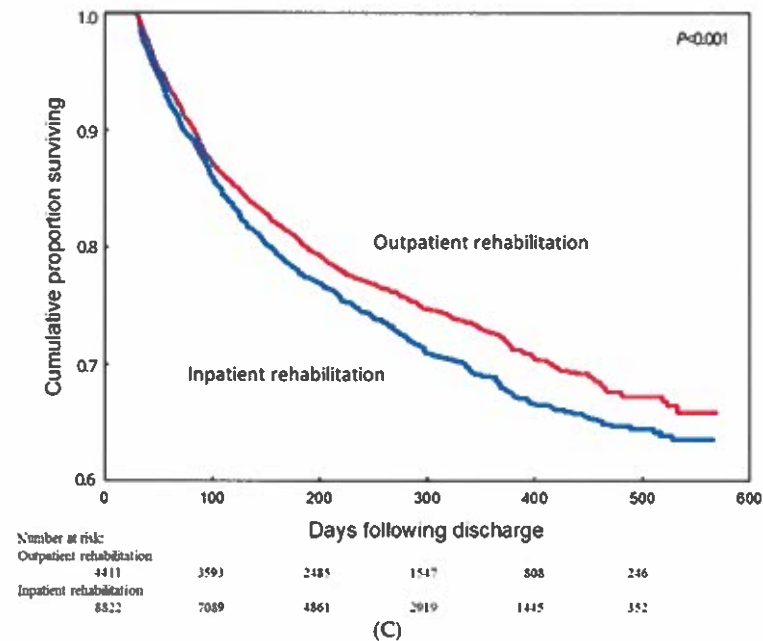


Figure 2. Kaplan–Meier curves displaying the estimated event-free survival probability of patients participating in the outpatient and inpatient cardiac rehabilitation programs following myocardial infarction. Matched groups. Panel (A): all-cause death. Panel (B): all-cause death, myocardial infarction, or stroke. (C): all-cause death or hospitalization for cardiovascular purposes.

The independent predictors of the study endpoints are presented in Table 3. Participation in outpatient CR was independently associated with all examined endpoints. Analysis of the unmatched groups revealed that participation in outpatient CR was associated with a reduced risk of death in both univariable analysis (hazard ratio [HR] [95% confidence interval (CI)] 0.37 [0.26–0.51]) and multivariable analysis (HR 0.53 [95% CI 0.38–0.74]). Outpatient CR participation was also associated with a lower risk of death, MI, or stroke (univariable: IIR 0.57 [0.48–0.67]; multivariable: IIR 0.72 [0.61–0.84]) and a lower risk of death or cardiovascular hospitalization (HR 0.78 [0.73–0.84] and HR 0.85 [0.80–0.91] for univariable and multivariable analyses, respectively). In the matched cohort, the HR (95% CI) was 0.57 (0.40–0.81) for all-cause death, 0.69 (0.57–0.82) for the composite endpoint (death, MI, or stroke), and 0.87 (0.81–0.94) for death or cardiovascular hospitalization. Table 4 presents the results of subgroup analyses.

As part of the sensitivity analysis, we repeated the analysis after excluding patients who experienced study endpoints within 90 days following discharge. Outpatient CR remained significantly associated with a reduced risk of death (HR 0.58 [0.40–0.83]), death, MI, or stroke (IIR 0.69 [0.56–0.85]), as well as death or cardiovascular hospitalization (IIR 0.85 [0.77–0.94]).

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Table 3. Independent predictors of all-cause death; all-cause death, myocardial infarction, or stroke, and all-cause death or hospitalization for cardiovascular reasons (the whole cohort; n = 16,037).

Variable	Hazard Ratio (95% Confidence Intervals)		
	All-Cause Death	All-Cause Death, Myocardial Infarction, or Stroke	All-Cause Death or Hospitalization for Cardiovascular Reasons
Age per 10 years	1.63 (1.44–1.83)	1.30 (1.22–1.39)	1.17 (1.14–1.20)
Sex, men—1, women—0	-	-	1.28 (1.21–1.36)
Hypertension	-	1.21 (1.03–1.43)	-
Diabetes	1.65 (1.32–2.07)	1.45 (1.27–1.65)	1.08 (1.01–1.14)
Atrial fibrillation	-	-	1.12 (1.01–1.24)
Previous stroke	1.85 (1.13–3.02)	-	-
Previous myocardial infarction	1.93 (1.40–2.64)	1.36 (1.04–1.76)	-
Previous PCI	-	-	1.19 (1.09–1.30)
Heart failure	2.28 (1.77–2.95)	1.67 (1.43–1.95)	1.18 (1.08–1.28)
Chronic kidney disease	1.57 (1.12–2.20)	-	-
Previous dialysis	-	3.17 (1.78–5.61)	1.69 (1.11–1.57)
ST-elevation myocardial infarction presentation	-	0.85 (0.74–0.97)	-
CABG during the index hospitalization	-	0.74 (0.57–0.97)	-
Hospitalization in a department of internal diseases	-	-	1.15 (1.02–1.29)
Hospitalization in a teaching hospital	-	-	0.91 (0.85–0.97)
Hospitalization in a municipal hospital	-	-	1.09 (1.02–1.17)
Outpatient cardiac rehabilitation	0.53 (0.38–0.74)	0.72 (0.61–0.84)	0.85 (0.80–0.91)

Table 4. Subgroup analysis of the relation between participation in the outpatient cardiac rehabilitation program and all-cause death and all-cause death, myocardial infarction, or stroke.

Variable	All-Cause Death		All-Cause Death, Myocardial Infarction, or Stroke	
	Hazard Ratio (95% Confidence Intervals)	p Value for Interaction	Hazard Ratio (95% Confidence Intervals)	p Value for Interaction
Age				
≤64 years	0.44 (0.24–0.82)	0.45	0.69 (0.54–0.89)	0.85
>64 years	0.57 (0.39–0.86)	0.45	0.74 (0.60–0.91)	0.85
Sex				
Males	0.44 (0.29–0.66)	0.18	0.71 (0.59–0.86)	0.96

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Table 4. Cont.

Variable	All-Cause Death		All-Cause Death, Myocardial Infarction, or Stroke	
	Hazard Ratio (95% Confidence Intervals)	<i>p</i> Value for Interaction	Hazard Ratio (95% Confidence Intervals)	<i>p</i> Value for Interaction
Females	0.63 (0.45–1.14)	0.18	0.70 (0.51–0.97)	0.96
Hypertension	0.61 (0.43–0.87)	0.02	0.72 (0.60–0.87)	0.86
No hypertension	0.14 (0.04–0.45)		0.70 (0.51–0.97)	
Diabetes	0.63 (0.39–1.02)	0.15	0.77 (0.59–1.01)	0.43
No diabetes	0.41 (0.26–0.65)		0.69 (0.57–0.84)	
Atrial fibrillation	0.15 (0.04–0.63)	0.13	0.30 (0.15–0.60)	0.02
No atrial fibrillation	0.56 (0.40–0.80)		0.77 (0.65–0.91)	
Previous stroke	1.19 (0.25–5.58)	0.23	1.49 (0.54–4.09)	0.22
No previous stroke	0.48 (0.34–0.67)		0.71 (0.60–0.84)	
Previous myocardial infarction	0.69 (0.30–1.57)	0.29	0.77 (0.47–1.27)	0.84
No previous myocardial infarction	0.46 (0.32–0.67)		0.71 (0.60–0.84)	
Previous PCI	0.64 (0.32–1.31)	0.44	0.75 (0.51–1.12)	0.70
No previous PCI	0.50 (0.34–0.73)		0.71 (0.60–0.85)	
Heart failure	0.54 (0.27–1.07)	0.74	0.85 (0.59–1.24)	0.23
No heart failure	0.52 (0.36–0.77)		0.69 (0.58–0.83)	
Chronic kidney disease	0.14 (0.02–1.02)	0.23	0.27 (0.10–0.74)	0.10
No chronic kidney disease	0.57 (0.41–0.81)		0.75 (0.63–0.88)	
Cancer in the history	0.37 (0.19–0.71)	0.33	0.67 (0.49–0.92)	0.59
No cancer in the history	0.60 (0.41–0.89)		0.73 (0.60–0.87)	
Chronic obstructive pulmonary disease	0.53 (0.19–1.48)	0.95	0.48 (0.24–0.96)	0.16
No chronic obstructive pulmonary disease	0.53 (0.37–0.76)		0.73 (0.62–0.87)	
Index hospitalization				
ST-elevation myocardial infarction	0.44 (0.24–0.80)	0.44	0.72 (0.55–0.93)	0.90
Non-ST-elevation myocardial infarction	0.58 (0.39–0.86)		0.72 (0.59–0.88)	
PCI	0.55 (0.39–0.78)	0.42	0.75 (0.64–0.89)	0.15
No PCI	0.28 (0.07–1.17)		0.40 (0.22–0.72)	
Hospitalization in a department of cardiology	0.57 (0.41–0.80)	0.48	0.73 (0.62–0.85)	0.37
Hospitalization in other departments	0.01 (0.00–430.1)		0.51 (0.20–1.28)	
Hospitalization in a teaching hospital	0.49 (0.25–0.95)	0.90	0.71 (0.52–0.99)	0.71
Hospitalization in other hospitals	0.54 (0.37–0.80)		0.72 (0.60–0.86)	
Hospitalization in a district hospital	0.68 (0.42–1.10)	0.13	0.74 (0.58–0.95)	0.48
Hospitalization in other hospitals	0.43 (0.27–0.69)		0.69 (0.56–0.85)	
Hospitalization in a municipal hospital	0.57 (0.22–1.47)	0.85	0.70 (0.45–1.08)	0.92
Hospitalization in other hospitals	0.52 (0.36–0.75)		0.71 (0.60–0.85)	

4. Discussion

Previous studies have shown that CR is associated with improved outcomes in patients with coronary artery disease, and clinical trials suggest that CR itself provides direct benefits [30]. According to the EUROASPIRE V study, approximately 34% of eligible coronary patients participate in CR programs after an acute event [31].

Only 13% of MI survivors started inpatient CR within 30 days following discharge. Additionally, 5% began outpatient CR within the same period. There are many barriers to participation in cardiac rehabilitation [32]. The lower proportion of outpatient CR

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participation among women compared to men, confirmed in our study, is consistent with some previous studies [33]. One of them showed that patient-level CR barriers of women included transportation, a high burden of family responsibilities, a lack of CR awareness, experience of exercise as tiring or painful, and comorbidities [34]. Older patients had significantly greater CR barriers to enrollment and participation in CR programs overall. This has been confirmed in our study as well as in other studies analyzing barriers to CR [32]. Norwegian studies [35] indicated a lack of referral routines and low availability as the main barrier provision. Only 18% of hospitals offered multidisciplinary cardiac rehabilitation in line with European recommendations [11], while 27% had ‘heart school’ classes without exercise training, and 8% had no provision for follow-up.

Although some patients started CR at a later period, phase 2 CR is known to be much more effective if started promptly following discharge from hospital [16,36]. Indeed, CR should commence as soon as possible after an acute event. In MI survivors, starting CR in the first 14 days following discharge is considered optimal, and the acceptable minimum is 15–30 days [16]. A total of 27.5% of rehabilitated patients took part in the outpatient program. Although, this proportion is low, it is higher than the proportion of patients receiving outpatient CR in Austria [37]. Participation in outpatient CR may be associated with reduced mortality and morbidity in MI survivors compared to inpatient CR. Several factors may explain this finding.

Despite efforts to account for confounding variables, unrecognized factors could influence the observed differences in event-free survival. Additionally, studies indicate that the number of attended CR sessions correlates with the effectiveness of rehabilitation [38]. Indeed, Suaya et al. found that patients who attended 25 or more CR sessions were 19% less likely to die over a five-year follow-up period compared to those who participated in 24 or fewer sessions [27]. Hammill et al. also demonstrated that mortality rates were consistently higher among patients who completed 12 or fewer sessions and lower among those who participated in 36 sessions [39]. These findings were confirmed by a meta-analysis, which showed that at least 36 sessions are required to reduce the need for coronary interventions [37]. The effectiveness of cardiac rehabilitation was also the subject of a British study [17]. The authors found that patients ($N = 950$) attending UK cardiac rehabilitation centers can only expect a 0.59 MET increase in their cardiorespiratory fitness over a typical 6–8-week program, which could be due to the lower number of supervised exercise sessions (6–16 compared to 36 in a systematic review of international trials) [40]. Furthermore, the beneficial effects on left ventricular remodeling are correlated with the duration of CR [41].

Although we were unable to assess the exact number of CR sessions attended, the average number of sessions in outpatient programs in Poland is higher than in inpatient programs. However, Poland has one of the lowest CR doses in Europe, primarily due to the widespread use of inpatient CR [15]. Studies have shown that when no supervision is provided following inpatient CR, the initial beneficial effects deteriorate within 12 months, with some parameters showing worse results at 12 months than at enrollment [42].

Our findings align with previous studies indicating better risk factor control among outpatient CR participants compared to those in inpatient CR [43]. The limited time available for physicians specializing in rehabilitation to implement lifestyle modifications or pharmacological interventions may partly explain these results [42].

Additionally, our findings are consistent with data from the Swiss AMIS Plus registry. Although the authors concluded that the risk of death was similar between inpatient and outpatient CR participants, they observed a trend toward a 39% lower mortality risk ($p = 0.07$) among outpatient CR participants, with an absolute difference closely resembling our findings [44].

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To the best of our knowledge, this is the first study to directly compare the effects of outpatient and inpatient CR programs and the first to demonstrate a lower risk of cardiovascular events among outpatient CR participants compared to inpatient CR participants.

Although inpatient CR is considered particularly suitable for high-risk MI survivors, many low-risk patients are still referred to inpatient CR centers [10,37]. Importantly, we demonstrated that among patients referred to CR, a history of heart failure or stroke doubles the likelihood of participation in inpatient CR. The relatively weaker scientific evidence supporting the survival benefits of inpatient CR following MI has led some researchers to argue that the high prevalence of inpatient CR programs in certain countries is driven more by historical practice and reimbursement policies than by scientific evidence [14].

Recent evidence has further emphasized the prognostic relevance of in-hospital bleeding events in patients with acute coronary syndromes (ACSs). A recent study by Yudi et al. [45] demonstrated that bleeding complications during hospitalization are independently associated with increased mortality and adverse cardiovascular outcomes during follow-up. These events not only reflect a higher risk profile but may also contribute to delays or limitations in initiating secondary prevention strategies, including CR. Bleeding events may lead to reduced mobility, prolonged hospitalization, the interruption of antithrombotic therapy, and psychological distress, all of which can impair a patient's ability or willingness to engage in structured CR programs. Moreover, clinicians may be more cautious in referring or enrolling patients with recent bleeding episodes into exercise-based interventions due to concerns about safety, despite the known long-term benefits.

While our multivariable analysis accounted for several clinical variables, we cannot exclude the possibility of residual confounding factors due to unmeasured factors, such as socioeconomic status, medication adherence, or unrecorded comorbidities. Additionally, although we used robust statistical techniques, selection bias may have influenced the observed associations, especially given the observational nature of the study. Obtained evidence of slight non-proportionality based on Schoenfeld residuals may reflect changing risk profiles over time. The potential for residual time-dependent confounding factors cannot be fully excluded and should be further explored in future studies.

4.1. Strengths and Limitations

This study has several key strengths. It included a nationwide, unselected patient cohort, making it representative of real-world clinical practice. The large sample size enabled robust multivariate analyses, while the registry encompassed a broad range of risk factors and covariates. Most of these criteria, as described above, have been met. Additionally, propensity score matching was performed to minimize bias. However, this study has several limitations. First, the design of the present study precludes any claims on cause-and-effect relations. Indeed, we could only confirm statistical associations between the analyzed variables, rather than a causal relationship. Second, this analysis did not include information on the dose and duration of exercise programs and cardiorespiratory fitness (Frequency, Intensity, Time, and Type—FITT), which are important for evaluating the quality and effectiveness of cardiac rehabilitation programs. Variations in these parameters across inpatient and outpatient settings could potentially impact outcomes and may account for some of the observed differences. Third, data on patients' socioeconomic status (SES) were unavailable. SES is known to influence both access to healthcare services and long-term prognosis following myocardial infarction. Differences in income, education level, or social support might have contributed to selection bias or differential adherence to rehabilitation programs and thus may have influenced the comparative outcomes between inpatient and outpatient CR. Fourth, we were unable to account for other clinically relevant variables such as the use of cardioprotective medications (e.g., beta-blockers, ACE inhibitors,

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and statins), Killip classification, troponin levels, echocardiographic parameters (e.g., left ventricular ejection fraction), patients' baseline lifestyle behaviors (e.g., smoking status, dietary habits, and physical activity), and the occurrence of adverse events during follow-up. The inclusion of such data would have allowed for more granular adjustment of confounders and may have enhanced the robustness and interpretability of our findings. Finally, this study's conclusions depend on the reliability of the public databases used.

4.2. Clinical Implications and Future Research

The findings of this study highlight the potential benefits of outpatient cardiac rehabilitation following myocardial infarction and support its broader implementation as an effective component of secondary prevention. Given the association between outpatient CR and better clinical outcomes observed in this analysis, clinicians and healthcare systems should consider strategies to increase participation in outpatient programs, particularly for patients who are medically stable and are able to attend ambulatory sessions.

However, due to the observational nature of the study and the lack of detailed data on program characteristics and patient-level factors, caution is warranted in drawing causal conclusions. Future research should aim to address these gaps by incorporating comprehensive data on exercise prescription and patient response, including objective measures of cardiorespiratory fitness and detailed documentation of the FITT components. Additionally, the impact of socioeconomic factors, medication adherence, echocardiographic parameters, and patient lifestyle behaviors should be systematically evaluated to more accurately determine the drivers of improved outcomes.

Randomized controlled trials (RCTs) or well-designed prospective cohort studies comparing inpatient and outpatient CR, with standardized outcome measures and longer follow-up, are essential to validate our findings and better understand which patient subgroups benefit most from each type of program. Incorporating patient-reported outcomes and quality-of-life measures will also be critical in future investigations to assess the broader impact of CR models on functional recovery and well-being.

Ultimately, a more personalized approach to post-MI rehabilitation, guided by patient characteristics, preferences, and risk profiles, may optimize outcomes and resource utilization across diverse healthcare settings.

5. Conclusions

Patients who undergo outpatient CR after MI often show better outcomes than those in inpatient programs, although a randomized trial comparing outpatient and inpatient CR is warranted to further evaluate these findings.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/jcm14093007/s1>, Figure S1: Study groups.

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Conflicts of Interest: The authors declare no conflicts of interest.

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Research Letter

Ambulatory Surgery Centers for Coronary Angiography and Percutaneous Coronary Intervention: Modeled Savings for Medicare and Beneficiaries



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Introduction

Over the past decade, cardiovascular catheterization procedures have shifted from inpatient to outpatient settings, including ambulatory surgery centers (ASC). In 2020, Medicare expanded ASC reimbursement to include percutaneous coronary intervention (PCI). The Society for Cardiovascular Angiography & Interventions (SCAI) subsequently published a position paper providing guidance on starting PCI programs in ASC, and the number of cardiology-focused ASC have increased from 55 in 2018 to 221 in 2023.^{1,2} These changes have generated interest in the potential of ASC to improve patient convenience and reduce costs.

Limited data are available describing the adoption of ASC for diagnostic coronary angiography and PCI. Similarly, the potential cost savings from performing these procedures in the ASC setting have yet to be quantified, both from the perspective of Medicare and patient cost sharing. This study aims to quantify cost differences and estimate potential savings from increased migration of procedures from hospital outpatient departments (HOPD) to ASC.

Materials and methods

We conducted a cross-sectional analysis of 2023 data using the 100% Medicare Carrier Files to identify claims for the diagnostic coronary angiography and PCI Current Procedural Terminology (CPT) codes approved by Centers for Medicare & Medicaid Services (CMS) for ASC use. Clinical setting (HOPD vs ASC) was determined using claim place of service codes, and national average costs were obtained from the Medicare procedure price lookup tool. These included PCI (CPT 92920, 92928) and diagnostic coronary catheterization procedures (CPT 93454-93461). For each procedure, we extracted the physician fee, facility fee, total Medicare payment, patient copayment, and overall cost in both ASC and HOPD settings.

We then modeled cost savings under varying levels of ASC utilization (current observed share, 10%, 20%, and 40%) while holding

total procedural volume constant. Aggregate savings were calculated by applying observed payment differentials across the full set of approved interventional CPT codes.

Results

The most frequently performed procedures in ASC were CPT 92928 (PCI with stent placement, 3.8% ASC utilization, $n = 3687$) and CPT 93458 (diagnostic coronary angiography with left heart catheterization, 2.8% ASC utilization, $n = 2203$). In contrast, procedures such as CPT 93456 (combined coronary and left heart catheterization, $n = 61$, 0.6% ASC utilization) and CPT 93461 (combined right and left heart catheterization with imaging, $n = 27$, 0.3% ASC utilization) had minimal ASC adoption. Figure 1A illustrates these differences using representative examples.

Figure 1B displays current and projected ASC volumes, HOPD volumes, and cost savings with sensitivity analyses modeled separately for diagnostic coronary angiography and PCI procedures.

Discussion

This analysis demonstrates that shifting diagnostic coronary angiography and PCI from HOPD to ASC could generate substantial cost savings for Medicare and patients. The savings stem almost entirely from lower facility fees in ASC, as physician reimbursement is site-neutral. This aligns with CMS' prior estimate that even modest migration (5% of PCI volume) could yield \$20 million in savings.²

Despite these potential cost savings, ASC utilization remains low. Contributing barriers likely include infrastructure limitations, regulatory hurdles, and uncertainty regarding safety in nonhospital settings. Professional guidance emphasizes strict case selection and program standards for ASC PCI (eg, screening for high-risk clinical/anatomic features, explicit transfer criteria, mock drills, and early follow-up), which can

Keywords: ambulatory surgery center; cost; Medicare; percutaneous coronary intervention.

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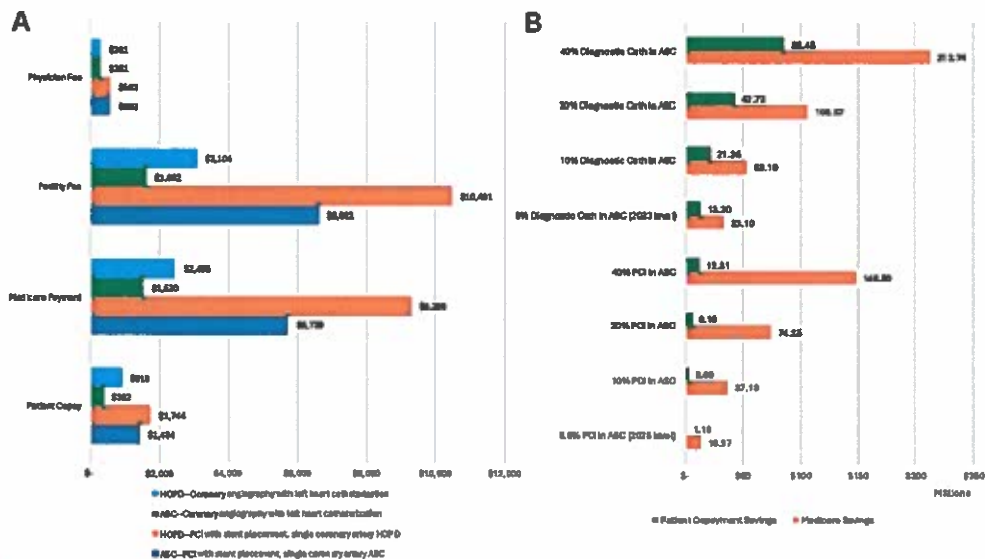


Figure 1. Sensitivity analysis of cost savings from ambulatory surgery center (ASC) migration. (A) shows the distribution of Medicare payment for CPT 92928—percutaneous coronary intervention (PCI) with stent placement, single coronary artery, and 93458—coronary angiography with left heart catheterization when performed in an ASC. Panel (B) models projected total annual savings at increasing levels of ASC utilization, holding 2023 procedural volumes constant (97,959 total PCI in ASC + hospital outpatient department [HOPD] and 397,806 total diagnostic catheterizations in ASC + HOPD).

mitigate risk as adoption grows.^{2,3} However, a growing body of evidence supports the clinical safety of cardiac catheterization in ASC. Li et al⁴ conducted a large propensity-matched analysis of PCI for stable ischemic heart disease in both ASC and HOPD. Their analysis found no significant differences in a composite outcome of 30-day myocardial infarction, bleeding complications, and hospital admission.⁴ These findings mirror earlier transitions in electrophysiology (EP), where early evidence suggests comparable safety profiles for a wide range of catheter-based EP procedures in ASC as compared to HOPD.⁵ Current federal quality reporting for ASC offers limited cardiovascular-specific metrics, underscoring the need for specialty-relevant outcomes tracking as site-of-service shifts accelerate.²

This study is limited by its reliance on Medicare Part B claims data. As such, we were unable to account for patient-level clinical characteristics or other categories of health care utilization, such as post-procedural care. Crucially, our model does not include downstream costs associated with procedural complications requiring hospital transfer and admission, which could offset some of the modeled cost savings. Additionally, our cost sharing estimates assume Medicare cost structures; patients with supplemental insurance would not necessarily experience the modeled out-of-pocket savings. Despite these limitations, this analysis focuses specifically on estimating cost savings at the programmatic level for CMS and potential implications for procedural site-of-service decisions.

Conclusion

Increasing the proportion of diagnostic coronary angiography and PCI performed in ASC represents a high-value opportunity to reduce health care spending and patient financial burden. Realizing these savings at scale will require adherence to case selection/program standards and more targeted cardiovascular metrics in ASC quality reporting.

Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding sources

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Ethics statement and patient consent

This study utilized the Medicare physician/supplier procedure summary files and the Medicare procedure price lookup tool, which are publicly available data and do not contain personally identifiable information. Therefore, this study was exempt from IRB approval. Since this was a cross sectional analysis of Medicare administrative data, informed consent of patients was not required. The study adhered to ethical guidelines by ensuring responsible use of the data.

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Heart Disease & Stroke

[RESOURCES >](#)

[PUBLICATIONS >](#)



Diseases of the Heart and Stroke: Illinois' Leading Killers

What Do the Numbers Tell Us?

Heart disease and stroke are the first and fifth leading cause of death, respectively, and also a major cause of disability in Illinois. In 2021, there were 26,280 deaths in Illinois due to heart disease and 6,768 deaths due to stroke. Deaths due to heart disease and stroke combined (33,048) represented almost 27% of all deaths in Illinois in 2021 (125,102).

[Expand All](#) [Collapse All](#)

Fast Facts

- Heart disease is the number one killer of both men and women.
- Heart disease and stroke are the second leading cause of physical disability in Illinois.
- From 2013 – 2018, Black Americans had the highest prevalence of high blood pressure [hypertension] of any race/ethnicity group.
- Living in a rural area with fewer health services and fewer healthy food choices is also a risk factor.
- High blood pressure [hypertension] is a leading risk factor for cardiovascular disease and causes more than 10 million deaths worldwide each year.
- Heart disease deaths in Illinois compared to the rest of the country:
 - United States – 165.0 deaths per 100,000 population

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° Illinois – 165.3 deaths per 100,000 population (rank 21st of 50 states)

Prevention and Disease Management

Prevention efforts coupled with effective disease management can reduce the incidence of heart disease and strokes, cut the number of deaths from these diseases, and relieve some of the disability suffered by heart disease and stroke survivors.

In 2023, the Illinois Department of Public Health's (IDPH) Cardiovascular Health Program was awarded funding from the Center for Disease Control and Prevention (CDC) to address cardiovascular disease through the mitigation of social barriers.

Evidence links non-medical factors, including systemic racism and the lack of economic opportunities, with poor health outcomes and increased mortality rates, all of which are preventable. Factors such as poverty, inadequate housing, poor health care or lack of access to health care, and social conditions, known as social determinants of health, contribute to long-standing disparities and health inequities. These social conditions contribute to the increased prevalence of cardiovascular disease in the United States and in Illinois. In Illinois, the populations with the greatest social vulnerability are often those with the highest burden of cardiovascular disease. In Illinois it is the non-Hispanic Black population and the rural population (all races and ethnicities) where these social vulnerabilities and cardiovascular burdens are the greatest.

To combat these social conditions, IDPH aims to implement evidence-based strategies contributing to the prevention and management of cardiovascular disease in populations disproportionately at risk. Given the importance of health equity, these activities will also address social and economic factors to help communities and health systems respond to social determinants present in Illinois communities and to offer those at risk or burdened with cardiovascular disease the best health outcomes possible.

To address social conditions to prevent and to treat cardiovascular disease, IDPH collaborates with its partner agencies, colleagues, health systems, local health departments, and social services providers to:

- Track and monitor clinical, social services, and support needs measures shown to improve health and wellness, health care quality, and to identify patients at highest risk of cardiovascular disease.
- Implement team-based care to prevent and to reduce cardiovascular risk with a focus on hypertension and high cholesterol prevention detection, control, and management through the mitigation of social support barriers to improve health outcomes.
- Link community resources and clinical services that support referrals, self-management, and lifestyle change to address social determinants that put priority

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populations at increased risk for cardiovascular disease.

IDPH is working to develop and to implement the Better Together: Illinois Department of Public Health – Cardiovascular Health Learning Collaborative. This learning collaborative will bring together public health systems, health care providers, and community leaders to implement evidence-based practices for cardiovascular disease prevention, detection, control, and management among priority populations. The learning collaborative is expected to facilitate communication and the exchange of ideas to address social barriers and to improve cardiovascular health.

Resources

General

[American Heart Association \(AHA\)](#)

[American Stroke Association \(ASA\)](#)

[ASA: F.A.S.T](#)

[Centers for Disease Control and Prevention \(CDC\): About Heart Disease](#)

Risk Factors

[CDC: Heart Disease Risk Factors](#)

[ASA: Stroke Risk Factors](#)

Prevention and Lifestyle Change

[AHA: Healthy Living](#)

[AHA: Monitoring Your Blood Pressure at Home](#)

[CDC: Measuring Your Blood Pressure](#)

[CDC: Preventing Heart Disease](#)

[CDC: National Center for Chronic Disease Prevention and Health Promotion \(NCCDPHP\)](#)

[Million Hearts®: ABCs of Heart Health](#)

[Illinois Tobacco Quitline](#)

Resources for Providers

[AHA | American Medical Association: Target BP](#)

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[CDC: Health Equity Research Guide](#)

[CDC: Heart Disease Communications Toolkit](#)

[Million Hearts®: "Live to the Beat" Campaign Toolkit](#)

[Live to the Beat](#)

Bridging the Gap

[CDC: The Community Guide](#)

Data

[CDC: Data and Statistics](#)

[CDC: Cardiovascular Disease Data, Tools, and Evaluation Resources](#)

Publications

[2023 Illinois Community Health Worker Employer Survey Report](#)

[2023 Snapshot](#)

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Circulation: Cardiovascular Quality and Outcomes

ORIGINAL ARTICLE

Urban Spatial Accessibility of Primary Care and Hypertension Control and Awareness on Chicago's South Side: A Study From the COMPASS Cohort

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BACKGROUND: Understanding the relationship between hypertension and spatial accessibility of primary care can inform interventions to improve hypertension control and awareness, especially among disadvantaged populations. This study aims to investigate the association between spatial accessibility of primary care and hypertension control and awareness.

METHODS: Participant data from the COMPASS (Chicago Multiethnic Prevention and Surveillance Study) between 2013 and 2019 were analyzed. All participants were geocoded. Locations of primary care providers in Chicago were obtained from MAPSCorps. A score was generated for spatial accessibility of primary care using an enhanced 2-step floating catchment area method. A higher score indicates greater accessibility. Measured hypertension was defined as systolic blood pressure ≥ 130 mmHg or diastolic blood pressure ≥ 80 mmHg. Logistic regression was used to estimate odds ratio and 95% CI for hypertension status in relation to accessibility score quartiles.

RESULTS: Five thousand ninety-six participants (mean age, 53.4 ± 10.8) were included. The study population was predominantly non-Hispanic black (84.0%), over 53% reported an annual household income $< \$15\,000$, and 37.3% were obese. Measured hypertension prevalence was 78.7% in this population, among which 37.7% were uncontrolled and 41.0% were unaware. A higher accessibility score was associated with lower measured hypertension prevalence. In fully adjusted models, compared with the first (lowest) quartile of accessibility score, the odds ratio strengthened from 0.82 (95% CI, 0.67–1.01) for the second quartile to 0.75 (95% CI, 0.62–0.91) for the third quartile, and further to 0.73 (95% CI, 0.60–0.89) for the fourth (highest) quartile. The increasing trend had a $P < 0.01$. Similar associations were observed for both uncontrolled and unaware hypertension. When stratified by neighborhood socioeconomic status, a higher accessibility score was associated with lower rates of unaware hypertension in both disadvantaged and nondisadvantaged neighborhoods.

CONCLUSIONS: Better spatial accessibility of primary care is associated with improved hypertension awareness and control.

Key Words: blood pressure ■ Chicago ■ hypertension ■ prevalence ■ primary health care

See Editorial by Kershaw

Hypertension is one of the leading preventable factors for disease burden and cardiovascular disease-related mortalities.¹ Community clinics and primary care facilities can detect hypertension and provide affordable medication for hypertension

control, reducing the risk of hypertension and its associated comorbidities and mortality.^{2,3} In 2021, 80 million Americans were living in health professional shortage areas as estimated.⁴ Improving accessibility of primary care is thus prioritized in many initiatives

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Supplemental Material is available at <https://www.ahajournals.org/doi/suppl/10.1161/CIRCOUTCOMES.121.008845>.

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Primary Care Spatial Accessibility, Hypertension

WHAT IS KNOWN

- Better spatial accessibility of primary care is associated with improved hypertension awareness and control, but whether residents in disadvantaged neighborhoods benefit from enhanced spatial accessibility is unclear.

WHAT THE STUDY ADDS

- In a predominantly lower socioeconomic status cohort, spatial accessibility of primary care is still associated with hypertension awareness and control even after adjustment for or stratification by neighborhood socioeconomic status. This suggests that residents in disadvantaged areas can benefit from interventions that enhance access to primary care physicians.

Nonstandard Abbreviations and Acronyms

ADI	area deprivation index
COMPASS	Chicago Multiethnic Prevention and Surveillance Study
E2FCA	enhanced two-step floating catchment area
OR	odds ratio
SES	socioeconomic status

and interventions for hypertension control and health disparity mitigation. Although most prior studies have evaluated the impacts of primary care accessibility on service utilization or social factors in access inequalities,⁵⁻⁹ specific health outcomes such as hypertension were generally overlooked.⁵

As one of the most racially segregated cities in the United States,¹⁰ Chicago has seen a widening gap in health disparities over the past decades.¹¹ On the Chicago's South Side, the largest continuous Black urban community in the United States, longstanding structural racism in the housing system has led to substantial challenges including concentrated poverty, violence, and food deserts.^{12,13} A 30-year gap in life expectancy has been observed between South Side neighborhoods and Chicago's wealthier northern neighborhoods,¹⁴ which could be largely attributable to high rates of hypertension, heart disease, and stroke.¹⁵ A shortage of medical resources that prevents South Side residents from accessing primary care contributes to these alarming racial inequalities in health.^{16,17}

The COMPASS (Chicago Multiethnic Prevention and Surveillance Study), a population-based longitudinal study, was initiated in 2013 to study health disparities among the population of Chicago's South Side. Given the complex urban settings and health inequalities

experienced by Black people in Chicago, COMPASS provides a unique opportunity to investigate the association between spatial accessibility of primary care and hypertension awareness and control. As prior studies suggest that neighborhood socioeconomic status (SES) plays a role in spatial accessibility of primary care and its associated impacts, we incorporated neighborhood SES in our analysis and evaluated its effect modifying role.

METHOD

Study Population

Details of COMPASS have been described elsewhere.¹² Residents of the greater Chicago area are eligible for COMPASS if they are (1) age 35 or older at the time of enrollment; (2) able to give consent and provide survey data in English or Spanish; (3) willing to provide blood, urine, and saliva samples as well as electronic health record access. COMPASS has employed multiple recruitment modalities, including a population-based approach, a community-based approach, and a hospital/clinic-based approach. During their first visit to the research clinic, participants complete the survey questionnaire. Anthropometry and blood pressure are then ascertained. COMPASS questionnaire codebooks can be found at <https://compass.uchicago.edu/research/self-reported-questionnaire-data/>. The data that support the findings of this study are available from the corresponding author upon reasonable request.

As of 2019, 7728 participants have been recruited. Their residential addresses were collected at enrollment and have been verified and geocoded by research staff. The University of Chicago Institutional Review Board granted approval for this study and written informed consent was obtained from all participants.

Hypertension

We defined 2 types of hypertension: self-reported hypertension and measured hypertension. Measured hypertension was further classified into uncontrolled hypertension and unaware hypertension. Among participants with self-reported hypertension, we identified hypertension medication users and nonusers.

Self-reported hypertension was measured in the survey, which asked "Has a doctor ever told you that you have hypertension?" Participants who answered "yes" were further asked, "Do you currently take medicine to treat your high blood pressure (hypertension)?"

Systolic and diastolic blood pressure was measured by trained staff using an Omron HEM 907XL blood pressure monitor. Staff were trained to allow participants to rest in a sitting position for five minutes before measurement and to ask participants to sit upright with both feet flat on the floor during measurement. Average systolic blood pressure and diastolic blood pressure were generated from 2 measures.

This study follows the 2017 American College of Cardiology/American Heart Association Hypertension guidelines for hypertension classification.¹⁸ Specifically, participants would be classified as "measured hypertension" if they had an average systolic blood pressure ≥ 130 mmHg or an average diastolic blood pressure ≥ 80 mmHg; otherwise would be

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classified as "no measured hypertension." "Measured hypertension" was further classified as "uncontrolled hypertension" if the participant self-reported hypertension, and "unaware hypertension" if the participant did not self-report hypertension.

Primary Care Provider Locations

Primary care provider locations were obtained through MAPSCorps, an independent nonprofit organization based on Chicago's South Side.¹⁹ MAPSCorps conducts an annual block-by-block census of community assets that generates public-use data for Chicago, especially the South Side. More details can be found at their website: www.mapscorps.org.

We selected active primary care providers from MAPSCorps data outlining healthcare service provider locations between 2013 and 2019 during COMPASS recruitment. The primary care providers in this study include family physicians, general practitioners, and general internists. As MAPSCorps only covered 57 of 77 communities in Chicago as of 2019, we restricted our study populations to those who lived in these areas.

Covariates

In this study, neighborhood SES was assessed using the Area Deprivation Index (ADI) between 2015 and 2019.²⁰ The ADI measures neighborhood disadvantages and is composed of 17 indices covering education, employment, housing quality, and poverty.²¹ ADI rankings are available online.²² A higher ADI rank indicates more neighborhood disadvantages.

Demographic covariates derived from the COMPASS survey included age (<50, 50–65, >65), race (non-Hispanic White, non-Hispanic Black, Hispanic, other), gender (female, male), body mass index (<25, 25–29.9, 30–39.9, ≥40), education (<high school, high school, some college, college or more), household income (<\$15 000, \$15 000–24 999, \$25 000–34 999, >\$35 000), smoking status (nonsmoker, former smoker, current smoker), and insurance status (not insured, Medicare, Medicaid, private, other).

Spatial Accessibility Score

We mapped participants' residential addresses and locations of primary care providers. Then we measured the spatial accessibility of primary care for each participant using the enhanced 2-step floating catchment area (E2FCA) method, a widely used method for spatial accessibility measure.²³ The E2FCA method measures spatial accessibility in two steps and generates a score for spatial accessibility. In the first step, the E2FCA method evaluates the catchment area of each primary care provider, estimates the overall population in the catchment area, and then generates the provider-to-population ratio for each provider. In the second step, for each participant, the E2FCA method identifies the provider with the catchment area within which the participant lives and sums up the provider-to-population ratios of all these providers. A distance decay effect was assumed in both steps that an increase in distance would lead to less service utilization. Therefore, the accessibility score is essentially the overall provider-to-population ratio at the individual level. A higher score indicates better accessibility. More details about E2FCA can be found in the Supplemental Material.^{23–26}

Statistical Analysis

We used logistic regression to estimate the odds ratio (OR) and 95% CI for self-reported hypertension, hypertension medication use, and measured hypertension according to quartiles of the accessibility score. We generated the median value of each accessibility score quartile and treated it as a continuous variable in the model to calculate the *P* values for trend.

We constructed 3 logistic regression models. The first model was the unadjusted model. The second model was the directed acyclic graph (DAG) based model. We constructed a DAG (Figure S1) and selected confounding variables accordingly. As a result, age, race, gender, education, and household income were selected and adjusted. The third model was the fully adjusted model. We adjusted for all available potential confounders to control for potential residual confounding. In addition to covariates adjusted in the second model, we further adjusted for insurance status, body mass index, smoking status, and ADI (quadratic term) in the model.

To investigate the effect modification of neighborhood SES,^{27–29} we stratified our study populations into two groups based on ADI national rank: ≤50th and >50th percentiles. We estimated the OR and 95% CI in each stratum, and the *P* value for interaction by adding a cross-product term between accessibility score and ADI group in the third fully adjusted model.

To evaluate potential nonlinear relations, we fitted a generalized additive model including a spline term for the accessibility score with 3 *df* and visualized the exposure–outcome response. We used the 10th percentile of accessibility score (44.1 per 100 000) as the reference and estimated the odds ratio compared to the reference.

Multiple imputation was used for missing values in covariates in the regression models. We assumed they were missing at random and imputed the missing values using fully conditional specification.³⁰ All covariates and the accessibility score were used to generate the imputed data. Ten complete datasets were generated via imputation, and we employed the analytical procedure PROC MIANALYZE in SAS to combine the results.³¹

In sensitivity analysis, we evaluated the influence of changes in hypertension guidelines in the fully adjusted model. We reclassified measured hypertension according to guidelines before 2017 (ie, hypertension was defined as an average systolic blood pressure ≥140 mmHg or an average diastolic blood pressure ≥90 mmHg).

Spatial analysis was conducted using ArcGIS Pro 2.6.0 (Esri, Inc, West Redlands, CA). All other statistical analyses were performed using SAS version 9.4 (SAS Institute, Inc, Cary, NC). All statistical tests were 2-tailed, and *P* < 0.05 were considered statistically significant.

RESULTS

Among the source population of 7728 participants, 5921 had valid data on blood pressure. Furthermore, 5096 of them resided in communities covered by MAPSCorps. Therefore, these 5096 participants were the final study population. The study population was predominantly non-Hispanic black (84.0%), over 53% reported an annual household income <\$15 000, 37.3% were obese, and 53.5% were current smokers (Table 1).

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Table 1. Distributions of Selected Demographic Characteristics in the Study Population and Across the Quartiles of Spatial Accessibility Scores

Demographic characteristics	Overall (n=5096)	The first quartile of accessibility score (n=1274)	The second quartile of accessibility score (n=1273)	The third quartile of accessibility score (n=1275)	The fourth quartile of accessibility score (n=1274)
Blood pressure (mean (SD))					
Systolic	136.2 (21.9)	136.6 (23.2)	137.3 (21.5)	135.7 (21.3)	135.2 (21.7)
Diastolic	86.4 (14.1)	87.8 (15.1)	86.4 (14.2)	85.2 (13.0)	86.2 (13.7)
Self-report hypertension					
No	2833 (56.1)	690 (54.2)	738 (58.0)	756 (59.3)	673 (52.8)
Yes	2220 (43.9)	584 (45.8)	535 (42.0)	519 (40.7)	601 (47.2)
Hypertension medication use	1835 (36.0)	465 (36.5)	443 (34.8)	434 (34.0)	493 (38.7)
Measured hypertension					
No	1083 (21.3)	241 (18.9)	259 (20.4)	290 (22.8)	293 (23.0)
Yes	4013 (78.7)	1033 (81.1)	1014 (79.7)	985 (77.3)	981 (77.0)
Uncontrolled	1921 (37.7)	510 (40.0)	457 (35.9)	443 (34.8)	511 (40.1)
Unaware	2092 (41.0)	523 (41.1)	557 (43.8)	542 (42.5)	470 (36.9)
Age					
<50	1889 (37.0)	501 (39.3)	477 (37.5)	444 (34.8)	483 (38.3)
50–65	2528 (50.0)	607 (47.7)	636 (50.0)	682 (53.5)	629 (49.4)
>65	652 (12.9)	185 (13.0)	180 (12.8)	148 (11.5)	182 (14.3)
Missing	4 (0.1)	1 (0.1)	0 (0)	3 (0.2)	0 (0)
Race					
White	309 (6.1)	138 (10.8)	54 (4.2)	31 (2.4)	87 (6.8)
Black	4246 (84.0)	952 (74.7)	1156 (90.8)	1130 (88.6)	1044 (82.0)
Hispanic	362 (7.2)	150 (11.8)	24 (1.9)	79 (6.2)	112 (8.8)
Other	59 (1.2)	17 (1.3)	18 (1.3)	14 (1.1)	13 (1.0)
Missing	77 (1.5)	17 (1.3)	23 (1.8)	21 (1.7)	18 (1.4)
Gender					
Female	2548 (50.4)	673 (52.8)	649 (51.0)	597 (46.8)	646 (50.7)
Male	2495 (49.4)	601 (47.2)	621 (48.8)	673 (52.8)	628 (49.1)
Missing	10 (0.2)	0 (0)	3 (0.2)	5 (0.4)	2 (0.2)
BMI					
<25	1597 (31.6)	394 (30.9)	384 (30.2)	431 (33.8)	402 (31.6)
25–29.9	1427 (28.2)	349 (27.4)	368 (28.9)	331 (26.0)	387 (30.4)
30–39.9	1493 (29.4)	402 (31.6)	386 (30.3)	348 (27.3)	362 (28.4)
≥40	398 (7.9)	116 (9.1)	99 (7.8)	93 (7.3)	95 (7.5)
Missing	148 (2.9)	13 (1.0)	36 (2.8)	72 (5.7)	28 (2.2)
Education					
<High school	1715 (33.9)	391 (30.7)	372 (29.2)	468 (36.7)	499 (39.2)
High school	1423 (28.2)	356 (27.9)	365 (28.7)	376 (29.5)	338 (26.5)
Some college	1486 (29.4)	383 (30.1)	410 (32.2)	369 (28.9)	337 (26.5)
College or more	404 (8.0)	141 (11.1)	120 (9.4)	51 (4.0)	95 (7.5)
Missing	25 (0.5)	3 (0.2)	6 (0.5)	11 (0.9)	5 (0.4)
Household income					
<\$15 000	2679 (53.0)	644 (50.8)	630 (49.5)	699 (54.8)	732 (57.5)
\$15 000–\$24 999	812 (16.1)	202 (15.9)	240 (18.9)	174 (13.7)	202 (15.9)
\$25 000–\$34 999	278 (5.5)	81 (6.4)	70 (5.5)	54 (4.2)	76 (6.0)
>\$34 999	619 (12.3)	219 (17.2)	185 (14.5)	73 (5.7)	147 (11.5)
Missing	865 (13.2)	128 (10.1)	148 (11.6)	275 (21.6)	117 (9.2)
Smoking status					
Nonsmoking	1463 (29.0)	404 (31.7)	387 (30.4)	315 (24.7)	371 (29.1)

(Continued)

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Table 1. Continued

Demographic characteristics	Overall (n=5096)	The first quartile of accessibility score (n=1274)	The second quartile of accessibility score (n=1273)	The third quartile of accessibility score (n=1275)	The fourth quartile of accessibility score (n=1274)
Former smoker	668 (13.2)	214 (16.8)	150 (11.8)	124 (9.7)	182 (14.3)
Current smoker	2701 (53.5)	631 (49.5)	687 (54.0)	749 (58.8)	657 (51.6)
Missing	221 (4.4)	25 (2.0)	49 (3.9)	87 (6.8)	64 (5.0)
Insurance status					
No	599 (11.8)	212 (16.6)	128 (9.9)	82 (6.4)	179 (14.1)
Medicaid	1716 (33.7)	379 (29.8)	390 (30.6)	536 (42.0)	411 (32.3)
Medicare	738 (14.5)	163 (12.8)	215 (16.9)	198 (15.5)	162 (12.7)
Private	705 (13.8)	235 (18.5)	185 (14.5)	102 (8.0)	183 (14.4)
Other	1332 (26.2)	283 (22.2)	354 (27.8)	356 (27.8)	339 (26.6)
Missing	6 (0.1)	2 (0.2)	3 (0.2)	1 (0.1)	0 (0)
Area deprivation index national percentile					
Median (interquartile range)	71 (52–86)	67 (51–87)	71 (61–79)	73 (57–75)	69 (42–87)
Spatial accessibility score					
Range	16.4–86.9	16.4–51.0	51.0–70.1	70.1–80.3	80.3–86.9

BMI indicates body mass index; and SA, spatial accessibility

Most of our study population resided in a neighborhood with an ADI rank larger than 70th percentile. The geographic distributions of study population, primary care providers, and ADI rank, as well as accessibility score quartiles, are shown in Figure 1. The catchment area for each primary care provider is presented in Figure S2. The accessibility score ranged from 16.4 to 86.6 per 100 000, with a median value of 51.0 per 100 000. Characteristics related to primary care, such as number of primary care providers within 10min drive, were presented in Table S1.

Fewer than half (43.9%) of participants reported hypertension, among whom 82.0% reported current use of hypertension medication. The prevalence rate was higher for measured hypertension (78.7% according to 2017 American College of Cardiology/American Heart Association guidelines or 53.6% according to earlier guidelines [Table S2]). Among the 78.7% with measured hypertension, 37.7% were aware but uncontrolled, while the other 41.0% were unaware. The hypertension control rate was less than 15% (or less than 35% according to earlier guidelines). The community hypertension prevalence in the study population was higher than that reported in the Chicago Health Atlas (Figure S3).

We observed significant associations between spatial accessibility of primary care and hypertension in the study population, especially in the fully adjusted model (Table 2). In the unadjusted model, no significant association was observed between self-reported hypertension and accessibility score. However, when adjusted for potential confounders, the associations were strengthened in the DAG-based model and the fully adjusted model. In the fully adjusted model, self-reported hypertension exhibited nonlinear associations with accessibility score. Specifically, a reduced prevalence was observed

for self-reported hypertension in the second (OR, 0.83 [95% CI, 0.69–0.99]) and third (OR, 0.80 [95% CI, 0.67–0.95]) quartiles of accessibility score. Then the association was attenuated, and no significant association was observed for the fourth quartile. However, spatial accessibility of primary care was not associated with hypertension medication use among participants who self-reported hypertension in any models.

For measured hypertension, the results were similar between unadjusted and DAG-adjusted models, whereas the associations were further strengthened in the fully adjusted model. Overall, the results were consistent across the 3 models. In the fully adjusted model, the magnitude of association for measured hypertension increased as the accessibility score increased (*P* for trend: <0.01), with significant associations observed for the third (OR, 0.75 [95% CI, 0.62–0.91]) and fourth (OR, 0.73 [95% CI, 0.60–0.89]) quartiles.

When looking into the subclasses of measured hypertension, different patterns were observed for uncontrolled hypertension and unaware hypertension. In the fully adjusted model, compared to the lowest accessibility score quartile, a reduced prevalence of uncontrolled hypertension was observed for the third quartile in all models (eg, the fully adjusted model: OR, 0.60 [95% CI, 0.47–0.76]). Significant associations with the second and the fourth quartiles were only observed in the fully adjusted model for uncontrolled hypertension. On the other hand, unaware hypertension exhibited a more linear relationship with accessibility scores. In the fully adjusted model, compared to the lowest quartile, the ORs for unaware hypertension strengthened from 0.91 (95% CI, 0.73–1.14) for the second quartile to 0.81 (95% CI, 0.65–1.01) for the third quartile and further to 0.71 (95% CI, 0.57–0.88) for the fourth quartile (*P* for trend: <0.01).

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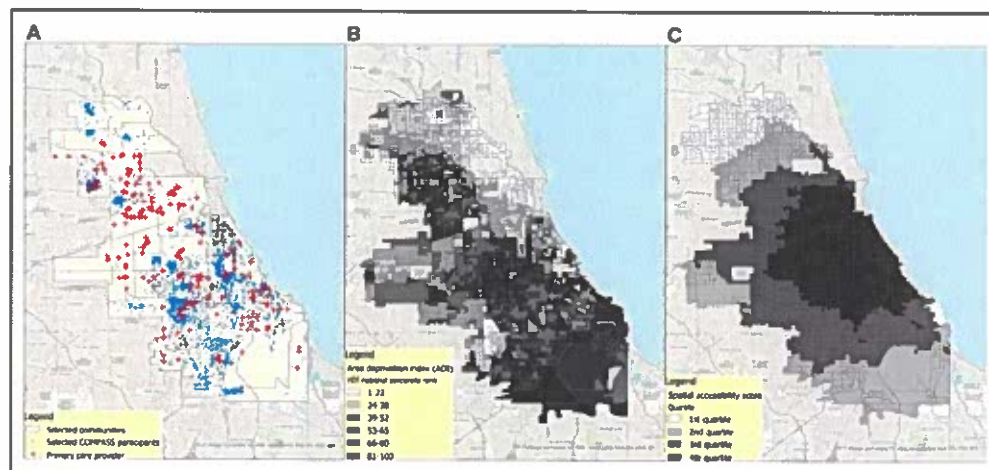


Figure 1. Descriptive maps for study population from the COMPASS (Chicago Multiethnic Prevention and Surveillance Study) between 2013 and 2019. (A) geographic distribution of study population and primary care providers; (B) distribution of area deprivation index (ADI) national percentile rank in selected communities; (C) distribution of spatial accessibility scores.

Similar trends were also observed in unadjusted and DAG-based models.

When stratified by neighborhood SES (ADI ranks ≤ 50 th versus > 50 th percentiles) in the fully adjusted model, a few differences were observed (Table 3). Compared with the lowest quartile of accessibility scores, the highest quartile was significantly associated with lower hypertension prevalence in both strata; however, the association was more pronounced in less disadvantaged neighborhoods (ADI rank ≤ 50 th percentile: OR, 0.54 [95% CI, 0.35–0.83] versus ADI rank > 50 th percentile: OR, 0.76 [95% CI, 0.58–0.99]). Moreover, higher score quartiles were significantly associated with lower prevalence of uncontrolled hypertension only in neighborhoods with ADI ranks > 50 th percentile (eg, second quartile, OR, 0.68 [95% CI, 0.52–0.88]), but not in neighborhoods with ADI ≤ 50 th percentile (eg, second quartile, OR, 0.67 [95% CI, 0.35–1.31]). Nonetheless, it should be noted that none of these differences were statistically significant.

Results from the spline model were generally consistent with those from logistic models (Figure 2). Nonlinear association was observed between accessibility score and self-reported hypertension. The odds for self-reported hypertension increased at the lower levels of accessibility score, followed by a U shape. Higher accessibility score appeared to be associated with higher odds for hypertension medication use, but the association was not significant across the whole range. By contrast, higher score was associated with lower odds for measured hypertension. However, for uncontrolled hypertension, the inverse association

was attenuated when the accessibility score was high, whereas the decreasing trend was consistent for unaware hypertension.

In sensitivity analysis using hypertension guidelines before 2017, the results were consistent with our main analysis (Tables S3 and S4). Across the study population, higher accessibility scores were significantly associated with reduced prevalence for both uncontrolled and unaware hypertension, and these associations appeared to be stronger as accessibility scores increased. The results also remained similar when stratified by ADI national rank. Overall, using guidelines before 2017 did not substantially change our results.

DISCUSSION

In this study, we investigated the association between spatial accessibility of primary care and hypertension control and awareness using participants from COMPASS. The study population mainly consists of urban non-Hispanic blacks and low-income families. We observed that better spatial accessibility of primary care was associated with lower hypertension prevalence including both uncontrolled and unaware hypertension, but not with hypertension medication use among participants who self-reported hypertension. When stratified by neighborhood SES, better spatial accessibility was associated with lower prevalence of unaware hypertension in both disadvantaged and nondisadvantaged neighborhoods, although this association was more pronounced in nondisadvantaged neighborhoods. Spatial accessibility was associated with uncontrolled hypertension only

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Table 2. Adjusted OR and 95% CI for Hypertension Status According to Spatial Accessibility Score Quartiles

	Self-reported hypertension				Measured hypertension				Unaware hypertension vs No measured hypertension			
	Yes vs no		Medication use vs no medication use		All measured hypertension vs No measured hypertension		Uncontrolled hypertension vs No measured hypertension		Unaware hypertension vs No measured hypertension			
	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)
Model 1: unadjusted model†												
First (lowest) quartile (18.4–51.0 per 100,000)	58,469	Ref	48,112	Ref	1033/241	Ref	510/241	Ref	523/241	Ref	523/241	Ref
Second quartile (51.0–70.1 per 100,000)	535/738	0.95 (0.81–1.11)	431/104	1.11 (0.83–1.48)	1014/259	0.91 (0.75–1.11)	457/259	0.83 (0.67–1.04)	557/259	0.99 (0.80–1.23)	557/259	0.99 (0.80–1.23)
Third quartile (70.1–80.3 per 100,000)	519/756	0.90 (0.77–1.06)	430/89	1.29 (0.95–1.76)	985/290	0.78 (0.65–0.98)	443/290	0.72 (0.58–0.89)	542/290	0.88 (0.70–1.06)	542/290	0.88 (0.70–1.06)
Fourth (highest) quartile (80.3–88.9 per 100,000)	601/673	1.07 (0.92–1.25)	476/125	1.02 (0.77–1.34)	981/293	0.78 (0.65–0.95)	511/293	0.82 (0.67–1.02)	470/293	0.74 (0.60–0.91)	470/293	0.74 (0.60–0.91)
P for trend		0.77		0.52		<0.01		0.02		<0.01		<0.01
Model 2: DAG-based model‡												
First (lowest) quartile (18.4–51.0 per 100,000)	58,469	Ref	48,112	Ref	1033/241	Ref	510/241	Ref	523/241	Ref	523/241	Ref
Second quartile (51.0–70.1 per 100,000)	535/738	0.88 (0.73–1.02)	431/104	1.11 (0.83–1.48)	1014/259	0.90 (0.74–1.10)	457/259	0.82 (0.66–1.02)	557/259	0.96 (0.78–1.19)	557/259	0.96 (0.78–1.19)
Third quartile (70.1–80.3 per 100,000)	519/756	0.84 (0.71–1.00)	430/89	1.28 (0.96–1.76)	985/290	0.80 (0.68–0.97)	443/290	0.72 (0.58–0.89)	542/290	0.83 (0.67–1.03)	542/290	0.83 (0.67–1.03)
Fourth (highest) quartile (80.3–88.9 per 100,000)	601/673	0.97 (0.82–1.15)	476/125	1.03 (0.78–1.36)	981/293	0.78 (0.64–0.95)	511/293	0.85 (0.69–1.06)	470/293	0.74 (0.60–0.91)	470/293	0.74 (0.60–0.91)
P for trend		0.48		0.47		<0.01		0.03		<0.01		<0.01
Model 3: fully adjusted model§												
First (lowest) quartile (18.4–51.0 per 100,000)	58,469	Ref	48,112	Ref	1033/241	Ref	510/241	Ref	523/241	Ref	523/241	Ref
Second quartile (51.0–70.1 per 100,000)	535/738	0.82 (0.69–0.99)	431/104	0.99 (0.72–1.36)	1014/259	0.89 (0.67–1.01)	457/259	0.71 (0.55–0.90)	557/259	0.91 (0.73–1.14)	557/259	0.91 (0.73–1.14)
Third quartile (70.1–80.3 per 100,000)	519/756	0.79 (0.66–0.96)	430/89	1.24 (0.90–1.72)	985/290	0.76 (0.62–0.91)	443/290	0.80 (0.47–0.76)	542/290	0.81 (0.65–1.01)	542/290	0.81 (0.65–1.01)
Fourth (highest) quartile (80.3–88.9 per 100,000)	601/673	0.97 (0.82–1.16)	476/125	1.04 (0.77–1.39)	981/293	0.73 (0.60–0.89)	511/293	0.77 (0.62–0.97)	470/293	0.71 (0.57–0.88)	470/293	0.71 (0.57–0.88)
P for trend		0.46		0.48		<0.01		<0.01		<0.01		<0.01

BMI indicates body mass index; DAG, directed acyclic graph; and OR, odds ratio.

*The number of cases/controls.

†The models were not adjusted for any confounders.

‡The models were adjusted for confounders selected from DAG, including age (<50, 50–65, ≥65), race (non-Hispanic white, non-Hispanic black, Hispanic, other), gender (female, male), education (< high school, high school, some college, college or more), and household income (< \$15,000, \$15,000–24,999, \$25,000–34,999, ≥\$35,000).

§The models were adjusted for all potential confounders in this study. In addition to confounders adjusted in the DAG-based model, the fully adjusted model further adjusted for body mass index (BMI); <25, 25–29.9, 30–39.9, ≥40), smoking status (nonsmoker, former smoker, current smoker), insurance status (not insured, Medicaid, Medicare, private, and other), and area deprivation index (quintile term).

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Table 2. OR and 95% CI for Hypertension Status According to Spatial Accessibility Score Quantiles in Populations Stratified by Area Deprivation Index in the Fully Adjusted Model

	Self-reported hypertension			Measured hypertension						Uncontrolled hypertension vs no measured hypertension			Unaware hypertension vs no measured hypertension		
	Yes vs no	N*	OR (95% CI)	Medication use vs no medication use	N*	OR (95% CI)	All measured hypertension vs no measured hypertension	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)	N*	OR (95% CI)
Area deprivation index rank ≤50th percentile															
First (lowest) quartile (16.4–51.0 per 100 000)	121/205		Ref		90/31		Ref	249/77		Ref	108/77		Ref	141/77	
Second quartile (51.0–70.1 per 100 000)	48/83		0.78 (0.45–1.34)	3.44 (0.96–12.33)	44/4		0.78 (0.45–1.34)	104/27		0.76 (0.44–1.32)	40/27		0.87 (0.35–1.31)	59/27	
Third quartile (70.1–80.3 per 100 000)	115/139		1.26 (0.84–1.89)	1.94 (0.87–4.34)	98/19		0.74 (0.48–1.20)	198/56		0.74 (0.48–1.20)	101/56		0.84 (0.47–1.49)	97/56	
Fourth (highest) quartile (80.3–88.9 per 100 000)	237/263		1.31 (0.90–1.91)	1.40 (0.74–2.64)	185/52		0.65 (0.44–0.94)	360/130		0.65 (0.44–0.94)	197/130		0.84 (0.53–1.32)	183/130	
P for trend			0.06			0.44				0.02			0.56		<0.01
Area deprivation index rank >50th percentile															
First (lowest) quartile (16.4–51.0 per 100 000)	463/485		Ref		371/92		Ref	784/164		Ref	402/164		Ref	392/164	
Second quartile (51.0–70.1 per 100 000)	487/655		0.79 (0.66–0.96)	0.88 (0.63–1.23)	397/100		0.81 (0.65–1.02)	910/232		0.81 (0.65–1.02)	412/232		0.68 (0.52–0.88)	498/232	
Third quartile (70.1–80.3 per 100 000)	404/617		0.69 (0.57–0.86)	1.16 (0.81–1.66)	334/70		0.78 (0.61–0.99)	787/234		0.78 (0.61–0.99)	342/234		0.55 (0.42–0.72)	445/234	
Fourth (highest) quartile (80.3–88.9 per 100 000)	364/420		0.91 (0.74–1.12)	1.02 (0.71–1.45)	291/73		0.71 (0.57–0.89)	621/163		0.71 (0.57–0.89)	314/163		0.75 (0.57–1.00)	307/163	
P for trend			0.10			0.61				0.02			<0.01		0.03
P value for interaction															
First (lowest) quartile (16.4–51.0 per 100 000)			Ref				Ref			Ref			Ref		
Second quartile (51.0–70.1 per 100 000)			0.61			0.11				0.60			0.91		0.84
Third quartile (70.1–80.3 per 100 000)			0.48			0.33				0.87			0.26		0.56
Fourth (highest) quartile (80.3–88.9 per 100 000)			0.28			0.48				0.48			0.63		0.28

All models were adjusted for age (<50, 50–65, ≥65), race (non-Hispanic white, non-Hispanic black, Hispanic, other), gender (female, male), body mass index (BMI; <25, 25–29.9, 30–39.9, ≥40), education (high school, high school, some college, college or more), household income (<\$15 000, \$15 000–24 999, \$25 000–34 999, ≥\$35 000), smoking status (nonsmoker, former smoker, current smoker), and insurance status (not insured, Medicaid, Medicare, private, and other). BMI indicates body mass index; and OR, odds ratio.

*The number of cases/controls.

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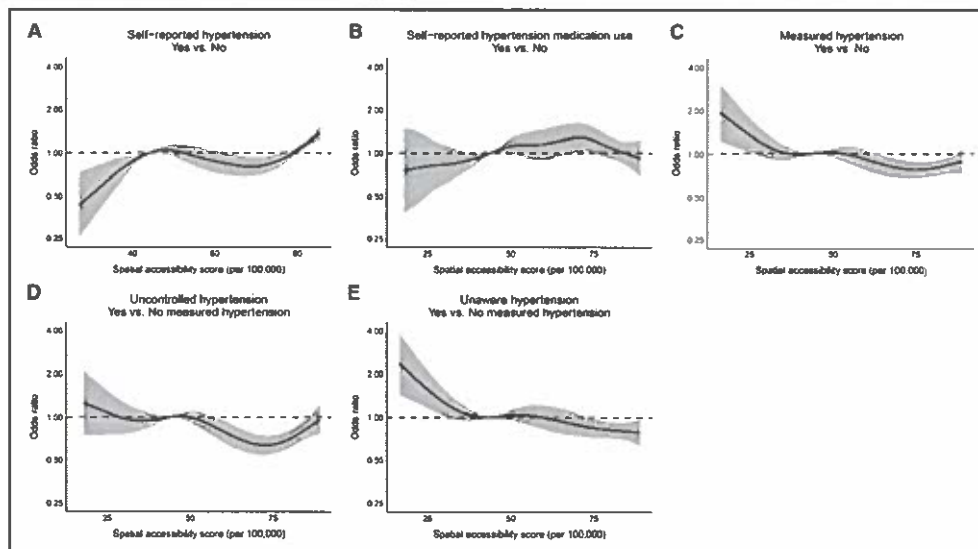


Figure 2. Odds ratio for hypertension status according to spatial accessibility score using a generalized additive model (GAM) with a spline term and 3 df: (A) self-reported hypertension; (B) self-reported hypertension medication use; (C) measured hypertension; (D) uncontrolled hypertension; and (E) unaware hypertension. The 10th percentile of spatial accessibility score was used as the reference. The gray area represents 95% CIs. All models adjusted for age (<50, 50–65, >65), race (non-Hispanic white, non-Hispanic black, Hispanic, other), gender (female, male), body mass index (<25, 25–29.9, 30–39.9, ≥40), education (<high school, high school, some college, college or more), household income (<\$15 000, \$15 000–24 999, \$25 000–34 999, >\$35 000), smoking status (nonsmoker, former smoker, current smoker), and insurance status (not insured, Medicaid, Medicare, private, and other).

In disadvantaged neighborhoods. Overall, neighborhood SES may play a role in the association between spatial accessibility of primary care and hypertension prevalence, but it did not eliminate the association of spatial accessibility of primary care in disadvantaged neighborhoods.

The prevalence of hypertension observed in this study is higher than official surveillance data. This difference may be explained by distinct sources for hypertension prevalence. The surveillance data in the Chicago Health Atlas rely on self-report,³² whereas our study defined hypertension using measured blood pressure. Additionally, the oversampling of a disadvantaged population in this study may also contribute to the higher observed hypertension prevalence, as low SES is associated with higher hypertension prevalence.³³ Overall, the higher prevalence in this study suggests an underestimation of hypertension burden in the disadvantaged population on Chicago's South Side.

The low hypertension control rate (15%–35%, depending on which guidelines were used) in this study is worrisome. More than 50% hypertension cases in the United States are under control,³⁴ but it seems that this urban minority population does not benefit from this high control rate. Studies have revealed a lower control rate among Blacks because of multifaceted barriers including insufficient financial support and unsuccessful behavior change.³⁵

The association between self-reported hypertension and accessibility score is interesting. The inverse association in the middle level of accessibility score might imply a consequence of complicated interactions between social factors. On one hand, people in these areas with middle-level scores had better access to medical resources and thus the hypertension prevalence might be lower compared with those in areas with low level of scores. On the other hand, medical resources in these areas were not sufficient enough to serve everyone compared to areas with high accessibility score. However, chance finding cannot be ruled out as well.

We examined the effect modification of neighborhood SES and found a few nonsignificant differences between disadvantaged and nondisadvantaged neighborhoods. These nonsignificant differences suggest a role of neighborhood SES in the associations. Moreover, the beneficial association of better spatial accessibility of primary care did not fade when adjusted for neighborhood SES or restricted to disadvantaged neighborhoods. These findings are contrary to the only prior study on spatial accessibility of primary care and hypertension control in the United States. This study used the MESA (Multi-Ethnic Study of Atherosclerosis) cohort and observed null association between spatial accessibility of primary care and hypertension prevalence when adjusted for demographic and neighborhood characteristics. It thus argues that improving spatial accessibility

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of primary care in disadvantaged neighborhoods might not help hypertension control.²⁷ However, this study defined spatial accessibility of primary care as residence in a health professional shortage area, which weakened its conclusion.²⁷ Although residence provides an indication of spatial accessibility, it fails to capture the individual variations in spatial access to primary care. With a better definition at the individual level, results from our study can provide more evidence for the impact of primary care on individual hypertension control and awareness.

Chicago's South Side suffers from substantial health burdens of cardiovascular disease exacerbated by structural racism. Structural racism in Chicago is rooted in 20th century neighborhood redlining, community disinvestment, and racial animus that made homeownership largely unattainable for Blacks, hindering their upward mobility and funneling them to neighborhoods characterized by lower quality housing, infrastructure, and opportunities.³⁶ The multidimensional experience of racism is linked to poorer health care access and outcomes.^{37,38} But the great burden of cardiovascular disease mortality is not inevitable. Studies have shown that higher spatial accessibility to primary care was associated with lower odds for preventable emergency visit in Chicago area,³⁹ which was consistent with our conclusion regarding uncontrolled and unaware hypertension. In the Community Intervention to Reduce Cardiovascular Disease in Chicago (CIRCL-Chicago), an intervention initiated in 2020, researchers aimed to mitigate cardiovascular disease burdens by improving healthcare access among residents on the South Side of Chicago.⁴⁰ Our findings will provide insights regarding which area has the lowest accessibility of primary care and how improving spatial accessibility may impact hypertension prevalence.

Our study has several strengths. First, COMPASS is a large prospective cohort study that includes detailed information on participants' health conditions. The oversampling of disadvantaged groups enables us to investigate disease burdens in this understudied population. Second, the high-quality participant residential address and primary care location data allow us to accurately measure the spatial accessibility of primary care for each participant. Many studies on spatial accessibility were weakened by inaccuracies in data on health care providers. Many prior studies obtained data on providers from the American Medical Association/American Osteopathic Association, however not all physicians are represented in these associations.⁵ Third, our study uses measured hypertension, a specific health condition, as the major outcome and we further investigated its subclasses including uncontrolled and unaware hypertension. Most earlier studies were only able to evaluate service utilization, and thus their conclusions were vague in terms of population health. Our study overcomes this limitation and clearly shows that better spatial accessibility of primary care indeed improves population health.

Several limitations should be considered. First, the study population may not be nationally representative,

nor was it designed to be geographically representative. The oversampling of disadvantaged groups can be a strength, but also leads this study to suffer from generalizability problems. Second, the study was conducted in Chicago, an urban area. A rural area with a lower population density and fewer medical facilities may have a different pattern for spatial accessibility of primary care. Therefore, caution is needed when translating the results into rural areas. Third, this study only analyzed the baseline data from COMPASS and thus is cross-sectional in nature. We can estimate impacts on prevalence but not temporality. However, reverse causation (ie, hypertension led to worse spatial accessibility of primary care) is not plausible in this study. Fourth, we had no knowledge of how many physicians/providers were practicing in each clinic and what insurance each clinic accepted. Lack of this information might lead to underestimation of spatial accessibility of primary care and thus its associated impacts. Our findings can still speak volumes about the influence of spatial accessibility of primary care on hypertension control and awareness.

In summary, this study evaluates the association between spatial accessibility to primary care and hypertension status among largely urban minority populations in Chicago. Better spatial accessibility to primary care was associated with reduced prevalence of both uncontrolled and unaware hypertension. When stratified by neighborhood SES, the association with unaware hypertension was observed in both disadvantaged and nondisadvantaged neighborhoods, whereas the association with uncontrolled hypertension was still observed in disadvantaged neighborhoods. These findings suggest that ensuring adequate number of primary care providers can be effective to improve population health. Residents in disadvantaged neighborhoods can also benefit from interventions that increase the number of primary physicians.

ARTICLE INFORMATION

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Disclosures

None.

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Supplemental Material

Supplemental Methods
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Figure S1–S3

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ATTACHMENT 13

Alternatives

The Applicant explored several options before submitting this application to the Board requesting approval for Midwest Ambulatory Surgical Center, LLC ("Midwest ASC").

Among other options, the Applicant considered maintaining the status quo, seeking out other ASTC's or Hospitals, or the Project as Proposed. For the reasons stated below, Applicant opted to seek the Project as Proposed.

Alternative #1: Maintain the Status Quo (No additional Cost)

Maintaining the status quo would have no capital costs associated with choosing this option. The Managers of this Proposed ASTC already practice cardiovascular medicine at various Chicago-area hospitals, and refer their patients to more remote ASTC's to receive outpatient cardiac catheterization services. Maintaining the status quo would mean the continuation of limitations on the access of cardiac procedures to treat patients. For this reason, this alternative was not chosen.

Alternative #2: Utilization of Existing ASTCs and Hospital Surgical Suites

One alternative for the Applicant would be to utilize, and rely upon, existing ASTCs to fill the gap in healthcare services available to its patients. This alternative was suboptimal for several reasons. There are several ASTCs within 10 miles of the facility that perform cardiac procedures but there are still barriers to access for patients. Aside from the threshold question of whether nearby ASTC's had both the categories of services needed (not all do) and the willingness to service Midwest ASC patients (which is not guaranteed), the broader issue is ensuring a patient's quality of healthcare services. Outsourcing the delivery of services is fraught with risks, including quality, continuity of care, and inconsistent outcomes for patients. This Alternative would not benefit patients.

Alternative #3: Project as Proposed

The Applicant was thorough and data-driven in concluding to pursue this Certificate of Need. There is a proven track record validating the high-quality care provided by the physicians at Midwest ASC. These practitioners, and others vetted and onboarded by Midwest ASC, will continue the exceptional care its patients have grown accustomed to. Simply put, this option is both the most cost effective, and guaranteed quality option available to Midwest ASC.

ATTACHMENT 14

Size of the Project

The square footage identified in this application for the proposed project, includes two operating room, is 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 Cardiac Catheterization Laboratory)	4,296	2,750 GSF Per Operating Room	1,204	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					
	DEPARTMENT / SERVICE	HISTORICAL UTILIZATION (PATIENT DAYS) (TREATMENTS) ETC.	PROJECTED UTILIZATION	STATE STANDARD	MEET STANDARD?
YEAR 1	ASTC Operating Room	2,840 Treatments	2,990 Hours	>1500 Hours	Yes
YEAR 2	ASTC Operating Room	2,840 Treatments	3079 Hours	>1500 Hours	Yes

The projected 2,840 procedures in Year 1 are derived exclusively from patients currently served by Consultants in Cardiology & Electrophysiology 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, Consultants in Cardiology & Electrophysiology conducted 2,840 procedures focused solely on cardiac catheterization treatments, demonstrating a well-established base of existing demand. Using the average procedure time listed in the chart below and based on the historical volume of procedures performed during the most recent 12 months it equals approximately 2,990 total surgical hours. This average procedure time also aligns with the HSFRB Average Procedure Time for Cardiovascular Services (2024) of approximately 64 minutes per procedure. This historical utilization demonstrates that the projected referrals represent only a portion of existing volume for a subsection of cardiovascular treatment of options, rather than new or speculative demand.

ATTACHMENT 15

Project Service Utilization

Charge Code	Description	# of Procedures	Minutes per Procedure (Estimated Average)	Proposed Facility Utilization In Year 1 (In minutes)
93458	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP LEFT HEART	1,232	60	73920
92928	PTCA ANGIOPLASTY CATHETER PLACE INTRACOR STENT SINGLE COR ART BRANCH	511	60	30660
33340	PERQ CLSR TCAT L ATR APNDGE W/ENDOCARDIAL IMPLNT	309	90	27810
93460	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP R AND L HEART	306	45	13770
33208	INSERT NEW OR REPLACE PERM PACEMAKER W TRANSVEN ELECTRDE ATR AND VENTR	139	90	12510
37225	REVASCULARIZATION ENDOVASC FEMORAL/POPLITEAL UNIL W ATHERECTOMY INC AN	112	60	6720
93459	CATH PLACED IN CORONARY ANGIOGRAPHY W MD SUP - INTERP LT HEART W GRAFT	106	60	6360
93454	CATH PLACE IN CORONARY ARTERY FOR ANGIOGRAPHY INJ MD SUP AND INTERP	47	45	2115
37228	REVASCULARIZATION ENDOVASC TIBIAL/PERONEAL UNIL W ANGIOPLASTY	28	90	2520
93456	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP RT HEART CATH	25	60	1500
36247	PLACE CATH SUBSUBSELECT ART, ABD/PEL	25	60	1500
TOTAL		2,840	Total # of Minutes	179385
			Total # of Hours	2990
			Total # of Hours	3079

The projected Year 1 utilization of 2,840 procedures equates to approximately 2,990 procedure hours, and the projected Year 2 utilization of 2,925 procedures equates to approximately 3,079 procedure hours, based on the same average procedure time. Importantly the procedures listed above only reflect the highest volume of procedures performed by the practice. It is expected that the facility will be able to perform additional procedures at the facility.

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)	179385
Proposed Facility Utilization Year 1 (in hours)	2990
Proposed Facility Utilization Year 2 (in hours)	3079
Total Projected Referrals in Year 1	2840
Total Projected Referrals in Year 2	2925
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	2,840
First Year Utilization (Operating Room 1)	80%
First Year Utilization (Operating Room 2)	79%
Second Year Proposed Procedures	2925
Second Year Utilization (Operating Room 1)	80%
Second Year Utilization (Operating Room 2)	84%

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 23

Cardiac Catheterization

Peer Review - 1110.225(a)

Midwest Ambulatory Surgical Center, LLC will establish and maintain a comprehensive peer review program to ensure the highest standards of clinical quality, patient safety, and procedural performance within its cardiac catheterization program. The peer review mechanism will operate under the direction of the Medical Director, Dr. Nouri Al-Khaled, and will be governed by written policies and procedures adopted by the facility's governing body prior to the commencement of operations.

The peer review committee will be composed of board-certified interventional cardiologists and electrophysiologists credentialed at the facility, and will convene on a quarterly basis, at minimum, to evaluate the quality of diagnostic and interventional cardiac catheterization studies, review related morbidity and mortality data, and assess the technical aspects of service delivery. The committee's scope of review will include, but not be limited to, the diagnostic accuracy and clinical appropriateness of cardiac catheterization studies, procedural outcomes including complication rates, unplanned hospital transfers, and procedure-related morbidity and mortality, as well as the technical performance of imaging systems, including image quality, radiation dose management, and equipment calibration and maintenance of the Allura Xper FD20 cardiac catheterization and fluoroscopy system and all ancillary imaging and monitoring equipment.

The peer review process will incorporate both concurrent and retrospective case review. Concurrent review will include real-time monitoring of procedural complications, adverse events, and deviations from established clinical protocols. Retrospective review will include systematic evaluation of a representative sample of completed cases, with particular attention to diagnostic image quality, procedural documentation accuracy, appropriateness of patient selection for outpatient catheterization, and adherence to evidence-based clinical guidelines, including those published by the American College of Cardiology, the American Heart Association, and the Society for Cardiovascular Angiography and Interventions.

All cases involving significant complications, unplanned hospital admissions, or unexpected clinical outcomes will be subject to mandatory peer review. The committee will also conduct periodic review of equipment maintenance records, including preventive maintenance schedules, service logs, and quality control testing of imaging and hemodynamic monitoring systems, to ensure that all technical aspects of the cardiac catheterization program meet or exceed applicable standards.

The facility will participate in the CMS Ambulatory Surgical Center Quality Reporting Program and will track and report all required quality measures, including patient burns, patient falls, wrong site/side/patient/procedure events, and hospital transfers or admissions following procedures. Quality data will be benchmarked against national standards for ambulatory surgical treatment centers and will be reviewed by the peer review committee as part of its ongoing quality assessment and performance improvement activities.

When peer review identifies outcomes that do not meet or exceed the quality standards established by the applicable professional organizations, the Medical Director will initiate a formal quality improvement plan. Such plans will identify the specific deficiency, establish corrective actions with assigned responsibilities, set measurable improvement targets, and define timeframes for reassessment. The results of all quality improvement initiatives will be documented and reported to the facility's governing body.

The Applicant attests that it will operate a peer review program that evaluates whether patient outcomes are consistent with quality standards established by professional organizations for ASTC cardiovascular services, and if outcomes do not meet or exceed those standards, that a quality improvement plan will be initiated.

ATTACHMENT 23

Cardiac Catheterization

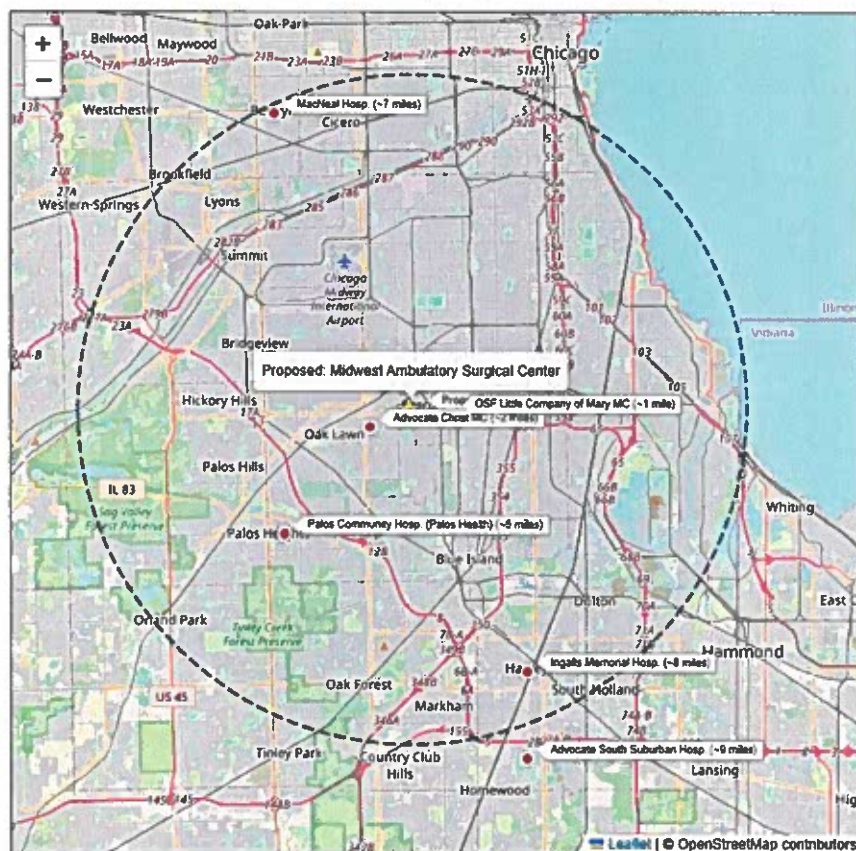
Establishment or Expansion of Cardiac Catheterization Service - 1110. 225(b)

A map showing the location of all hospitals providing cardiac catheterization services within the planning area (10-mile radius of the proposed facility at 3523 W. 95th Street, Evergreen Park, IL 60805) is included with this attachment. Based upon HFSRB 2024 Hospital Profile data for HSA 7, the following hospitals located within 10 miles of the proposed facility currently operate cardiac catheterization laboratories:

- Advocate Christ Medical Center — Oak Lawn, IL (approximately 2 miles)
- OSF Little Company of Mary Medical Center — Evergreen Park, IL (approximately 1 mile)
- Palos Community Hospital — Palos Heights, IL (approximately 5 miles)
- Ingalls Memorial Hospital — Harvey, IL (approximately 8 miles)
- Advocate South Suburban Hospital — Hazel Crest, IL (approximately 9 miles)
- MacNeal Hospital — Berwyn, IL (approximately 7 miles)

Hospitals Providing Cardiac Catheterization Services Within the Planning Area (10-Mile Radius)

Geographic Service Area — 3523 W. 95th Street, Evergreen Park, IL 60805



Proposed: Midwest Ambulatory Surgical Center (ASTC) Existing Hospital with Cardiac Catheterization 10-Mile Radius (Planning Area / GSA)

Source: IDPH Hospital Profile, Health Service Area Data (2024). Distances are approximate straight-line measurements.

ATTACHMENT 23

Cardiac Catheterization

Establishment or Expansion of Cardiac Catheterization Service - 1110. 225(b)

The number of cardiac catheterizations performed at each hospital within the planning area for calendar year 2024 is set forth below. This data is derived from the HFSRB 2024 Hospital Profile reports for HSA 7, which reports aggregate cardiac catheterization lab utilization of 45,991 total procedures across 65 labs (32 diagnostic labs performing 31,764 procedures and 33 interventional labs performing 14,600 procedures) within the health service area.

The following table sets forth the number of cardiac catheterization procedures performed at each hospital within the planning area for Data Year 2024, as reported in the individual HFSRB Hospital Profile reports:

Hospital	City	Diagnostic	Interventional	Total
Advocate Christ Medical Center	Oak Lawn, IL	3,683	1,281	4,964
Advocate South Suburban Hospital	Hazel Crest, IL	1,063	371	1,434
Palos Community Hospital	Palos Heights, IL	908	413	1,321
OSF Little Company of Mary Medical Center	Evergreen Park, IL	927	286	1,213
MacNeal Hospital	Berwyn, IL	578	210	788
Ingalls Memorial Hospital	Harvey, IL	84	260	344
Total (Planning Area)		7,243	2,821	10,064

As demonstrated above, a total of 10,064 cardiac catheterization procedures were performed across the six hospitals within the planning area during Data Year 2024. Advocate Christ Medical Center accounts for the largest share of this volume (4,964 procedures, or 49.3% of the planning area total), followed by Advocate South Suburban Hospital (1,434 procedures), Palos Community Hospital (1,321 procedures), OSF Little Company of Mary Medical Center (1,213 procedures), MacNeal Hospital (788 procedures), and Ingalls Memorial Hospital (344 procedures).

The Applicant notes that its affiliated physicians currently perform cardiac catheterization and interventional cardiology procedures at several of these hospitals, including Advocate Christ Medical Center, OSF Little Company of Mary Medical Center, and Palos Community Hospital (now operating under Northwestern Medicine). Based upon the practice's internal data for the period September 1, 2024 through September 30, 2025, the physicians of Consultants in Cardiology & Electrophysiology, LLC performed 2,840 targeted interventional cardiovascular procedures across these and other affiliated hospital settings, representing approximately 28.2% of the total cardiac catheterization volume within the planning area. This demonstrates both the significant clinical demand for these services and the substantial role the Applicant's physicians already play in delivering cardiac catheterization care to the community.

This criterion requires the applicant to provide the number of patients transferred directly from the applicant's hospital to another facility for cardiac catheterization services in each of the last three years. This criterion is not applicable to the proposed project. The Applicant, Midwest Ambulatory Surgical Center, LLC, is not an existing hospital and does not currently operate a licensed healthcare facility from which patient transfers would occur. The Applicant is seeking to establish a new Ambulatory Surgical Treatment Center; accordingly, there is no transfer history to report under this subsection.

ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)

The Applicant has sent written notification to each hospital within the geographic service area that currently provides cardiac catheterization services. Each letter contains a description of the proposed project, including the establishment of Midwest Ambulatory Surgical Center, LLC as a two-operating-room Ambulatory Surgical Treatment Center offering cardiac catheterization and interventional cardiovascular services at 3523 W. 95th Street, Evergreen Park, IL 60805, and a request that the recipient facility quantify the anticipated impact of the proposal on its cardiac catheterization program.

Letters were sent to the following facilities:

- Advocate Christ Medical Center — Oak Lawn, IL
- OSF Little Company of Mary Medical Center — Evergreen Park, IL
- Palos Community Hospital — Palos Heights, IL
- Ingalls Memorial Hospital — Harvey, IL
- Advocate South Suburban Hospital — Hazel Crest, IL
- MacNeal Hospital — Berwyn, IL

Copies of each letter are enclosed with this Attachment.

As of the date of this filing, the Applicant has not received any responses from the facilities to which the notification letters were sent. Should any responses be received prior to the Board's review of this application, the Applicant will promptly supplement the record by filing such responses with the Board.

ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



Juan Morado, Jr.
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Chicago, Illinois 60606-4637
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jmorado@beneschlaw.com

May 1, 2026

Administrator
Chief Executive Officer
Advocate Christ Medical Center
4440 W. 95th Street
Oak Lawn, IL 60453

RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center, LLC; Establishment of an Ambulatory Surgical Treatment Center with Cardiac Catheterization Services

To Whom it May Concern:

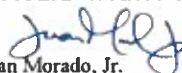
This letter is being sent on behalf of Midwest Ambulatory Surgical Center, LLC (the "Applicant") pursuant to the requirements of 77 Ill. Admin. Code 1110 governing Certificate of Need applications for projects involving cardiac catheterization services. As required by the applicable regulations, the Applicant is providing notice to all facilities within the planning area that currently provide cardiac catheterization services.

The Applicant intends to file a Certificate of Need application with the Illinois Health Facilities and Services Review Board ("HFSRB") for the establishment of a two-operating-room Ambulatory Surgical Treatment Center ("ASTC") located at 3523 W. 95th Street, Evergreen Park, IL 60805. The proposed facility will provide cardiac catheterization and interventional cardiovascular services, including coronary angiography, percutaneous coronary intervention with stent placement, left atrial appendage closure, permanent pacemaker insertion, and peripheral vascular revascularization procedures.

The facility will be owned and operated by Midwest Ambulatory Surgical Center, LLC, with physician services provided by the cardiologists and electrophysiologists of Consultants in Cardiology & Electrophysiology, LLC. Pursuant to regulatory requirements, we respectfully request that your facility quantify the anticipated impact of the proposed project on your cardiac catheterization program. We ask that any response be provided within thirty (30) days of the date of this letter. Any response received will be included in the Certificate of Need application filing with the Illinois Health Facilities and Services Review Board.

Sincerely,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP


Juan Morado, Jr.

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28794036 v2

ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



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May 1, 2026

Administrator
Chief Executive Officer
OSF Little Company of Mary Medical Center
2800 W. 95th Street
Evergreen Park, IL 60805

RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center,
LLC; Establishment of an Ambulatory Surgical Treatment Center with Cardiac
Catheterization Services

To Whom it May Concern:

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Sincerely,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP


Juan Morado, Jr.

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ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



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May 1, 2026

Administrator
Chief Executive Officer
Palos Community Hospital
12251 S. 80th Avenue
Palos Heights, IL 60463

RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center, LLC; Establishment of an Ambulatory Surgical Treatment Center with Cardiac Catheterization Services

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Sincerely,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP


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ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



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May 1, 2026

Administrator
Chief Executive Officer
Ingalls Memorial Hospital
1 Ingalls Drive
Harvey, IL 60426

RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center, LLC; Establishment of an Ambulatory Surgical Treatment Center with Cardiac Catheterization Services

To Whom it May Concern:

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BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP

A handwritten signature in blue ink, appearing to read 'Juan Morado, Jr.'
Juan Morado, Jr.

www.beneschlaw.com

28794048 v2

ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



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

May 1, 2026

Administrator
Chief Executive Officer
Advocate South Suburban Hospital
17800 S. Kedzie Avenue
Hazel Crest, IL 60429

**RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center, LLC;
Establishment of an Ambulatory Surgical Treatment Center with Cardiac
Catheterization Services**

To Whom it May Concern:

This letter is being sent on behalf of Midwest Ambulatory Surgical Center, LLC (the "Applicant") pursuant to the requirements of 77 Ill. Admin. Code 1110 governing Certificate of Need applications for projects involving cardiac catheterization services. As required by the applicable regulations, the Applicant is providing notice to all facilities within the planning area that currently provide cardiac catheterization services.

The Applicant intends to file a Certificate of Need application with the Illinois Health Facilities and Services Review Board ("HFSRB") for the establishment of a two-operating-room Ambulatory Surgical Treatment Center ("ASTC") located at 3523 W. 95th Street, Evergreen Park, IL 60805. The proposed facility will provide cardiac catheterization and interventional cardiovascular services, including coronary angiography, percutaneous coronary intervention with stent placement, left atrial appendage closure, permanent pacemaker insertion, and peripheral vascular revascularization procedures.

The facility will be owned and operated by Midwest Ambulatory Surgical Center, LLC, with physician services provided by the cardiologists and electrophysiologists of Consultants in Cardiology & Electrophysiology, LLC. Pursuant to regulatory requirements, we respectfully request that your facility quantify the anticipated impact of the proposed project on your cardiac catheterization program. We ask that any response be provided within thirty (30) days of the date of this letter. Any response received will be included in the Certificate of Need application filing with the Illinois Health Facilities and Services Review Board.

Sincerely,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP

A handwritten signature in blue ink, appearing to read 'Juan Morado, Jr.'.

Juan Morado, Jr.

www.beneschlaw.com

28794053 v1

ATTACHMENT 23
Cardiac Catheterization
Unnecessary Duplication of Services - 1110. 225(c)



Juan Morado, Jr.
71 South Wacker Drive, Suite 1600
Chicago, Illinois 60606-4637
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jmorado@beneschlaw.com

May 1, 2026

Administrator
Chief Executive Officer
MacNeal Hospital
3249 S. Oak Park Avenue
Berwyn, IL 60402

RE: Illinois Certificate of Need Application — Midwest Ambulatory Surgical Center, LLC; Establishment of an Ambulatory Surgical Treatment Center with Cardiac Catheterization Services

To Whom it May Concern:

This letter is being sent on behalf of Midwest Ambulatory Surgical Center, LLC (the "Applicant") pursuant to the requirements of 77 Ill. Admin. Code 1110 governing Certificate of Need applications for projects involving cardiac catheterization services. As required by the applicable regulations, the Applicant is providing notice to all facilities within the planning area that currently provide cardiac catheterization services.

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Sincerely,

BENESCH, FRIEDLANDER,
COPLAN & ARONOFF LLP

A handwritten signature in blue ink, appearing to read "Juan Morado, Jr.", written over a horizontal line.

Juan Morado, Jr.

www.beneschlaw.com

28794055 v2

ATTACHMENT 23

Cardiac Catheterization Support Services - 1110.225(e)

The following describes the availability of services at Midwest Ambulatory Surgical Center, LLC on a service-by-service basis, including those available on a 24-hour basis and those that will be made available when needed.

Emergency and Transfer Services.

The facility will maintain a emergency transfer capability through a written transfer agreement with a local hospital. All physician-owners of the ASTC hold active admitting privileges at one or more hospitals within the geographic service area, including Advocate Christ Medical Center and OSF Little Company of Mary Medical Center. In the event of a patient emergency requiring services beyond the scope of the ASTC, emergency medical services will be immediately available to transport the patient to the nearest appropriate hospital. Written protocols for emergency transfer, including arrangements for ambulance services and the transfer of medical information, will be in place prior to the commencement of operations.

Nursing Services.

A registered nurse trained in the use of emergency equipment and in cardiopulmonary resuscitation will be present at the facility whenever a patient is in the ASTC, in compliance with 42 CFR § 416.44. Nursing staff will be available from patient arrival through discharge and until all patients have left the facility.

Patient Monitoring.

Continuous physiological monitoring will be available at all times patients are present in the facility, including during procedures, in the post-anesthesia care unit (PACU), and throughout the recovery period until discharge criteria are met.

Services Available During Scheduled Operating Hours

The following services will be available during the facility's scheduled operating hours, which are anticipated to be Monday through Friday, with the ability to extend hours and add Saturday availability as patient volume requires:

Cardiac Catheterization and Interventional Cardiology Services.

Diagnostic and interventional cardiac catheterization procedures, including coronary angiography, percutaneous coronary intervention with stent placement, left atrial appendage closure, pacemaker insertion, and peripheral vascular interventions, will be performed during scheduled operating hours by the credentialed physician-owners of the facility.

Anesthesia Services.

Anesthesia services, including moderate sedation and monitored anesthesia care, will be provided by qualified anesthesia professionals during all scheduled procedure times. An anesthesiologist or certified registered nurse anesthetist (CRNA) will be present for all procedures requiring sedation or anesthesia.

Diagnostic Imaging.

The Allura Xper FD20 cardiac catheterization and fluoroscopy system and all ancillary imaging equipment will be staffed and operational during scheduled procedure hours.

ATTACHMENT 23
Cardiac Catheterization
Support Services - 1110.225(e)

Laboratory Services.

Clinical laboratory services necessary to support cardiac catheterization procedures (including coagulation studies, basic metabolic panels, and point-of-care testing) will be available during scheduled operating hours through on-site point-of-care testing equipment and/or a contractual arrangement with a certified reference laboratory.

All cardiac catheterization and interventional procedures will be scheduled in advance, and patients will be appropriately screened for outpatient suitability prior to their procedure date. The facility will not provide emergency or unscheduled cardiac catheterization services. Patients requiring emergent cardiac catheterization will continue to be directed to hospital emergency departments with 24-hour cardiac catheterization capability, including Advocate Christ Medical Center, which is located approximately two miles from the proposed ASTC.

Because all procedures are pre-scheduled, the Applicant will ensure that all necessary services including physician staffing, anesthesia, nursing, laboratory, imaging, and sterile processing — are coordinated and available for each scheduled procedure day. The facility's Medical Director will maintain oversight of scheduling to ensure adequate staffing and resource availability for all patient encounters. In the unlikely event that a patient requires post-discharge clinical attention outside of scheduled operating hours, the Applicant's physicians are available through the existing on-call system maintained by Consultants in Cardiology & Electrophysiology, LLC, and patients will be directed to the nearest emergency department if emergent care is required.

ATTACHMENT 23

Cardiac Catheterization Laboratory Location - 1110.225(f)

Line drawings showing the location of the proposed cardiac catheterization laboratories within the facility are included below. The proposed ASTC will contain two operating rooms configured for cardiac catheterization and interventional cardiovascular procedures, located in immediate proximity to one another within the clinical core of the facility (shown in green below).

The two operating rooms are situated adjacent to each other along a shared corridor, with direct access to the scrub stations, clean and soiled processing rooms, and the equipment control room. The recovery bays (PACU) are located directly adjacent to the operating rooms, allowing for efficient and safe patient transport immediately following procedures. The decontamination and sterile processing areas are positioned in close proximity to both operating rooms to facilitate rapid instrument reprocessing and room turnover between cases.

The laboratories are in proximity to one another and to all required support spaces. This configuration was designed intentionally to optimize procedural workflow, minimize patient transport distances, support efficient staffing across both rooms, and ensure immediate access to shared clinical resources including the crash cart, emergency medications, and ancillary imaging equipment. The compact, purpose-built layout eliminates the delays and inefficiencies associated with geographically dispersed procedural suites and allows nursing and technical staff to move seamlessly between the two operating rooms as needed.



ATTACHMENT 23

Cardiac Catheterization Staffing - 1110.225(g)

The Applicant has established a cardiac catheterization laboratory team with the personnel required to safely and effectively operate the proposed facility. The following identifies the personnel who will fill each required position, their qualifications, and the staffing coverage that will be maintained.

Lab Director

Nouri Al-Khaled, M.D., will serve as Laboratory Director. Dr. Al-Khaled is board-certified in internal medicine with subspecialty board certification in cardiovascular disease and interventional cardiology. He has extensive experience directing cardiac catheterization programs and will maintain overall responsibility for the quality, safety, and clinical operations of the cardiac catheterization laboratories at Midwest Ambulatory Surgical Center, LLC.

Physicians Trained in Cardiology and/or Radiology

The following ten (10) physicians, all trained in cardiology, electrophysiology, and/or interventional cardiology, will be credentialed to perform procedures at the facility and will be present during all cardiac catheterization examinations. Extra physician backup personnel will be available through the rotation of the physician-owner group:

Physician	Specialty/Training
Nouri Al-Khaled, M.D.	Interventional Cardiology
Chadi Nouneh, M.D.	Interventional Cardiology
Ibrahim Kassas, M.D.	Interventional Cardiology
Hussam Watti, M.D.	Cardiology
John H. Burke, M.D.	Cardiology & Electrophysiology
William Spear, M.D.	Cardiology & Electrophysiology
Wassim Ballany, M.D.	Cardiology & Electrophysiology
Ali Zaidi, M.D.	Cardiology & Electrophysiology
Luay Rifai, M.D.	Cardiology
Tark Mohammed Kabbany, M.D.	Cardiology

All physicians are board-certified or board-eligible in their respective subspecialties. A minimum of one physician trained in cardiology will be present during every cardiac catheterization examination, with additional physician backup available from the practice group at all times procedures are being performed. The ten-physician group provides sufficient depth to ensure continuous coverage during all scheduled operating hours without reliance on any single physician.

Nurse Specially Trained in Critical Care of Cardiac Patients

Twelve (12) registered nurses with specialized training in critical care of cardiac patients will be employed at the facility. These nurses will possess knowledge of cardiovascular medications, hemodynamic monitoring, and a thorough understanding of cardiac catheterization equipment and procedural protocols. All nursing staff will maintain current certifications in Advanced Cardiac Life Support (ACLS) and Basic Life Support (BLS). Nurses will be recruited from candidates with prior experience in cardiac catheterization laboratories, cardiovascular intensive care units, or interventional cardiology procedural settings. Names and specific qualifications of nursing personnel will be provided upon hire, prior to the commencement of facility operations.

ATTACHMENT 23

Cardiac Catheterization Staffing - 1110.225(g)

Radiologic Technologist

Two (2) radiologic technologists will be employed at the facility. Each technologist will be highly skilled in conventional radiographic techniques and angiographic principles, knowledgeable in every aspect of cardiac catheterization instrumentation, and will possess thorough knowledge of the anatomy and physiology of the cardiovascular system. Radiologic technologists will hold current registration with the American Registry of Radiologic Technologists (ARRT) and Illinois licensure as required by the Illinois Emergency Medical Services (EMS) Systems Act. Names and specific qualifications of radiologic technologists will be provided upon hire, prior to the commencement of facility operations.

Cardiopulmonary Technician

One (1) cardiopulmonary technician will be employed at the facility for patient observation, handling of blood samples, and performing blood gas evaluation calculations during cardiac catheterization procedures. This individual will hold appropriate certification and training in cardiovascular technology. The name and specific qualifications of the cardiopulmonary technician will be provided upon hire, prior to the commencement of facility operations.

Monitoring and Recording Technician

One (1) monitoring and recording technician will be employed at the facility for monitoring physiologic data during cardiac catheterization procedures and alerting the physician to any changes in patient status. This individual will be trained in hemodynamic monitoring, electrocardiographic interpretation, and the operation of the facility's digital recording and archiving systems. The name and specific qualifications of the monitoring and recording technician will be provided upon hire, prior to the commencement of facility operations.

Electronic Radiologic Repair Technician

One (1) electronic radiologic repair technician will be available to perform systematic tests and routine maintenance on all imaging and catheterization equipment, including the Allura Xper FD20 cardiac catheterization and fluoroscopy system. This technician will be immediately available in the event of equipment failure during a procedure. This position will be filled through either direct employment or a service contract with the equipment manufacturer (Philips Healthcare) or a qualified biomedical engineering firm, ensuring that a technician with specific training on the facility's imaging systems can respond immediately during all scheduled procedure hours. Documentation of the service arrangement will be maintained on file at the facility.

Darkroom Technician

This position is not applicable to the proposed facility. Midwest Ambulatory Surgical Center, LLC will utilize a fully digital imaging and archival system. The Allura Xper FD20 cardiac catheterization system produces digital images that are stored, reviewed, and transmitted electronically through a Picture Archiving and Communication System (PACS). The facility will not use photographic film processing, sheet film, or cine film at any point in its operations. Accordingly, no darkroom technician is required. All diagnostic images will be immediately available in digital format for physician review, peer review, and long-term archival storage, and can be electronically transmitted to referring physicians and hospitals as needed. The digital imaging platform provides superior image quality, eliminates chemical processing waste, and supports the facility's quality assurance and peer review programs by enabling efficient retrospective case review.

ATTACHMENT 23

Cardiac Catheterization Staffing - 1110.225(g)

Staffing Schedule

The following staffing schedule demonstrates the coverage that will be maintained during all scheduled cardiac catheterization procedures:

Position	Number	Coverage
Laboratory Director	1	Available during all scheduled procedure hours; on-call when not physically present
Physician (Cardiology)	Minimum 1 per procedure	Present during all examinations; backup physician available from 10-physician rotation
Registered Nurse (Cardiac Critical Care)	Minimum 3 per procedure day	Present from patient arrival through discharge; minimum 1 RN in procedure room, 1 RN in PACU, 1 RN circulating
Radiologic Technologist	Minimum 1 per procedure	Present during all scheduled procedure hours
Cardiopulmonary Technician	1	Present during all scheduled procedure hours
Monitoring/Recording Technician	1	Present during all scheduled procedure hours
Electronic Radiologic Repair Technician	1	Immediately available during all scheduled procedure hours (on-site or on-call per service contract)

Scheduled operating hours are anticipated to be Monday through Friday, 7 a.m. to 6 p.m., with the ability to extend hours and add Saturday availability as patient volume requires. All clinical staff will be present from the time the first patient arrives until the last patient is discharged. The twelve-nurse staffing model provides sufficient depth to cover two simultaneous operating rooms, PACU recovery, and scheduled days off without compromising patient safety or procedural capacity.

The Applicant attests that the staffing levels and qualifications described herein comply with the State Board's requirements for cardiac catheterization laboratory personnel and that all positions will be filled with qualified individuals prior to the commencement of operations

ATTACHMENT 23

Cardiac Catheterization

Continuity of Care - 1110.225(h)

The Applicant has obtained a letter of support dated February 25, 2026 from Mark Miller, President of the South Chicagoland Area and Advocate Christ Medical Center, expressly supporting the establishment of Midwest Ambulatory Surgical Center, LLC and confirming the collaborative relationship between the proposed ASTC and Advocate Christ Medical Center.

Advocate Christ Medical Center is located at 4440 W. 95th Street, Oak Lawn, IL 60453, approximately two miles from the proposed ASTC. It operates a comprehensive cardiac surgery program with open-heart surgery capabilities and performed 2,046 cardiac surgery cases (including 385 coronary artery bypass grafts) during Data Year 2024 as reported in its HFSRB Hospital Profile. Advocate Christ Medical Center is designated as a Level I Trauma Center (Adult and Pediatric) and maintains 24-hour emergency department and cardiac surgery coverage.

The Applicant will execute a formal written transfer agreement with Advocate Christ Medical Center prior to the commencement of facility operations, consistent with the requirements of 42 CFR § 416.41 and applicable State Board regulations. The existing letter of support from Advocate Christ Medical Center's President, combined with the longstanding clinical relationship between the Applicant's physicians and the hospital, provides a strong foundation for the finalization of this agreement. The transfer agreement will establish protocols for the immediate transfer of seriously ill patients requiring open-heart surgery or other services beyond the scope of the ASTC, including arrangements for ambulance transport, transfer of medical records and diagnostic images, and continuity of physician communication.

In addition to the transfer agreement with Advocate Christ Medical Center, the Applicant's ten physician-owners independently maintain active medical staff privileges and admitting privileges at multiple hospitals with open-heart surgery and advanced cardiac care capabilities within the geographic service area, including:

- Advocate Christ Medical Center (Oak Lawn, IL) Open-heart surgery, cardiac surgery, Level I Trauma Center; approximately 2 miles from proposed ASTC
- OSF Little Company of Mary Medical Center (Evergreen Park, IL) Located approximately 1 mile from the proposed ASTC
- Palos Community Hospital (Palos Heights, IL) Cardiac surgery program (251 cardiac surgery cases in 2024, including 87 bypass grafts)

These existing hospital affiliations provide multiple independent pathways for the immediate transfer and continuity of care for any patient who experiences a serious complication during or after a cardiac catheterization procedure at the proposed ASTC. The physicians' established relationships and active privileges at these institutions ensure seamless communication and coordinated care in the event a patient requires emergent open-heart surgery or escalation to inpatient cardiac services.

ATTACHMENT 23
Cardiac Catheterization
Continuity of Care - 1110.225(h)



Advocate Christ Medical Center

4440 West 95th Street || Oak Lawn, IL 60453 || T 708.684.8000 || advocatehealth.com

Mark Miller
President
South Chicagoland Area & Advocate Christ Medical Center
4440 W. 95th St.
Oak Lawn, IL 60453

February 25, 2026

John Kniery
Administrator
Illinois Health Facilities and Services
Review Board
525 W Jefferson Street, Second Floor
Springfield, Illinois 62761

RE: Application for Midwest Ambulatory Surgical Center, LLC; Establishment of an Ambulatory Surgical Treatment Center to Provide Electrophysiology and Related Cardiac Services

Dear Mr. Kniery:

I am pleased to submit this letter in support of the proposed Cardiac catheterization lab and ambulatory surgical treatment center ("ASTC"), Midwest Ambulatory Surgical Center. I understand the focus if the facility will be electrophysiology ("EP") and related cardiac procedures.

As President of Advocate Christ Medical Center, I have the pleasure of working with Dr. Al-Khaled and other members of his practice to ensure patient access to high-quality, efficient specialty care while complementing existing hospital-based services.

Midwest Ambulatory Surgical Center is intended to provide a defined set of EP procedures, including pacemaker implantation and generator replacement, as well as catheter-based ablation procedures for atrial flutter, atrial fibrillation, and select supraventricular tachycardias. These are services that are routinely and safely performed in appropriately equipped outpatient settings and are increasingly migrating to ASTC environments nationwide.

From a system and hospital perspective, this project is expected to round out the services offered at Advocate Christ Medical Center. The need for EP services has resulted in scheduling backlogs that can delay patient care. The proposed ASTC would absorb a portion of this volume, improving timeliness of care while allowing the hospital to focus its EP lab capacity on higher-acuity and inpatient cases.

A faith-based health system serving individuals, families, and communities

Recipient of the Magnet award for excellence in nursing services by the American Nurses Credentialing Center



ATTACHMENT 23
Cardiac Catheterization
Continuity of Care - 1110.225(h)



4440 West 95th Street || Oak Lawn, IL 60453 || T 708.684.8000 || advocatehealth.com

Importantly, Midwest Ambulatory Surgical Center is structured to operate in a supportive manner with hospital-based cardiovascular services. This facility supports broader goals of access, efficiency, and appropriate site-of-service utilization, while maintaining continuity of care and physician collaboration across settings.

I respectfully ask the Board to approve this CON application and allow our community to benefit from the additional access, efficiency, and flexibility this project will provide for patients requiring electrophysiology and related cardiac services.

With respect,

A handwritten signature in black ink, appearing to read "M. Miller".

Mark Miller
President
South Chicagoland Area & Advocate Christ Medical Center

A faith-based health system serving individuals, families, and communities

Recipient of the Magnet award for excellence in nursing services by the American Nurses Credentialing Center



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

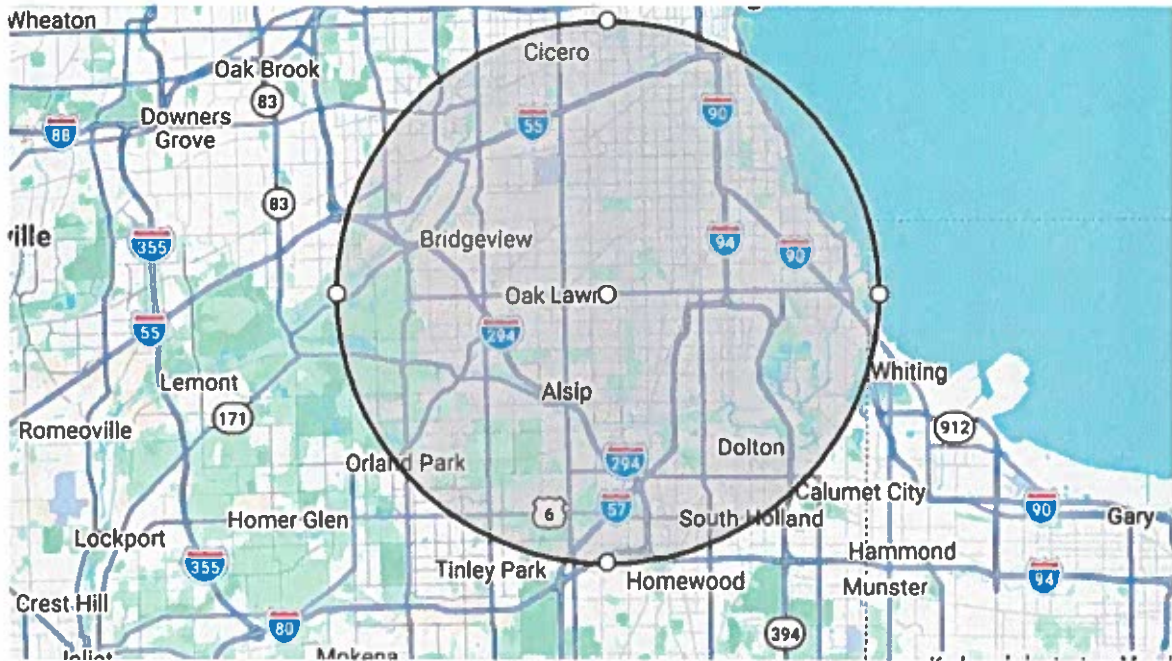
The proposed project is necessary to meet the needs of the residents of the planning area as noted in this application. The project involves establishing a new ASTC in Cook County. This sole-service cardiac catheterization ASTC will have ample capacity to meet the needs of patients in the area.

The primary purpose of this project is to provide necessary health care to residents of the geographic service area ("GSA") in which the ASTC will be located. Listed in the following pages, in accordance with 77 Ill. Admin. Code §1110.235(c)(2)(B), is the GSA consisting of all zip codes that are located within a 10-mile radius of the proposed site of the ASTC. We have also included a map of the multidirectional travel radii of the proposed ASTC site.

The project's scope and operations are structured to meet GSA resident demand: In sum, the project is designed, located, and operationally structured to provide non-hospital based ambulatory cardiac catheterization services to residents of the 10-mile GSA, with documented historical patient origin, explicit access commitments, and an ongoing monitoring plan to ensure that GSA residents remain the predominant beneficiaries of the proposed services.

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

10-Mile Radius from 3523 W. 95th Street, Evergreen Park, IL 60805



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

Zip Code	City	Population (2020 Census)
60805	Evergreen Park	19,945
60456	Hometown	4,343
60655	Chicago	27,837
60652	Chicago	40,898
60620	Chicago	66,514
60643	Chicago	47,831
60453	Oak Lawn	58,362
60629	Chicago	114,453
60803	Alsip	22,189
60459	Burbank	29,451
60415	Chicago Ridge	14,433
60636	Chicago	34,800
60406	Blue Island	24,011
60621	Chicago	29,570
60628	Chicago	62,832
60619	Chicago	63,303
60482	Worth	11,216
60418	Crestwood	10,813
60455	Bridgeview	17,098
60472	Robbins	4,671
60638	Chicago	56,928
60827	Riverdale	24,936
60632	Chicago	92,237
60463	Palos Heights	14,048
60469	Posen	5,469
60457	Hickory Hills	14,420
60465	Palos Hills	18,530
60445	Midlothian	14,692
60609	Chicago	65,770
60637	Chicago	53,555
60458	Justice	14,504
60617	Chicago	77,270
60501	Summit Argo	11,746
60615	Chicago	43,502
60649	Chicago	48,171
60426	Harvey	24,114
60428	Markham	11,351
60419	Dolton	21,409
60633	Chicago	13,359

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

Zip Code	City	Population (2020 Census)
60452	Oak Forest	27,363
60653	Chicago	33,146
60402	Berwyn	64,706
60804	Cicero	85,673
60623	Chicago	87,649
60525	La Grange	32,613
60534	Lyons	10,749
60608	Chicago	75,770
60464	Palos Park	9,982
60480	Willow Springs	5,272
60616	Chicago	54,013
60473	South Holland	21,661

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"). These projections are further limited only to cardiac catheterization procedures rather than document the entire demand for cardiovascular services in the GSA.

In support of this application, the Applicant has provided a physician referral letter from Nouri Al-Khaled, M.D. on behalf of himself and physicians in his practice at Consultants in Cardiology & Electrophysiology documenting historical referrals for cardiovascular surgical services provided at existing IDPH-licensed ASTCs, hospital outpatient departments, and hospital inpatient 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 cardiovascular catheterization surgical cases to multiple hospitals and ASTCs within and adjacent to the GSA due to limited local operating room availability. 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. 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)**



Heart, Vein, & Vascular Clinics
 Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

Nouri Al-Khaled MD

Chadi Nouneh MD

William H. Spear MD

Ali R. Zaidi MD

Wassim Ballany MD

Lusy Refa MD

Boahim Kassas MD

Hussam Watts MD

Joaquin S. Barboza MD

M. Tarek Kabany MD

Adedotun Ogunsua MD

Bahij Kradich MD

March 10, 2026

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

Dear Mr. Kniery,

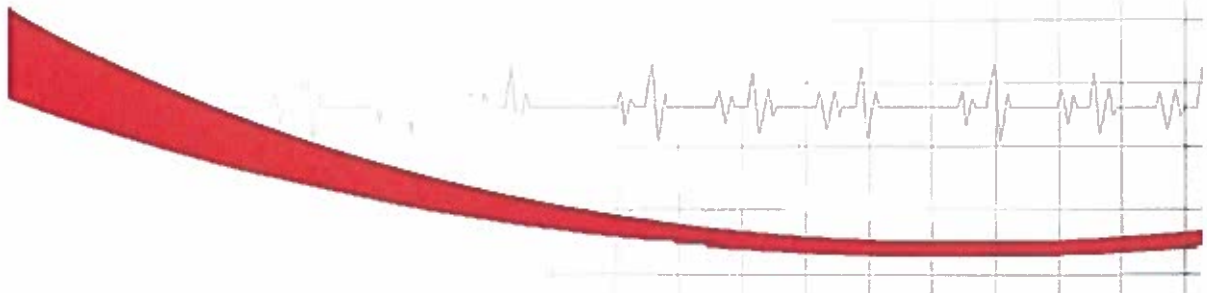
My name is Nouri Al-Khaled, M.D., and I am the President of Consultants in Cardiology & Electrophysiology. This letter contains the referral documentation required per 77 Ill. Admin. Code Section 1110.235(c)(3)(A)-(B). During the 12 month period prior to submission of this letter, our practice has performed 134,302 procedures on patients from the following healthcare facilities:

Historical Caseload by Licensed setting:

Name of Healthcare Facility	Number of cases in past 12 months	Midwest Ambulatory Surgical Center, LLC
Advocate Christ Medical Center	27,968	1,341
Advocate Trinity, South Suburban, Masonic, Lutheran General	11	0
Consultants in Cardiology & Electrophysiology (Office Based Laboratory)	61,173	0
OSF-Little Company of Mary	43,997	1,346
Northwestern Medicine- Palos Community Hospital	1,153	153
Total	134,302	2,840

3545 W 95th Street
 Evergreen Park, IL 60821
 708-346-5562
 Fax 708-346-2059

43 Orland Square Dr
 Orland Park, IL 60462
 708-346-5562
 Fax 708-346-2059



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



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

Nouri Al-Khaled MD

Chadi Nourah MD

William H. Spier MD

Ali R. Zaidi MD

Wassim Bahny MD

Lamy Albi MD

Ibrahim Kassas MD

Muhammad Wadi MD

Joaquim S. Barbosa MD

M. Tarek Kabbany MD

Adedotun Ogunsola MD

Bahaj Krolich MD

Based on historical referrals, our practice anticipates 2,840 referred patients in its first year of operation to Midwest Ambulatory Surgical Center, LLC. Enclosed with this letter is a list of patient origin by zip code of residence. I certify that the patients we 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.

Thank you,

Nouri, Al-Khaled, M.D.
Managing Member
Midwest Ambulatory Surgical Center, LLC

Physician's Signature

Date

(Please Print/Type Name) NOURI ALKHALED

Signature of Notary:

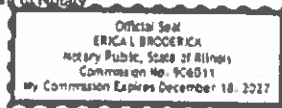
Subscribed and sworn to before me
this 1st day of February 2021

3545 W 95th Street
Evergreen Park, IL 60
708-346-5562
Fax: 708-346-2059

Signature of Notary

43 Orland Square Dr
Orland Park, IL 6046
708-346-5562
Fax: 708-346-2059

Seal



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

Zip Code	Number of Patients
60620	13918
60453	10845
60643	10297
60628	7249
60655	6639
60652	6069
60805	6023
60629	4889
60459	4521
60803	4171
60406	2722
60619	2705
60617	2349
60636	2309
60638	2229
60415	2182
60477	1972
60462	1922
60465	1901
60455	1786
60463	1683
60457	1575
60827	1391
60482	1339
60452	1299
60467	1207
60632	1174
60621	1052
60456	1051
60418	1034
60487	1027
60445	1017
60649	891
60464	842

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

Zip Code	Number of Patients
60419	741
60458	688
60609	672
60491	618
60409	583
60411	554
60448	540
60430	518
60637	481
60633	461
60527	456
60426	447
60439	437
60473	434
60423	432
60422	414
60466	367
60429	365
60653	321
60478	320
60443	284
60615	263
60451	241
60623	233
60472	220
60608	219
60441	218
60616	218
60428	213
60449	210
60438	188
60471	179
60417	175
(blank)	152
60469	140

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

Zip Code	Number of Patients
60605	140
60804	137
60525	126
60501	120
60440	117
60624	115
60446	112
60523	108
60651	106
60586	102
60914	100
60644	99
60442	96
60402	94
60618	89
46375	88
60484	88
46322	87
60431	82
60435	82
60641	82
60640	79
60559	78
60612	78
60634	78
60561	75
60544	72
60188	71
46307	70
60639	69
60425	66
60901	63
60532	61
60610	58
60526	57

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

Zip Code	Number of Patients
60148	55
60461	54
60480	54
60515	54
46368	53
60626	52
46321	50
60645	50
60126	49
60476	49
60614	47
60506	44
60915	44
61327	44
60433	43
60504	43
46385	42
60516	42
60950	42
60154	41
46311	40
60016	40
60657	40
46410	39
46408	38
60068	38
60517	38
46324	37
60432	37
60625	37
61073	37
60401	36
60642	36
60153	35
60403	35

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

Zip Code	Number of Patients
60137	34
46319	33
60085	33
60104	33
60475	33
46323	32
60421	32
60647	32
60654	31
61021	31
60042	30
60468	30
60513	30
60558	30
46303	29
60613	29
60014	28
60060	28
60130	28
60185	28
60189	27
60660	27
60074	26
60622	26
60062	24
60490	24
60603	24
60607	24
60047	23
60107	23
60118	23
60404	23
60436	23
60564	23
60940	23

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

Zip Code	Number of Patients
60046	22
60101	22
60164	22
60714	22
34103	21
46383	21
60018	21
60098	21
46312	20
46360	20
46373	20
60123	20
60521	20
60543	20
60646	20
60707	20
60302	19
53205	18
60056	18
60630	18
60631	18
60964	18
61360	18
60560	17
46304	16
46320	16
60099	16
77340	16
46394	15
60103	15
61832	15
53216	14
60007	14
60073	14
60202	14

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

Zip Code	Number of Patients
60454	14
46350	13
60115	13
60175	13
60304	13
60534	13
60546	13
60555	13
60680	13
60025	12
60143	12
60505	12
60563	12
61350	12
85206	12
34108	11
46404	11
47130	11
60002	11
60030	11
60176	11
60201	11
60408	11
60450	11
61354	11
30058	10
49128	10
60087	10
60110	10
60133	10
60172	10
60177	10
60407	10
60540	10
60659	10

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

Zip Code	Number of Patients
61525	10
61704	10
33610	9
46342	9
46356	9
47960	9
53115	9
60031	9
60051	9
60053	9
60077	9
60108	9
60162	9
60410	9
60481	9
60611	9
71909	9
99999	9
46224	8
46407	8
53105	8
53824	8
60120	8
60190	8
60565	8
60585	8
85015	8
85705	8
46409	7
54501	7
54966	7
60004	7
60010	7
60064	7
60067	7

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

Zip Code	Number of Patients
60084	7
60090	7
60152	7
60181	7
60187	7
60447	7
60545	7
60601	7
61341	7
61761	7
89138	7
93618	7
33060	6
34104	6
34113	6
39759	6
46310	6
46582	6
49117	6
53223	6
60013	6
60015	6
60106	6
60139	6
60140	6
60420	6
60460	6
60656	6
61008	6
61548	6
61821	6
62960	6
92101	6
30016	5

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

Zip Code	Number of Patients
39046	5
46077	5
46366	5
46403	5
46516	5
47978	5
53147	5
53209	5
53224	5
60020	5
60043	5
60089	5
60155	5
60193	5
60542	5
60690	5
60921	5
60941	5
61101	5
61107	5
61401	5
62521	5
62849	5
85345	5
30213	4
30236	4
32174	4
33896	4
34788	4
38967	4
39069	4
44510	4
46406	4
46746	4
51105	4

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

Zip Code	Number of Patients
53208	4
53210	4
53212	4
53511	4
54952	4
60005	4
60041	4
60050	4
60061	4
60076	4
60091	4
60156	4
60160	4
60169	4
60192	4
60424	4
60554	4
60953	4
60954	4
61032	4
61364	4
61455	4
61701	4
61822	4
71457	4
75007	4
94539	4
20603	3
30253	3
32162	3
32164	3
32210	3
32503	3
32819	3
32953	3

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

Zip Code	Number of Patients
32963	3
33157	3
38115	3
38571	3
39307	3
39666	3
46391	3
47909	3
49007	3
49031	3
49068	3
52401	3
53104	3
53142	3
53144	3
53182	3
53207	3
53221	3
53704	3
55404	3
60102	3
60124	3
60171	3
60174	3
60194	3
60444	3
60502	3
60514	3
60602	3
60669	3
60706	3
60922	3
60958	3
60973	3
61540	3

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

Zip Code	Number of Patients
61603	3
61614	3
61764	3
62220	3
62522	3
72209	3
72301	3
72653	3
77357	3
77429	3
90049	3
93907	3
98684	3
27406	2
27830	2
30013	2
32209	2
33180	2
37064	2
37174	2
38108	2
38614	2
41011	2
45069	2
46221	2
46327	2
46347	2
46574	2
46803	2
46902	2
49008	2
49045	2
49203	2
52317	2
52732	2

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

Zip Code	Number of Patients
53029	2
53073	2
53074	2
53158	2
53184	2
53186	2
53188	2
53204	2
53206	2
53218	2
53220	2
53707	2
54114	2
54301	2
54914	2
60026	2
60048	2
60079	2
60141	2
60301	2
60416	2
60474	2
60662	2
60917	2
60951	2
60970	2
61054	2
61068	2
61072	2
61348	2
61367	2
61443	2
61470	2
61520	2
61604	2

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

Zip Code	Number of Patients
61605	2
61802	2
61876	2
62612	2
68104	2
74137	2
75070	2
75094	2
77378	2
78016	2
85747	2
87122	2
89052	2
92223	2
98011	2
00698	1
00982	1
10136	1
10744	1
10938	1
12445	1
13905	1
14424	1
16146	1
19131	1
20748	1
20878	1
21220	1
21225	1
23605	1
24910	1
27526	1
28016	1
28214	1
28390	1

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

Zip Code	Number of Patients
28546	1
29016	1
29556	1
29745	1
30024	1
30038	1
30135	1
30281	1
30286	1
30310	1
32256	1
32712	1
32803	1
33020	1
33033	1
33040	1
33409	1
33441	1
33626	1
33767	1
33919	1
33931	1
34120	1
34216	1
34223	1
34293	1
35756	1
35903	1
36319	1
36830	1
37014	1
37321	1
38114	1
38668	1
39041	1

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

Zip Code	Number of Patients
39097	1
39339	1
39702	1
39756	1
40272	1
42211	1
42240	1
43302	1
44130	1
44138	1
45322	1
46074	1
46172	1
46204	1
46227	1
46301	1
46341	1
46349	1
46402	1
46405	1
46628	1
46805	1
47904	1
48221	1
48310	1
48439	1
48910	1
48911	1
49010	1
49022	1
49024	1
49030	1
49056	1
49067	1
49129	1

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

Zip Code	Number of Patients
49428	1
49887	1
50317	1
50616	1
51401	1
52001	1
52404	1
53061	1
53083	1
53110	1
53120	1
53132	1
53140	1
53168	1
53181	1
53203	1
53213	1
53214	1
53227	1
53233	1
53403	1
53406	1
53590	1
53714	1
53718	1
54157	1
54220	1
54302	1
54304	1
54545	1
54615	1
54904	1
54915	1
55103	1
55118	1

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

Zip Code	Number of Patients
55119	1
55407	1
55411	1
55430	1
55555	1
55923	1
57103	1
60021	1
60035	1
60040	1
60081	1
60083	1
60097	1
60111	1
60131	1
60142	1
60144	1
60163	1
60173	1
60184	1
60195	1
60305	1
60434	1
60503	1
60510	1
60538	1
60547	1
60548	1
60550	1
60551	1
60604	1
60606	1
60661	1
60802	1
60911	1

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

Zip Code	Number of Patients
60912	1
60938	1
61006	1
61038	1
61061	1
61080	1
61102	1
61103	1
61114	1
61115	1
61244	1
61313	1
61326	1
61329	1
61434	1
61462	1
61467	1
61568	1
61570	1
61606	1
61615	1
61727	1
61738	1
61745	1
61771	1
61820	1
61843	1
61846	1
61866	1
61928	1
62226	1
62294	1
62514	1
62536	1
62702	1

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

Zip Code	Number of Patients
62703	1
62708	1
62921	1
62966	1
63074	1
63119	1
63385	1
65737	1
66097	1
66503	1
69487	1
70084	1
72206	1
72712	1
72751	1
73003	1
73018	1
74012	1
75043	1
75208	1
75235	1
75236	1
76002	1
76210	1
76504	1
77449	1
77868	1
78109	1
78251	1
78521	1
79902	1
80012	1
80922	1
81007	1
82009	1

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

Zip Code	Number of Patients
85040	1
85122	1
85123	1
85202	1
85301	1
89031	1
89109	1
89129	1
89139	1
90032	1
90047	1
90409	1
91206	1
92808	1
93301	1
94591	1
94707	1
98052	1
98632	1
98948	1
Grand Total	134302

ATTACHMENT 25

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

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					
	DEPARTMENT / SERVICE	HISTORICAL UTILIZATION (PATIENT DAYS) (TREATMENTS) ETC.	PROJECTED UTILIZATION	STATE STANDARD	MEET STANDARD?
YEAR 1	ASTC Operating Room	2,840 Treatments	2,990 Hours	>1500 Hours	Yes
YEAR 2	ASTC Operating Room	2,840 Treatments	3079 Hours	>1500 Hours	Yes

The projected 2,840 procedures in Year 1 are derived exclusively from patients currently served by Consultants in Cardiology & Electrophysiology 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, Consultants in Cardiology & Electrophysiology conducted 2,840 procedures focused solely on cardiac catheterization treatments, demonstrating a well-established base of existing demand. Using the average procedure time listed in the chart below and based on the historical volume of procedures performed during the most recent 12 months it equals approximately 2,990 total surgical hours. This average procedure time also aligns with the HSFRB Aver Procedure Time for Cardiovascular Services (2024) of approximately 64 minutes per procedure. This historical utilization demonstrates that the projected referrals represent only a portion of existing volume for a subsection of cardiovascular treatment of options, rather than new or speculative demand.

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

Charge Code	Description	# of Procedures	Minutes per Procedure (Estimated Average)	Proposed Facility Utilization in Year 1 (In minutes)
93458	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP LEFT HEART	1,232	60	73920
92928	PTCA ANGIOPLASTY CATHETER PLACE INTRACOR STENT SINGLE COR ART BRANCH	511	60	30660
33340	PERQ CLSR TCAT L ATR APNDGE W/ENDOCARDIAL IMPLNT	309	90	27810
93460	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP R AND L HEART	306	45	13770
33208	INSERT NEW OR REPLACE PERM PACEMAKER W TRANSVEN ELECTRDE ATR AND VENTR	139	90	12510
37225	REVASCULARIZATION ENDOVASC FEMORAL/POPLITEAL UNIL W ATHERECTOMY INC AN	112	60	6720
93459	CATH PLACED IN CORONARY ANGIOGRAPHY W MD SUP - INTERP LT HEART W GRAFT	106	60	6360
93454	CATH PLACE IN CORONARY ARTERY FOR ANGIOGRAPHY INJ MD SUP AND INTERP	47	45	2115
37228	REVASCULARIZATION ENDOVASC TIBIAL/PERONEAL UNIL W ANGIOPLASTY	28	90	2520
93456	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP RT HEART CATH	25	60	1500
36247	PLACE CATH SUBSUBSELECT ART, ABD/PEL	25	60	1500
TOTAL		2,840	Total # of Minutes	179385
			Total # of Hours	2990
			Total # of Hours	3079

The projected Year 1 utilization of 2,840 procedures equates to approximately 2,990 procedure hours, and the projected Year 2 utilization of 2,925 procedures equates to approximately 3,079 procedure hours, based on the same average procedure time. Importantly the procedures listed above only reflect the highest volume of procedures performed by the practice. It is expected that the facility will be able to perform additional procedures at the facility.

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 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)	179385
Proposed Facility Utilization Year 1 (in hours)	2990
Proposed Facility Utilization Year 2 (in hours)	3079
Total Projected Referrals in Year 1	2840
Total Projected Referrals in Year 2	2925
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	2,840
First Year Utilization (Operating Room 1)	80%
First Year Utilization (Operating Room 2)	79%
Second Year Proposed Procedures	2925
Second Year Utilization (Operating Room 1)	80%
Second Year Utilization (Operating Room 2)	84%

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

The Applicant satisfies the State Board's access test because the cardiac catheterization services it will furnish are not presently available in the Geographic Service Area ("GSA") in an ASTC setting and the hospital-based programs capable of providing comparable procedures are operating at, or above, the State's target utilization.

There are no IDPH-licensed ambulatory surgical treatment center within the 10-mile GSA that are approved to perform diagnostic or interventional cardiac catheterization. Patients who require outpatient coronary angiography, percutaneous coronary intervention ("PCI"), left-atrial-appendage closure, or peripheral vascular atherectomy must therefore seek care in hospital catheterization laboratories. The proposed project will directly address this gap.

The six hospitals inside the 10-mile GSA performed 10,064 cardiac-catheterization cases in Year 2024, averaging 1,677 cases per campus. When the State's operating-room conversion is applied (45 minutes/case for diagnostic studies; 60-90 minutes/case for PCI/structural work), each of the three largest programs: Advocate Christ Medical Center, Advocate South Suburban, and Palos Community exceeded the 1,500-hour standard specified in 77 Ill. Adm. Code 1100. It is expected that the hospital's data reflects existing capacity is functionally saturated and that new ambulatory capacity is necessary to relieve pressure and shorten wait times.

Even where diagnostic angiography is available, complex outpatient interventions such as same-day radial PCI, left-atrial-appendage closure (CPT 33340), peripheral atherectomy (CPT 37225/37228), and combined right-and-left-heart catheterization for heart-failure optimization (CPT 93460) are either unavailable or subject to restrictive scheduling policies at hospitals. Several facilities limit these services to inpatients effectively closing access to physicians in independent practice and to Medicare Advantage beneficiaries who face higher cost-sharing in hospital outpatient departments. The Applicant and the associated physicians who already work in and with these hospitals will be able deliver the full procedural complement listed above without restrictive admission criteria, on a cost-efficient, same-day basis.

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

A review of IDPH-licensed ASTCs (January 2026) and CON records show no ASTCs within the GSA are approved to perform diagnostic coronary angiography, percutaneous coronary intervention (PCI), left-atrial-appendage closure, or complex peripheral atherectomy in an ambulatory setting. The only cath-capable providers inside the radius are the six hospital Cath laboratories listed in the Application (Advocate Christ, OSF Little Company of Mary, Palos Community, Ingalls, Advocate South Suburban, MacNeal). Each has a hospital outpatient department; none is an ASTC. Because the proposed service does not currently exist in an ASTC format anywhere in the GSA, the project cannot duplicate an existing ambulatory service.

The proposed project will not result in a maldistribution of ambulatory cardiac catheterization services within the Geographic Service Area (GSA). First, when measured against population, the post-project supply of ASTC surgical/treatment rooms devoted to cardiac catheterization remains modest. The GSA encompasses 1,839,178 residents based on the 2020 U.S. Census counts for the zip codes identified in the application. There are presently no ASTC cardiac catheterization rooms in the GSA. Adding two rooms yields a ratio of approximately 0.11 rooms per 100,000 residents. This level is well below the State's average room-to-population ratio and, critically, far below the threshold of one-and-one-half times the State average that would indicate an overconcentration under the Board's rules. On population grounds alone, therefore, the project does not create an excess supply.

Second, historical utilization demonstrates that existing providers of the same service such as hospital cardiac catheterization laboratories are not underutilized in the GSA. In the most recent data year, the six hospitals located within the 10-mile radius collectively performed 10,064 cardiac catheterization procedures. In other words, the service is already operating at or near the State's utilization target in hospital settings; the proposed ASTC capacity is intended to offload appropriate, lower-acuity outpatient cases from these busy hospital labs, not to introduce idle capacity into the market.

Third, the GSA population and the Applicant's documented caseload are sufficient to support the proposed rooms at or above the applicable utilization standards within the time horizon contemplated by the Board's rules. Based on the conservative, procedure-specific time assumptions in the application, the projected Year 1 procedures for the ASTC is 2,840 cases, totaling approximately 2,990 procedure hours across two rooms an average that very nearly attains the 1,500-hour per-room standard during the facility's first full year of operation. By Year 2, projected volume increases to 2,925 cases, or about 3,079 hours in total, which equates to approximately 1,540 hours per room meeting and exceeding the State standard within 24 months after project completion, as required. These projections are grounded entirely in established physician referrals and recent experience in the GSA, not in speculative growth and they confirm that the proposed rooms will be appropriately and sustainably utilized.

Even if every projected outpatient case shifted from existing hospitals to the proposed ASTC, the six hospital labs would drop from 1,575 to roughly 1,200 hours per room which is still at, or above, the 1,100-hour minimum for hospital Cath labs set in the Board's rules. No ASTC Cath labs exist that would be affected. Because all hospital Cath labs are presently at or above the utilization threshold, the small share of cases migrating to the ASTC will not further diminish any other provider. The project simply redistributes appropriate lower-acuity, same-day cases to a lower-cost setting without creating unused excess capacity in hospitals.

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

Facilities within 10 miles of 3523 W. 95th Street, Evergreen Park, IL 60805:

Facility	Distance from ASTC	Services
Vascular Access Centers of Illinois at Morgan Park 1701 W. Monterey Avenue Chicago, IL 60643	4.2 miles	-Angiogram AV Fistula -Angioplasty AV Fistula -Permcath procedures -Thrombectomy AV Fistula
Premier Cardiac Surgery Center, PLLC 11560 S. Kedzie Avenue, Suite 102 Merrionette Park, IL 60803	3.1 miles	-Electrophysiology -Peripheral Vascular
Southwestern Medical Center, LLC, d/b/a Magna Surgi 7456 S. State Road, Suite 300 Bedford Park, IL 60638	4.2 miles	-Gastroenterology -Ophthalmology -Otolaryngology -Pain Management -Podiatry
Palos Surgicenter, LLC 7340 W. College Drive Palos Heights, IL 60463	7.0 miles	-Laser Eye Surgery -OB/Gynecology -Ophthalmology -Orthopedic -Otolaryngology -Pain Management -Plastic Surgery -Podiatry
Palos Hills Surgery Center 10330 S. Roberts Rd., Suite 300 Palos Hills, IL 60465	6.6 miles	-Orthopedic -Pain Management -Podiatry

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

The Applicant has established a cardiac catheterization laboratory team with the personnel required to safely and effectively operate the proposed facility. The following identifies the personnel who will fill each required position, their qualifications, and the staffing coverage that will be maintained.

Lab Director

Nouri Al-Khaled, M.D., will serve as Laboratory Director. Dr. Al-Khaled is board-certified in internal medicine with subspecialty board certification in cardiovascular disease and interventional cardiology. He has extensive experience directing cardiac catheterization programs and will maintain overall responsibility for the quality, safety, and clinical operations of the cardiac catheterization laboratories at Midwest Ambulatory Surgical Center, LLC.

Physicians Trained in Cardiology and/or Radiology

The following ten (10) physicians, all trained in cardiology, electrophysiology, and/or interventional cardiology, will be credentialed to perform procedures at the facility and will be present during all cardiac catheterization examinations. Extra physician backup personnel will be available through the rotation of the physician-owner group:

Physician	Specialty/Training
Nouri Al-Khaled, M.D.	Interventional Cardiology
Chadi Nouneh, M.D.	Interventional Cardiology
Ibrahim Kassas, M.D.	Interventional Cardiology
Hussam Watti, M.D.	Cardiology
John H. Burke, M.D.	Cardiology & Electrophysiology
William Spear, M.D.	Cardiology & Electrophysiology
Wassim Ballany, M.D.	Cardiology & Electrophysiology
Ali Zaidi, M.D.	Cardiology & Electrophysiology
Luay Rifai, M.D.	Cardiology
Tark Mohammed Kabbany, M.D.	Cardiology

All physicians are board-certified or board-eligible in their respective subspecialties. A minimum of one physician trained in cardiology will be present during every cardiac catheterization examination, with additional physician backup available from the practice group at all times procedures are being performed. The ten-physician group provides sufficient depth to ensure continuous coverage during all scheduled operating hours without reliance on any single physician.

Nurse Specially Trained in Critical Care of Cardiac Patients

Twelve (12) registered nurses with specialized training in critical care of cardiac patients will be employed at the facility. These nurses will possess knowledge of cardiovascular medications, hemodynamic monitoring, and a thorough understanding of cardiac catheterization equipment and procedural protocols. All nursing staff will maintain current certifications in Advanced Cardiac Life Support (ACLS) and Basic Life Support (BLS). Nurses will be recruited from candidates with prior experience in cardiac catheterization laboratories, cardiovascular intensive care units, or interventional cardiology procedural settings. Names and specific qualifications of nursing personnel will be provided upon hire, prior to the commencement of facility operations.

ATTACHMENT 25

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

Radiologic Technologist

Two (2) radiologic technologists will be employed at the facility. Each technologist will be highly skilled in conventional radiographic techniques and angiographic principles, knowledgeable in every aspect of cardiac catheterization instrumentation, and will possess thorough knowledge of the anatomy and physiology of the cardiovascular system. Radiologic technologists will hold current registration with the American Registry of Radiologic Technologists (ARRT) and Illinois licensure as required by the Illinois Emergency Medical Services (EMS) Systems Act. Names and specific qualifications of radiologic technologists will be provided upon hire, prior to the commencement of facility operations.

Cardiopulmonary Technician

One (1) cardiopulmonary technician will be employed at the facility for patient observation, handling of blood samples, and performing blood gas evaluation calculations during cardiac catheterization procedures. This individual will hold appropriate certification and training in cardiovascular technology. The name and specific qualifications of the cardiopulmonary technician will be provided upon hire, prior to the commencement of facility operations.

Monitoring and Recording Technician

One (1) monitoring and recording technician will be employed at the facility for monitoring physiologic data during cardiac catheterization procedures and alerting the physician to any changes in patient status. This individual will be trained in hemodynamic monitoring, electrocardiographic interpretation, and the operation of the facility's digital recording and archiving systems. The name and specific qualifications of the monitoring and recording technician will be provided upon hire, prior to the commencement of facility operations.

Electronic Radiologic Repair Technician

One (1) electronic radiologic repair technician will be available to perform systematic tests and routine maintenance on all imaging and catheterization equipment, including the Allura Xper FD20 cardiac catheterization and fluoroscopy system. This technician will be immediately available in the event of equipment failure during a procedure. This position will be filled through either direct employment or a service contract with the equipment manufacturer (Philips Healthcare) or a qualified biomedical engineering firm, ensuring that a technician with specific training on the facility's imaging systems can respond immediately during all scheduled procedure hours. Documentation of the service arrangement will be maintained on file at the facility.

Darkroom Technician

This position is not applicable to the proposed facility. Midwest Ambulatory Surgical Center, LLC will utilize a fully digital imaging and archival system. The Allura Xper FD20 cardiac catheterization system produces digital images that are stored, reviewed, and transmitted electronically through a Picture Archiving and Communication System (PACS). The facility will not use photographic film processing, sheet film, or cine film at any point in its operations. Accordingly, no darkroom technician is required. All diagnostic images will be immediately available in digital format for physician review, peer review, and long-term archival storage, and can be electronically transmitted to referring physicians and hospitals as needed. The digital imaging platform provides superior image quality, eliminates chemical processing waste, and supports the facility's quality assurance and peer review programs by enabling efficient retrospective case review.

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



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

March 10, 2026

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

Thomas E. Bump MD

John H. Burke MD

Nouri Al Khaled MD

Chadi Nouneh MD

William H. Spear MD

Ali R. Zaidi MD

Wassim Ballany MD

Luay Rifai MD

Ibrahim Kasas MD

Hussam Watti MD

Joaquim S. Barboza MD

M. Tarek Kabbara MD

Adedotun Ogunsua MD

Bahij Krende MD

Re: Midwest Ambulatory Surgical Center, LLC – Charge Commitment

Dear Mr. Kniery:

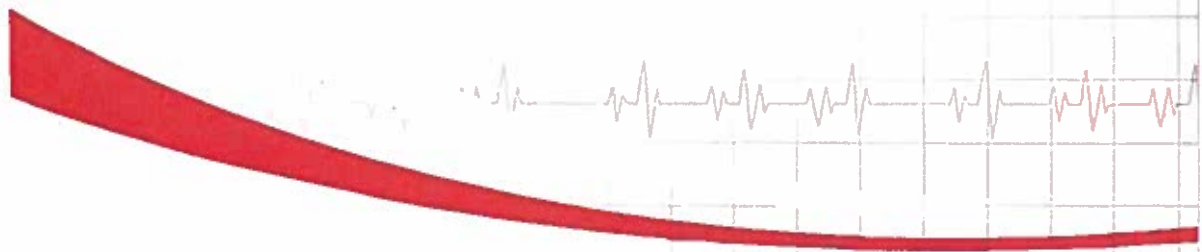
As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled, hereby attest that in order to meet the objectives of the Illinois Health Facilities Planning Act, which are to improve the financial ability of the public to obtain necessary health services, and to establish an orderly and comprehensive health care delivery system that will guarantee the availability of quality health care to the general public; an 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 obtain pursuant to 77 Ill. Admin. Code Section 1130.310(a).

Sincerely,

Nouri, Al-Khaled, M.D.
Managing Member
Midwest Ambulatory Surgical Center, LLC

3545 W95th Street
Evergreen Park, IL 60805
708-346-5562
Fax 708-346-2059

43 Orland Square Drive
Orland Park, IL 60462
708-346-5562
Fax 708-346-2059



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

CPT Code	CPT Code Description	Number of Procedures
93010	EKG REPORT	41544
93306	ECHO HEART RESTING W DOPPLER & COLOR FLOW	16527
93000	ELECTROCARDIOGRAM COMPLETE	7982
36415	VENIPUNCTURE	4095
85610	PROTHROMBIN TIME	4070
93793	ANTICOAGULANT MANAGEMENT FOR PATIENT ON WARFARIN	3080
99152	MOD SED SAME PHYS/QHP INITIAL 15 MINS 5/> YRS	2818
93296	CHECK PACER OR IMPLANTABLE DEFIB REMOTE UP TO 90 DAYS TECH EVAL	2523
93015	CARDIAC STRESS TEST COMPLETE	2320
78431	MYOCARDIAL IMG PET PERFUSION MULTI STDY REST OR STRESS W CONCURRENT CT	2087
93298	INTERROGATE ANALYSIS SUBQ CARDIAC RHYTHM MNTR REMOTE UP TO 30 DAY	2061
93308	ECHO HEART LIMITED	2050
80048	BASIC METABOLIC PANEL	2043
93018	CARDIAC STRESS TST,INTERP/REPT ONLY	1659
93016	CARDIAC STRESS TST SUPERVISION ONLY	1657
83735	MAGNESIUM LEVEL	1586
93294	INTERROGATION PACER REMOTE UP TO 90 DAYS	1559
93280	PROGRAM PACER DUAL LEAD IMPLANT IN PERSON	1547
80053	COMPREHENSIVE METABOLIC PANEL	1322
93970	US EXTREMITY VENOUS DOPPLER BILATERAL	1293
93458	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP LEFT HEART	1232
85027	CBC NO DIFFERENTIAL	1222
80061	LIPID PANEL WITHOUT REFLEX	1124
93295	INTERROGATION ICD REMOTE UP TO 90 DAYS	984
83880	NATRIURETIC PEPTIDE	911
93312	ECHO HEART TRANSESOPHAGEAL	836
93325	DOPPLER COLOR FLOW VELOCITY MAP	786
93320	DOPPLER ECHO HEART,COMPLETE	779
93248	EXT ECG RECORD MORE THN 7 DAYS UP TO 15 DAYS CONT RHYTHM REV AND INTRP	763

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

CPT Code	CPT Code Description	Number of Procedures
93246	EXT ECG RECORD MORE THN 7 DAYS UP TO 15 DAYS CONT RHYTHM RECORD ONLY	753
78452	MYOCARDIAL PERFUSION REST OR STRESS MULT ST	659
93971	US EXTREMITY VENOUS DOPPLER UNILATERAL	619
93284	PROGRAMMING MULTIPLE LEAD TRANSVENOUS IMPLANTABLE DEFIB ICD IN PERSON	594
93283	PROGRAMMING DUAL LEAD TRANSVENOUS IMPLANTABLE DEFIB ICD IN PERSON	553
92978	ENDOLUMINAL IMAGING CORONARY VESSEL OR GRAFT	552
93351	ECHO HEART STRESS W ELECT MONITORING	545
93350	ECHO HEART STRESS	538
92928	PTCA ANGIOPLASTY CATHETER PLACE INTRACOR STENT SINGLE COR ART BRANCH	511
93880	DUPLEX SCAN,CAROTID	482
37253	INTRAVASCULAR US DURING DIAG EVAL AND OR THERAP INTERVEN INC RADIO SUP	460
36482	ENDOVENOUS ABLATION INCOMPETENT VEIN TRANSCATH CHEM ADHESIVE 1ST VEIN	451
93272	MEMORY LOOP INTERP ONLY WEARABLE	441
93925	US ARTERIAL LWR EXT, BILAT	433
76937	US GUIDE VASC ACCESS OFF PREM	431
99153	MOD SED SAME PHYS/QHP EACH ADDL 15 MINS	422
85025	CBC & AUTO DIFFERENTIAL	415
85347	COAGULATION TIME, ACTIVATED	414
93244	EXT ECG RECRD MORE THN 48 HOURS UP TO 7 DAYS CONT RHYTHM REV AND INTRP	394
37252	INTRAVASCULAR US EVAL AND OR THERAPEUTIC INTERVENT INC RADIOLOGIC SUP	385
92960	HEART ELECTROCONVERSION	385
93291	INTERROGATION SUBQ CARDIAC RHYTHM MONITOR SYSTEM IN PERSON	385
93242	EXT ECG RECRD MORE THN 48 HOURS UP TO 7 DAYS CONT RHYTHM RECRD ONLY	381
84443	THYROID STIMULATING HORMONE	374
93923	US ABI MULTIPLE LEVELS NO STRESS	347
93656	COMP EP EVAL ABLATION ATR FIB PULM VEIN ISOLATION	341
93288	INTERROGATION PACEMAKER SYSTEM IN PERSON	318
33340	PERQ CLSR TCAT L ATR APNDGE W/ENDOCARDIAL IMPLNT	309

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

CPT Code	CPT Code Description	Number of Procedures
93460	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP R AND L HEART	306
93451	RIGHT HEART CATH W OC SAT AND CARDIAC OUTPUT	304
93228	WEARABLE MOBILE CARDIO TELEMETRY	296
93289	INTERROGATION TRANSVENOUS IMPLANTABLE DEFIB IN PERSON	276
93285	PROGRAM SUBCUTANEOUS CARDIAC RHYTHM MONITOR IN PERSON	270
93657	INTRACARD CATH ABLATION ATRIUM FOR AFIB AFTER PVI	255
37239	TRANSCATH PLACE INTRAVASC STENT WITH ANGIOPLASTY ADD'T VEIN	222
93655	INTRACAR CATH ABLATION OF ARRHYTHMIA DISTINCT FROM PRIMARY ABLATION	221
84484	TROPONIN I ULTRA SENSITIVE	220
93281	PROGRAM PACER MULTPL LEAD IMPLANT IN PERSON	211
93279	PROGRAM PACER SINGLE LEAD OR LEADLESS 1 CHAMB IMPLANT IN PERSON	204
33285	INSERTION SUBCUTANEOUS CARDIAC RHYTHM MONITOR INCLUDING PROGRAMMING	178
93227	HOLTER 24-48HRS OTHER QUAL PROF INTERPRET WEARABLE	178
37238	TRANSCATH PLACE OF INTRAVASC STENT FOR ANGIOPLASTY INITIAL VEIN	158
84439	FREE T4	158
93264	REMOTE MONITOR WIRELESS PULMONARY ARTERY PRESSURE SENSOR UP TO 30 DAYS	157
83037	HEMOGLOBIN GLYCOSYLATED BY DEVICE CLEARED BY FDA FOR HOME USE	146
85379	D DIMER QUANTITATIVE	145
93229	EXTERNAL MOBILE CARDIO TELEMETRY W ELECTROCARD RECORDING TECH SUPPORT	145
33967	INSERT INTRA-AORTIC BALLOON	140
33208	INSERT NEW OR REPLACE PERM PACEMAKER W TRANSVEN ELECTRDE ATR AND VENTR	139
93975	DUPLEX ABD/PEL VASC STUDY,COMPLETE	139
36475	RFA ENDOVENOUS EXTREMITY FIRST VEIN	131
93653	COMP EP EVAL ABLATION 3D MAPPING W TX SVT	129
33249	INSERT/REPL DEFIB LEAD/GENER OTHR	118
37225	REVASCLARIZATION ENDOVASC FEMORAL/POPLITEAL UNIL W ATHERECTOMY INC AN	112

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

CPT Code	CPT Code Description	Number of Procedures
33274	TRANSCATH INSERT REPLAC PERM LEADLESS PACE RV W IMG GUIDE AND DEV EVAL	111
93459	CATH PLACED IN CORONARY ANGIOGRAPHY W MD SUP - INTERP LT HEART W GRAFT	106
93571	HEART FLOW RESERV MEASURE,INIT VESSL	105
93282	PROGRAMMING SINGLE LEAD TRANSVENOUS IMPLANTABLE DEFIB ICD IN PERSON	104
36010	PLACE CATH IN SVC IVC	102
96374	IV PUSH SINGLE / INITIAL TX DX PROPHYLACTIC	101
93978	US DUPLEX LARGE VESSELS COMPLETE NON EXTREMITY	97
36011	PLACE CATH IN VEIN,SELECT	95
92941	PTCA REVASCULARIZATION ACUTE OCCLUDE W MI CABG STENT SINGLE VESSEL	94
75625	ANGIO AORTOGRAM ABD SERIAL	93
33361	AO VALVE REPLACE TRANSCATHETER W PROSTHETIC VALVE FEM ART	79
37184	THROMBECTOMY NONCORONARY NONINTRACRANIAL BYPASS	70
75825	VENOGRAM INFER VENA CAVA	70
92972	PERCUTANEOUS TRANSLUMINAL CORONARY LITHOTRIPSY (ADD ON)	70
33225	INSERT PACER ELECTRODE W/DEFIB	66
80076	HEPATIC FUNCTION PANEL	63
37765	STAB PHLEBECTOMY VAR VEINS	60
82306	VITAMIN D -25 HYDROXY	60
93650	ABLATE AV NODE FUNCTION	60
92920	PTCA ANGIOPLASTY SINGLE MAJOR CORONARY ARTERY OR BRANCH	58
76942	SONO GUIDE NEEDLE BIOPSY	56
84153	PROSTATE SPECIFIC ANTIGEN SCREENING	56
75710	ANGIO EXTREMITY UNILAT	54
92973	PERCUTAN TRANSLUMINAL CORONARY THROMBECT MECHANICAL	54
92979	ENDOLUMINAL IMAGING CORONARY SONO,ADDN VESSEL	54
93662	INTRACARDIAC ECHO DURING INTERVENTION	52
37248	TRLML BALO ANGIOP OPEN/PERQ W/IMG S&I 1ST VEIN	50
33241	REMOVE IMPLANTABLE DEFIB PULSE GENERATOR ONLY	49
93268	MEMORY LOOP WEARABLE	48

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

CPT Code	CPT Code Description	Number of Procedures
93454	CATH PLACE IN CORONARY ARTERY FOR ANGIOGRAPHY INJ MD SUP AND INTERP	47
33249	INSERT OR REPLACE IMPLANTABLE DEFIB TRANSVENOUS LEAD	46
93573	INJ DURING CARDIAC CATH SELECTIVE PULM ART ANGIOGRAPHY BILATERAL	46
33016	PERICARDIOCENTESIS INCLUDING IMAGING GUIDANCE WHEN PERFORMED	41
33228	REMOVE PERM PACEMAKER PULSE GEN W REPLACE DUAL LEAD	41
75716	ANGIO EXTERMITTY BILAT	41
36470	INJECTION THERAPY VEIN,ONE VEIN	40
93462	LT HEART CATH BY TRANSSEPTAL PUNCTURE	38
93225	ECG MONITOR 24 HRS RECORDING WEARABLE	36
93568	INJ DURING CARDIAC CATH NONSELECTIVE PULM ARTERIAL ANGIOGRAPHY	36
75822	VENOGRAM LEG BILAT	35
33233	REMOV PERM PACER GENERATOR	33
33244	REMOVE IMPLANTABLE DEFIB ELECTRODES TRANSVENOUS EXTRACTION	33
33286	REMOVAL SUBCUTANEOUS CARDIAC RHYTHM MONITOR	33
37799	VASCULAR SURGERY PROCEDURE UNLIST	32
93654	COMP EP EVAL ABLATION 3D MAPPING W TX VT	32
33210	INSER HEART TEMP PACER ONE CHMBR	31
75820	VENOGRAM UNILAT OFF PREMISE CHARGE ONLY	31
37221	REVASCULARIZATION ENDOVASC ILIAC ARTERY UNILAT W STENT INC ANGIOP	30
36471	INJECTION THERAPY VEIN,MULT VEINS	29
33235	REMOV TRANSVEN PACER ELECTRODE,2 LEAD	28
36222	SELECT CATH CAROTID INNOMINATE ART EXTRACRANIAL ANGIO RAD SUPP INTER	28
36620	INSERT CATH,ART,PERCUT,SHORTTERM	28
37228	REVASCULARIZATION ENDOVASC TIBIAL/PERONEAL UNIL W ANGIOPLASTY	28
33225	INSERT PACER ELECTRODE W IMPLANTABLE DEFIB	26
33264	REMOVE PACING IMPLANTABLE DEFIB PULSE GENERATOR REPLACE W MULTIPLE	26
37187	PERCUT MECH THROMBECTOMY, VENOUS	26
75630	ANGIO AORTOBIFEMORAL W CATH	26

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

CPT Code	CPT Code Description	Number of Procedures
36247	PLACE CATH SUBSUBSELECT ART,ABD/PEL	25
93456	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP AND INTERP RT HEART CATH	25
33017	PERQ PERICARDIAL DRAIN 6 YRS AND OLDER WO CONGENITAL CARDIAC ANOMALY	24
37215	TRANSCATHETER INTRAVASC STENT CAROTID	24
33207	INSERT HART PACER XVENOUS VENTR	23
93926	US ARTERIAL LWR EXT, UNILAT	23
36012	PLACE CATH IN VEIN,SUBSELECT	21
93355	ECHOCARDIOGRAPHY TRANS GUID OF TRANSCATHETER INTRACARDIAC VESSEL	21
36005	VENOGRAM INJECTION	20
37185	THROMBECTOMY NONINTRACRANIAL 2ND AND SUB VESSELS	20
93261	INTERROGATION IMPLANTABLE SUBQ LEAD DEFIB IN PERSON	20
37224	REVASCLARIZATION ENDOVASC FEMORAL/POPLITEAL ARTERY UNIL W ANGIOPLASTY	19
84550	URIC ACID	19
93040	RHYTHM STRIP	19
36200	PLACE CATH AORTA	18
93623	STIM/PACING HEART POST IV DRUG INFU	18
37197	TRANSCATH RETREVE INTRAVAS FOREIGN BODY W RAD SUPP & INTERP	17
33208	INSERT HART PACER XVENOUS ATR/VENTR	15
92943	PTCA REVASCLARIZATION CHRONIC OCCLUSION CABG COR ART BRANCH SINGLE	15
96375	IV PUSH NEW SUBSTANCE TX DX PROPHYLACTIC	14
0523T	INTRAPROCEDURAL CORONARY FRACTIONAL FLOW RESERVE W 3D FUNCTION MAPPING	13
0644T	TRANSCATH REMOVAL OR DEBULK INTRACARD MASS BY SUCTION DEV PERC APPRCH	13
33289	TRANSCATHETER IMPLANT OF WIRELESS PULMONARY ARTERY PRESSURE SENSOR	12
33418	TRANSCATHETER MITRAL VALVE REPAIR INITIAL PROSTHESIS	12
36140	PLACE CATH NEEDLE EXTREM ARTERY	12
36246	PLACE CATH SUBSELECT ART,ABD/PEL	12
92937	PTCA REVASCLARIZATION CABG ANY COMB STENT ATHERECTOMY SINGLE VESSEL	12

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

CPT Code	CPT Code Description	Number of Procedures
93260	PROGRAMMING DEVICE EVAL IMPLANTABLE SUBCUTANEOUS LEAD DEFIB SYSTEM	12
99151	MOD SED SAME PHYS/QHP INITIAL 15 MINS <5 YRS	12
33263	REMOVE PACING IMPLANTABLE DEFIB PULSE GENERATOR REPLACE W DUAL	11
93461	CATH PLACED FOR CORONARY ANGIOG W MD SUP - INTERP L AND R HEART W GRAFT	11
11042	DEBRIDEMENT, SUBCUTANEOUS TISSUE, FIRST 20 SQ OR LESS	10
37220	REVASCLARIZATION ENDOVASCULAR ILIAC ARTERY UNILATERAL W ANGIOPLASTY	10
93567	INJ DURING CARDIAC CATH FOR SUPRAVALVULAR AORTOGRAPHY	10
93931	US ARTERIAL UPPR EXT, UNILAT	10
33999	CARDIAC SURG PROCEDURE UNLIST	9
36252	SELECT CATH PLACE MANI RENAL ARTERY ANY ACCESS RENAL	9
37236	TRANSCATH PLACE OF INTRAVASC STENT INCLUDE ANGIOPLASTY INIT ARTERY	9
37246	TRLML BALO ANGIOP OPEN/PERQ IMG S&I 1ST ART	9
93455	CATH PLACED FOR CORONARY ANGIOGRAPHY W MD SUP - INTERP INC GRAFT ANGIO	9
93572	HEART FLOW RESERV MEASURE,ADDN VESSL	9
33990	INSERT VAD PERC W RAD SUP AND INTERP LT HEART ARTERIAL ACCESS	8
37222	REVASCLARIZATION ENDOVASCULAR ILIAC ARTERY EACH ADDL IPSILATERAL ILIA	8
33229	REMOVE PERM PACEMAKER PULSE GEN W REPLACE MULTI LEAD SYS	7
37223	REVASCLARIZATION ENDOVASC ILIAC ARTERY EA ADDL IPSILAT ILIAC ART W ST	7
37229	REVASCLARIZTION ENDOVASCULAR TIBIAL/PERONEAL UNILATERAL W ATHERECTOMY	7
93620	ELECTROPHYS EVAL,COMP+INDUC ARRHYTH	7
93641	EVAL CARDIOVERT LEADS/GENERATOR	7
33262	REMOVE PACING IMPLANTABLE DEFIB PULSE GENERATOR REPLACE W SINGLE	6
33968	REM INTRA-AORTIC BALLOON ASST	6
36245	PLACE CATH SELECT ART,ABD/PEL	6
37249	TRLML BALO ANGIOP OPEN/PERQ W/IMG S&I ADDL VEIN	6
78451	MYOCARDIAL PERFUSION REST OR STRESS SINGLE	6
82247	BILIRUBIN TOTAL	6

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

CPT Code	CPT Code Description	Number of Procedures
92933	PTCA ANGIOPLASTY ATHERECTOMY W STENT SINGLE MAJOR ARTERY	6
93321	DOPPLER ECHO HEART,LIMITED,F/U	6
93580	PERCUTANEOUS TRANSCATHETER CLOSURE OF CONGENITAL INTERATRIAL COMM	6
0571T	INSERT OR REPLACE IMPLANT CARDIOVERT DEFIB SYS W SUBSTERNAL ELECTRODE	5
33218	REPAIR PACER ELECTRODE ONE CHAMBER PACER OR IMPLANTABLE DEFIB	5
33270	INSERT OR REPLACE PERM SUBCUTANEOUS IMPLANT DEFIB SYSTEM	5
37193	RETRIEVE INTRAVASCULAR VENA CAVA FILTER ENDOVASCULAR APP	5
92929	PTCA ANGIOPLASTY PLACE INTRACORON STENT EACH ADD BRANCH MAJOR COR ART	5
93241	EXT ECG RCD MORE THN 48 HRS TO 7 DAY CNT RCRD SCAN ANALYS REP R AND I	5
93314	ECHO HEART TRANSESOPH ACQ INTERP	5
93505	BIOPSY OF HEART LINING	5
93660	TILT TABLE EVALUATION	5
96365	IV INFUSION INITIAL UP TO 1 HR	5
0569T	TTVR PERCUTANEOUS APPROACH INITIAL PROSTHESIS	4
33214	UPGRADE OF PACEMAKER SYSTEM	4
33227	REMOVAL PERM PACEMAKER PULSE GEN W REPLACE SINGLE LEAD	4
33234	REMOV TRANSVEN PACER ELECTRODE,1 LEAD	4
33370	TRANSCATH PLACE AND SUBSEQ REM CEREBRAL EMB PROTECTION DEV PERC ADD ON	4
37191	INSERT INTRAVASCULAR VENA CAVA FILTER ENDOVAS APPROACH	4
37230	REVASCULARIZATION ENDOVASC TIBIAL/PERONEAL UNIL W STENT INC ANGIOPLAST	4
37766	STAB PHLEBECTOMY VEINS >20 INCS	4
92986	PERCUT AORTIC VALVULOPLASTY	4
93286	PERI PROCEDURE EVAL AND PROGRAM PRE AND POST PACER SYS IN PERSON	4
0483T	TMVI IMPLANT OR REPLACE WITH PROSTHETIC VALVE PERCUTANEOUS APPROACH	3
11043	DEBRIDEMENT MUSCLE AND OR FASCIA FIRST 20 SQ CM OR LESS	3
13101	REPR Cmplx Wnd Trunk 2.6 TO 7.5 CM	3

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

CPT Code	CPT Code Description	Number of Procedures
33025	INCIS HEART SAC WINDW FOR DRAIN	3
33206	INSERT HART PACER XVENOUS ATRIAL	3
33216	INSERT 1 TVE PACER OR CARDIOVERT - DEFIB	3
33272	REMOVAL OF SUBCUTANEOUS IMPLANTABLE DEFIB ELECTRODE	3
36251	SELECT CATH PLACE MAIN RENAL ARTERY ANY ACCESS RENAL ART	3
36556	INSERT NONTUNEL CVCATH>5YRS	3
37186	THROMBECTOMY 2NDARY NONCORONARY NONINTRACRANIAL BYPASS	3
75605	ANGIO AORTOGRAM THOR SERIAL	3
76000	FLUOROSCOPE EXAMINATION	3
76706	US ABDOMINAL AORTA REAL TIME SCREEN STUDY AAA	3
93569	INJ DURING CARDIAC CATH SELECTIVE PULM ART ANGIOGRAPHY UNILATERAL	3
93613	INTRACARDIAC ELECTROPHYSIOLOGIC 3D MAPPING	3
0576T	INTERROGATION DEV EVAL ICDS W SUBSTERNAL ELECTRODE IN PERSON	2
3078F	MOST RECENT DIASTOLIC BP < 80 MM HG	2
33215	REPOSITION IMPLANTABLE PACEMAKER DEFIB	2
33216	INSERT 1 TRANSVENOUS ELECTRODE PACER OR CARDIOVERT IMPLANTABLE DEFIB	2
36215	PLACE CATH SELECTIVE ART,NECK	2
37211	TRANSCATH ART INF THROMBOLYSIS RS AND I INIT TX NOT COR OR INTRACRAN	2
37226	REVASCLARIZATION ENDOVASC FEMORAL/POPLITEAL UNIL W STENT INC ANGIOP	2
37232	REVASCLARIZATION ENDOVASC TIBIAL/PERONEAL UNIL EA ADDL VESSEL W ANGIO	2
78472	GATED HEART, PLANAR SINGLE	2
93457	CATH PLACE FOR CORONARY ANGIOGRAPHY W MD SUP - INTERP GRAFT & RT HEART	2
93621	ELECTROPHYS EVAL W LA RECORDING	2
0575T	PROGRAMMING DEV EVAL ICDS W SUBSTERNAL ELECTRODE IN PERSON	1
10140	DRAINAGE OF HEMATOMA/FLUID	1
11045	DEBRIDEMENT SKIN/TISSUE EA ADDL 20SQ CM	1
3074F	MOST RECENT SYSTOLIC BP < 130 MM HG	1
3077F	MOST RECENT SYSTOLIC BP > 140 MM HG	1

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

CPT Code	CPT Code Description	Number of Procedures
33202	INSERT HEART PACER EPICARDIAL W THORACOTOMY	1
33221	INSERT PACEMAKER PULSE GEN W EXIST MULTIPLE LEADS	1
33419	TRANSCATHETER MITRAL VALVE REPAIR ADDITIONAL PROSTHESIS	1
33992	REMOVAL PERC LT HEART VAD ART OR ART AND VEN CANNULA SEP FROM INSRT	1
35226	REPR BL VES DIRECT,LOW EXTREM	1
37233	REVASCLARIZATION ENDOVASCULAR TIBIAL/PERONEAL UNILATERAL EACH ADDL VE	1
75726	ANGIO VISCERAL SELECTV/SUBSELEC	1
84155	PROTEIN TOTAL	1
92924	PTCA CORONARY ATHERECTOMY W ANGIOPLASTY SINGLE MAJOR ARTERY OR BRANCH	1
93307	ECHO HEART RESTING	1
93313	ECHO HEART TRANSESOPHAGEAL PROBE PLACEMENT	1
93602	INTRA-ATRIAL RECORDING	1
93610	INTRA-ATRIAL PACING	1
93644	ELECTROPHYSIOLOGIC EVALUATION SUBCUTANEOUS IMPLANT DEFIBRILLATOR	1
96372	INJ IM SQ THERAPEUTIC PROPHYLACTIC DIAGNOS	1
	Grand Total:	134302

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



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD

John H. Burke MD

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Hussam Watti MD

Joaquim S. Barboza MD

M. Tarek Kabbany MD

Adedotun Ogunsua MD

Bahij Kreidieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, LLC – Assurances

Dear Mr. Kniery:

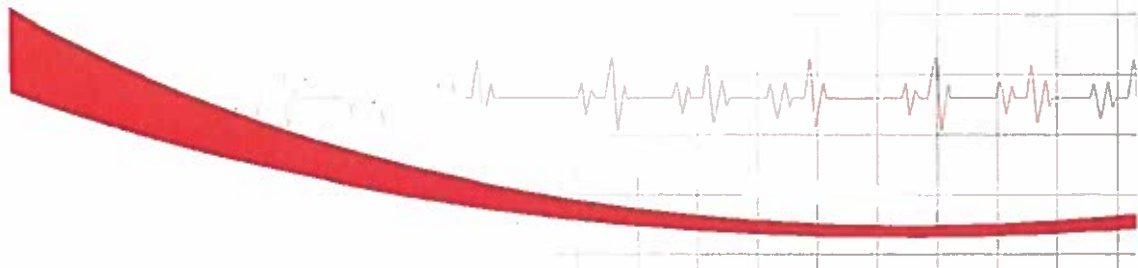
As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled,, hereby attest that the Applicant's full anticipation that, by the end of the second year following the proposed ASTC's opening, the proposed facility will operate at or in excess of the utilization standards identified in 77 Ill. Admin. Code §1110, Appendix B

Sincerely,

Nouri, Al-Khaled, M.D
Managing Member
Midwest Ambulatory Surgical Center, LLC

3545 W 95th Street
Evergreen Park, IL 60805
708-346-5562
Fax 708-346-2059

43 Orland Square Drive
Orland Park, IL 60462
708-346-5562
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ATTACHMENT 34

Availability of Funds

The total estimated project cost is \$6,923,500 and \$4,778,500 of that amount is attributable to construction and equipment purchases. The balance of the project cost is related to the leasing costs for the new facility. The Applicant will fund the project costs with cash and a loan from Old National Bank. The Applicant has sufficient internal resources to fund the cash portion of the project and a letter of commitment from Old National Bank is enclosed to evidence his/her ability to obtain financing for the remainder of the project costs.

ATTACHMENT 34 Availability of Funds



June 10, 2026

Consultants in Cardiology & Electrophysiology
3545 W. 95th Street
Evergreen Park, IL 60805

To whom it may concern:

Consultants in Cardiology & Electrophysiology has submitted a request for a Certificate of Need for a new surgical center to be located in Evergreen Park, IL. The project will require financing of \$7,000,000. Should the Illinois Health Facilities and Services Review Board approve the request and based upon review of the financial information, Old National Bank is prepared to extend Consultants in Cardiology & Electrophysiology up to \$7,000,000.

If you have any questions and to discuss specific details and terms of your request, please feel free to contact me directly at (708) 930-4620.

Sincerely,

OLD NATIONAL BANK

A handwritten signature in blue ink, appearing to read "Mark Oganovich", written over a light blue horizontal line.

Mark Oganovich
Senior Vice President
Professional Medical Business Banking

ATTACHMENT 35

Financial Viability Ratios

The Applicant meets all financial viability ratio criteria utilizing their project financial statement for year 2 of operation.

Ratio	Formula & Inputs	Standard	Calculated Value
Current Ratio	$\text{Current Assets} \div \text{Current Liabilities} = \$11,395,420 \div \$8,519,845$ 1	1.5 or more	1.54
Net-Margin Percentage	$(\text{Net Income} \div \text{Net Operating Revenue}) \times 100 = \$1,721,268 \div \$10,450,000 \times 100$ 3	3.5% or more	16.5 % 3
Long-Term-Debt-to-Capitalization	$\text{Long-Term Debt} \div (\text{Long-Term Debt} + \text{Net Assets}) = \$3,203,180 \div (\$3,203,180 + \$4,240,662)$ 4	80% or less	43.0 %
Debt-Service-Coverage (DSCR)	$(\text{Net Income} + \text{Depreciation} + \text{Interest}) \div (\text{Principal} + \text{Interest}) = (\$1,721,268 + \$300,946 + \$160,000) \div (\$375,171 + \$160,000)$ 5	1.75 or more	4.08
Days-Cash-on-Hand	$\text{Cash} \div [(\text{Operating Expense} - \text{Depreciation}) \div 365] = \$1,725,921 \div [(\$7,908,786 - \$300,946) \div 365]$ 6	45 or more	83 days
Cushion Ratio	$\text{Cash} \div (\text{Principal} + \text{Interest}) = \$1,725,921 \div \$535,171$ 7	>3.0	3.22

ATTACHMENT 36 Financial Viability



June 10, 2026

Consultants in Cardiology & Electrophysiology
3545 W. 95th Street
Evergreen Park, IL 60805

To whom it may concern:

Consultants in Cardiology & Electrophysiology has submitted a request for a Certificate of Need for a new surgical center to be located in Evergreen Park, IL. The project will require financing of \$7,000,000. Should the Illinois Health Facilities and Services Review Board approve the request and based upon review of the financial information, Old National Bank is prepared to extend Consultants in Cardiology & Electrophysiology up to \$7,000,000.

If you have any questions and to discuss specific details and terms of your request, please feel free to contact me directly at (708) 930-4620.

Sincerely,

OLD NATIONAL BANK

A handwritten signature in blue ink, appearing to read "Mark Oganovich".

Mark Oganovich
Senior Vice President
Professional Medical Business Banking

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



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

Thomas E. Bump MD
John H. Burke MD
Nouri Al-Khaled MD
Chadi Nouneh MD
William H. Spear MD
Ali R. Zaidi MD
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M. Tarek Kabbany MD
Adedotun Ogunsua MD
Bahij Kredieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, 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 Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled, hereby attest that the total project costs will be \$6,923,500. The Applicant will fund the entirety of the construction of the project and the necessary working capital and operating deficits through the first full fiscal year. Midwest Ambulatory Surgical Center, LLC will fund these costs with existing cash and securities and debt financing from Old National Bank. There will also be leasing costs associated with this project which will account for \$2,145,000 of the total project costs. Midwest Ambulatory Surgical Center, LLC 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.

3545 W 95th Street
Evergreen Park, IL 60805
708-346-5562
Fax 708-346-2059

43 Orland Square Drive
Orland Park, IL 60462
708-346-5562
Fax 708-346-2059

Sincerely,

Nouri, Al-Khaled, M.D.
Managing Member
Midwest Ambulatory Surgical Center, LLC



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

Projected Direct Annual Operating Costs

For the first full fiscal year at target utilization (Project Year 2) the ASC is budgeted to perform 2,925 cardiac-catheterization procedures.

Total operating expenses for that year are projected at \$8,230,000. After removing all non direct items (depreciation of \$300,946 and interest expense of \$160,000), the direct costs for salaries, benefits and supplies equal \$7,769,054.

Direct Cost per Procedure = $\$7,769,054 \div 2,925 \text{ procedures} = \$2,657 \text{ per procedure}^{**}$

Total Effect of the Project on Capital Costs

Capital cost per patient-equivalent procedure has been calculated for the same fiscal year. Annual capital cost consists solely of depreciation on fixed assets and interest on long-term debt.

Capital Cost per Procedure = $\$460,946 \div 2,925 \text{ procedures} = \$158 \text{ per procedure}$

These costs reflect the full effect of the project on annual capital obligations after the ASC reaches targeted utilization; no additional capitalized interests or lease-up costs remain beyond this period.

ATTACHMENT 37

Economic Feasibility

Cost and GSF by Service

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 \$510.27 GSF. This project is slated to be completed in the fourth quarter of 2027 and the applicable RS Means standard is [insert amount] per GSF. The proposed cost per GSF for this project is \$359.99, and thus this project meets the Board's criteria.

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/Sq. Ft. New	Mod.	Gross Sq. Ft. New	Circ.*	Mod.	Gross Sq. Ft. Circ.*	Const. \$ (A x C)	Mod. \$ (B x E)	
ASTC	\$315.77	-	4,296	-	-	-	\$1,358,545	-	\$1,356,545
Contingency	\$44.22	-	4,296	-	-	-	\$190,000	-	\$190,000
TOTALS	\$359.99	-	4,296	-	-	-	\$1,548,545	-	\$1,548,545
* Include the percentage (%) of space for circulation									

ATTACHMENT 37
Economic Feasibility
Proforma

Line item	Year 1	Year 2	Year 3
Surgeries and injections service (reimbursement)	11,374,165	11,942,873	12,540,017
Total income	11,374,165	11,942,873	12,540,017
Salaries	886,627	913,226	940,623
Repairs and maintenance	60,000	61,800	63,654
Management fees	568,709	585,770	603,343
Surgical instruments/supplies	5,481,703	5,646,154	5,815,539
Billing & collections	341,225	351,462	362,006
Utilities	31,200	32,136	33,100
Rent expense	257,400	265,122	272,076
Professional fees	682,450	703,924	725,042
Contracted services	180,000	185,400	190,962
Insurance	30,000	30,900	31,827
Depreciation (capital tier)	391,230	391,230	391,230
Employee benefits	265,988	274,968	283,217
General admin	240,000	247,200	254,616
Taxes and licenses	60,000	61,800	63,654
Interest expense & loan (capital tier)	487,721	487,721	487,721
Bad debt expense	341,225	351,462	362,006
Other expenses	30,000	30,900	31,827
Total expenses	10,335,478	10,619,174	10,911,381
Net income	1,038,687	1,323,699	1,628,636

ATTACHMENT 37
Economic Feasibility
Project Balance Sheet

	Year 1	Year 2	Year 3
Current Assets (working capital)	11,974,164	12,572,872 2	13,201,516 2
Net Property & Equipment (capital)	4,195,718	3,804,488 3	3,413,258 3
Total Assets	16,169,882 4	16,377,360 4	16,614,774 4
Current Liabilities (operating)	9,906,732	10,204,934	10,511,082
Long-Term Debt (capital)	4,651,856	4,164,134	3,676,412
Total Liabilities	14,558,588	14,369,068	14,187,494
Capital Contribution	500,000	500,000	500,000 5
Retained Earnings (balancing figure)	1,111,294	1,508,292	1,927,280
Total Equity	1,611,294	2,008,292	2,427,280
Total Liabilities & Equity	16,169,882	16,377,360	16,614,774

ATTACHMENT 38

Safety Net Impact Statement

Midwest Ambulatory Surgical Center, LLC is a new entity and has no applicable historical data for this section of the application. However, it is anticipated that the proposed facility will have a positive material impact on essential safety net services in the community.

Dr. Al-Khaled and his practice have long maintained a commitment to serving diverse communities in Chicago and the Chicagoland area. That diversity has included both racial and economic diversity. This is evidenced by the location of their current physician practice sites, and the proposed business plan for the facility which intends to service Medicaid patients and patients without regard to their ability to pay for procedures.

This project involves operating a new facility and should not have any impact on the ability of another provider to cross-subsidize safety net services.

ATTACHMENT 39

Charity Care

Midwest Ambulatory Surgical Center, 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 over the last 12 months.

Payor	Projected Percentage of Patients by Payor- Year 1
Medicare/ Tricare/ VA	44%
Medicaid	7%
Commercial	47%
Charity Care	2%
Total Patients	100%

ATTACHMENT 40 Flood Plain Information



Heart, Vein, & Vascular Clinics
Consultants in Cardiology & Electrophysiology

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Adedotun Ogunsua MD

Bahij Kreidieh MD

March 10, 2026

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

Re: Midwest Ambulatory Surgical Center, LLC - Flood Plain Requirements

Dear Mr. Kniery:

As representative of Midwest Ambulatory Surgical Center, LLC, I, Nouri, Al-Khaled,, affirm that our facility complies with Illinois Executive Order #2005-5. The facility location at 545 West 95th Street, Evergreen Park, IL 60805 is not located in a flood plain, as evidence please find enclosed a map from the Federal Emergency Management Agency ("FEMA").

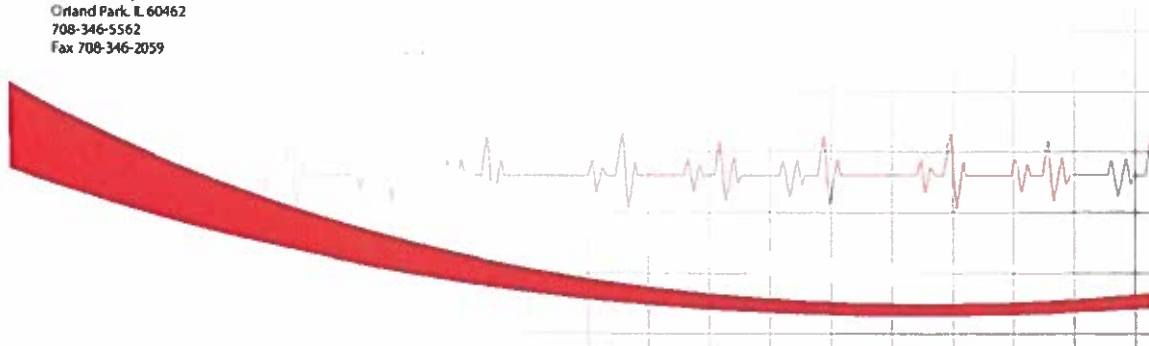
I hereby certify this true and is based upon my personal knowledge under penalty of perjury and in accordance with 735 ILCS 5/1-109.

Sincerely,

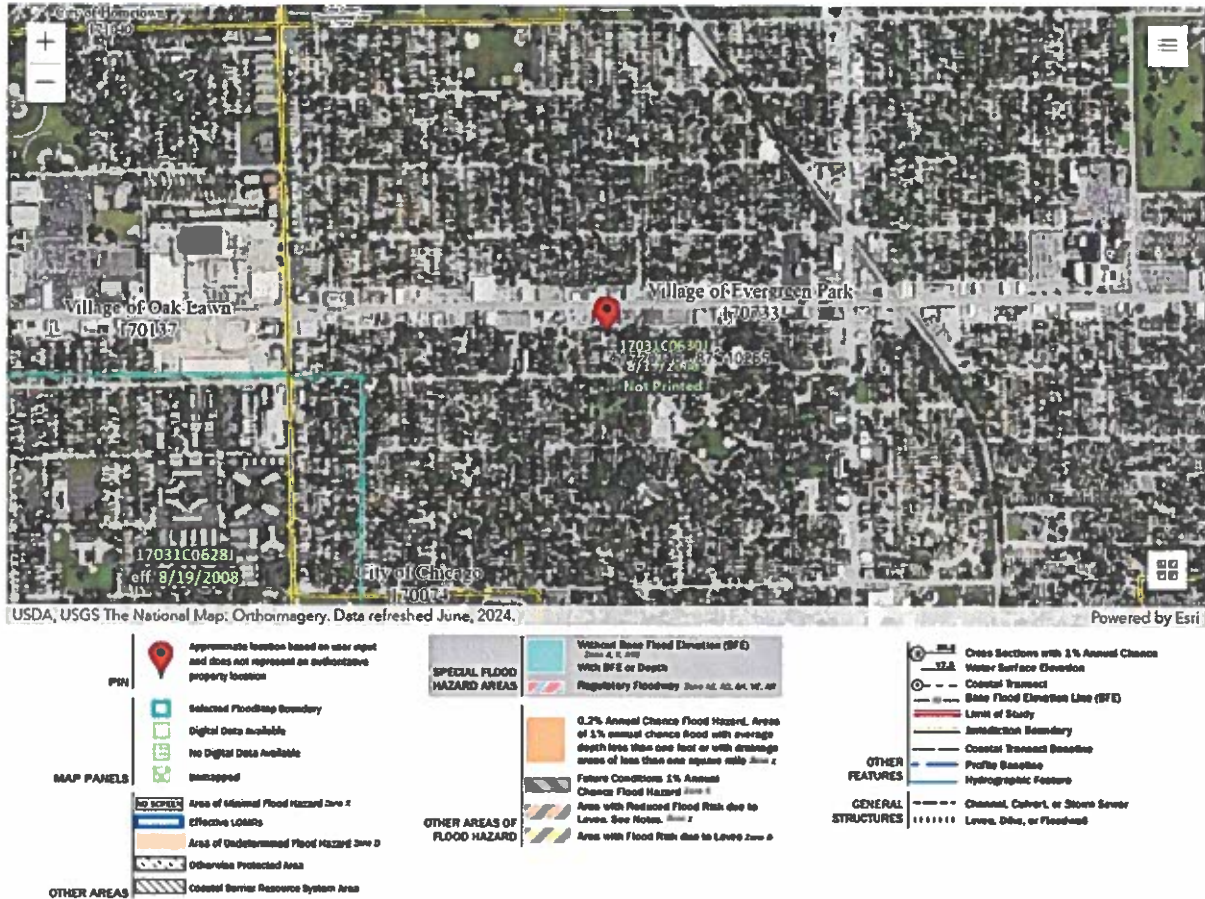
Nouri, Al-Khaled, M.D.
Managing Member
Midwest Ambulatory Surgical Center, LLC

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ATTACHMENT 40 Flood Plain Information



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