



# ADAGIO MEDICAL

Investor Presentation | April 2024



# DISCLAIMER

This investor presentation (together with the oral statements made in connection herewith, this "Presentation") is for informational purposes only to assist interested parties in making their own evaluation with respect to the proposed business combination and any related transaction, including with the PIPE financing described herein (collectively, the "Business Combination"), by and among ARYA Sciences Acquisition Corp. IV (NASDAQ: ARYD) ("ARYA"), Adagio Medical, Inc. (the "Company") and Aji Holdings, Inc., of which the Company will become a subsidiary following the consummation of the Business Combination ("ListCo"), and for no other purpose. The information contained herein is subject to change, and any such change could be material, and does not purport to be all-inclusive and none of ARYA, the Company, ListCo, Jefferies LLC ("Jefferies") or Chardan Capital Markets, LLC ("Chardan") or any of their respective affiliates (including, without limitation, control persons, directors, officers, employees, shareholders, representatives, legal counsel or advisors) makes any representation or warranty, express or implied, as to the accuracy, completeness or reliability of the information contained in this Presentation or any other written or oral communication communicated to the recipient in the course of the recipient's evaluation of ARYA, the Company and ListCo. Please refer to the definitive merger agreement and other related transaction documents for the full terms of the Business Combination.

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Certain monetary amounts, percentages and other figures included in this Presentation have been subject to rounding adjustments. Certain amounts that appear in this Presentation may not sum due to rounding.

## Management Estimates

The Company has based its estimates of the total addressable market and growth forecasts on a number of internal and third-party estimates and resources, including, without limitation, third-party reports and the experience of the management team across the industries. While the Company believes its assumptions and the data underlying its estimates are reasonable, these assumptions and estimates may not be correct and the conditions supporting such assumptions or estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors. In addition, the novelty of the markets for the Company's products may make its assumptions and estimates more uncertain. As a result, the Company's estimates of the total addressable market and growth forecasts for its products are subject to significant uncertainty and may prove to be incorrect. If third-party or internally generated data prove to be inaccurate or the Company makes errors in its assumptions based on that data, the total addressable market for the Company's products may be smaller than it has estimated, its future growth opportunities and sales growth may be impaired, any of which could have a material adverse effect on the Company's business, financial condition and results of operations.

## Forward-Looking Statements

Certain statements in this Presentation may be considered "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements generally relate to future events or ARYA's, the Company's or ListCo's future financial or operating performance. For example, any statements that refer to expectations, projections or other characterizations of future events or circumstances, including post-Business Combination fully diluted equity value, the anticipated enterprise value of ListCo, expected ownership in ListCo, projections of market opportunity and market share, the capability of the Company's or ListCo's business plans including its plans to expand, the sources and uses of cash from the Business Combination, any benefits of the Company's partnerships, strategies or plans as they relate to the Business Combination, anticipated benefits of the Business Combination and expectations related to the terms and timing of the Business Combination, the Company's expected pro forma cash, the Company's or ListCo's expected cash runway through 2025 or statements related to the Company's or ListCo's funding gap, funded business plan or use of proceeds, or other metrics or statements derived therefrom, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "anticipate," "believe," "continue," "could," "estimate," "expect," "forecast," "future," "intend," "may," "might," "plan," "possible," "potential," "predict," "project," "propose," "seek," "should," "strike," "will," or "would" or the negatives of these terms or variations of them or similar terminology. Such forward-looking statements are subject to risks, uncertainties, and other factors which may be beyond the control of ARYA, the Company or ListCo and could cause actual results to differ materially from those expressed or implied by such forward-looking statements.

These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by ARYA and its management, the Company and its management and ListCo and its management, as the case may be, are inherently uncertain. Each of ARYA, the Company and ListCo caution you that these statements are based on a combination of facts and factors currently known and projections of the future, which are inherently uncertain. There will be risks and uncertainties described in the proxy statement/prospectus included in the registration statement on Form S-4 (the "Registration Statement") relating to the Business Combination, which is expected to be filed by ListCo with the U.S. Securities and Exchange Commission (the "SEC"), and described in other documents filed by ARYA or ListCo from time to time with the SEC. These filings may identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Neither ARYA nor the Company can assure you that the forward-looking statements in this presentation will prove to be accurate. In addition, new risks and uncertainties may emerge from time to time, and it may not be possible to identify and accurately predict the potential impacts of any such risks and uncertainties that may arise in the future. Factors that may cause actual results to differ materially from current expectations include, but are not limited to: (1) the occurrence of any event, change or other circumstances that could give rise to the termination of negotiations and any subsequent definitive agreements with respect to the Business Combination; (2) the outcome of any potential litigation, government or regulatory proceedings that may be instituted against ARYA, the Company, ListCo or others; (3) the inability to complete the Business Combination due to the failure to obtain a approval of the shareholders of ARYA, to obtain financing to complete the Business Combination or to satisfy other conditions to closing; (4) the amount of redemption requests made by ARYA's public shareholders; (5) changes to the proposed structure of the Business Combination that may be required or appropriate as a result of applicable laws or regulations or as a condition to obtaining regulatory approval of the Business

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Combination; (6) delays in obtaining, adverse conditions in, or the inability to obtain regulatory approvals, or delays in completing regulatory reviews, required to complete the Business Combination; (7) the ability to meet stock exchange listing standards prior to or following the consummation of the Business Combination; (8) the risk that the Business Combination disrupts current plans and operations of the Company or ListCo as a result of the announcement and consummation of the Business Combination; (9) Adagio's ability to remain compliant with the covenants of its existing debt, including any convertible or bridge financing notes; (10) ListCo's ability to remain compliant with the covenants of the senior secured convertible notes that will be issued in connection with the closing of the Business Combination; (11) the ability to recognize the anticipated benefits of the Business Combination, which may be affected by, among other things, competition, the ability of ListCo to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employees; (12) costs related to the Business Combination; (13) risks associated with changes in applicable laws or regulations and the Company's or ListCo's international operations and operations in a regulated industry; (14) the possibility that the Company or ListCo may be adversely affected by other economic, business, and/or competitive factors; (15) the Company's or ListCo's use of proceeds, post-Business Combination fully diluted equity value or fully diluted enterprise value, expected pro forma cash, expected cash runway or funding gap, estimates of expenses and profitability; and (16) the risks described in the "Risk Factor Summary" included in this Presentation, and other risks and uncertainties set forth in the section entitled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" in ARYA's Annual Report on Form 10-K for the year ended December 31, 2023, its Quarterly Reports on Form 10-Q, and other documents filed, or to be filed, with the SEC. There may be additional risks that ARYA, the Company or ListCo do not presently know or that ARYA, the Company or ListCo currently believe are immaterial that could also cause actual results to differ from those contained in the forward-looking statements. Actual events and circumstances are difficult or impossible to predict and may materially differ from assumptions. Many actual events and circumstances are beyond the control of ARYA, the Company and ListCo. Nothing in this Presentation should be regarded as a representation or warranty by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved in any specified time frame or at all. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made in this Presentation. Subsequent events and developments may cause those views to change. Neither ARYA, the Company nor ListCo undertakes any duty to update these forward-looking statements.

## Use of Projections

This Presentation contains forecasts with respect to the Company's minimum total pro forma cash after expenses at the announcement of the Business Combination and ListCo's expected cash runway through 2025, based on current plans and estimates of the Company. Neither ARYA's, the Company's nor ListCo's independent auditors have audited, reviewed, compiled or performed any procedures with respect to such projected or forecasted information included in this Presentation and, accordingly, they did not express an opinion nor provide any other form of assurance with respect thereto for the purpose of this Presentation. The inclusion of the forecasted information should not be relied upon as being necessarily indicative of future results and should not be regarded as an indication that ARYA, the Company, ListCo or any other person considered, or now considers, the projections to be a reliable prediction of future events, and does not constitute an admission or representation by any person that the expectations, beliefs, opinions, and assumptions that underlie such forecasts remain the same following the date of this Presentation, and readers are cautioned not to place undue reliance on any prospective information. The assumptions and estimates underlying the prospective financial information are inherently uncertain and are subject to a wide variety of significant business, economic and competitive risks and uncertainties that could cause actual cash or cash needs to differ materially from those contained in the prospective financial information. Accordingly, there can be no assurance that the prospective cash or cash needs are indicative of the future performance of the Company or ListCo or that actual cash or cash needs will not differ materially from those presented in the prospective financial information. ARYA, the Company and ListCo do not assume any obligation to update the projected information or any other information in this Presentation, and do not expect to continue to disclose detailed prospective financial information going forward.

Actual cash or cash needs may differ as a result of the completion of the Company's or ListCo's applicable financial reporting period closing procedures, review adjustments and other developments that may arise between now and the time such financial information for the presented or projected periods is finalized. As a result, these estimates are preliminary, may change and constitute forward-looking information, and are subject to significant risks and uncertainties. See "Forward-Looking Statements" above. Any such forecasted information presented herein was not prepared with a view towards compliance with the published guidelines of the SEC, Regulation S-X promulgated under the Securities Act of 1933, as amended (the "Securities Act") or any guidelines established by the American Institute of Certified Public Accountants for the presentation and preparation of "prospective financial information." Accordingly, the information and data presented in this Presentation may not be included, may be adjusted, or may be presented differently, in any proxy statement or registration statement that may be filed in connection with a Business Combination.

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## Additional Information

In connection with the Business Combination, ListCo filed with the SEC a registration statement on Form S-4 containing a preliminary proxy statement of ARYA and a preliminary prospectus of ListCo, and after the Registration Statement is declared effective, ARYA expects to mail a definitive proxy statement/prospectus related to the Business Combination to its shareholders. The proxy statement/prospectus contains important information about the Business Combination and the other matters to be voted upon at ARYA's shareholder meeting to be held to approve the Business Combination. ARYA and ListCo may also file other documents with the SEC regarding the Business Combination. This Presentation does not contain all the information that should be considered concerning the Business Combination and is not intended to form the basis of any investment decision or any other decision in respect of the Business Combination. Before making any voting or other investment decision, shareholders of ARYA and other interested persons are advised to read the preliminary proxy statement/prospectus and any amendments thereto, the definitive proxy statement/prospectus and other documents filed in connection with the Business Combination, as these materials contain important information about ARYA, the Company and the Business Combination. After the Registration Statement becomes effective, the definitive proxy statement/prospectus and other relevant materials for the Business Combination will be mailed to shareholders of ARYA as of a record date to be established for voting on the Business Combination. Shareholders will also be able to obtain copies of the definitive proxy statement/prospectus and other documents filed with the SEC, without charge, once available, at the SEC's website at [www.sec.gov](http://www.sec.gov), or by directing a request to: ARYA Sciences Acquisition Corp IV, 51 Astor Place, 10th Floor, New York, New York, Attention: Secretary, [ARYA&@perceptivelife.com](mailto:ARYA&@perceptivelife.com).

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ARYA, the Company, ListCo and their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from ARYA's shareholders with respect to the Business Combination. A list of the names of ARYA's directors and executive officers and a description of their interests in ARYA is contained in ARYA's Annual Report on Form 10-K, which was filed with the SEC and is available free of charge at the SEC's website at [www.sec.gov](http://www.sec.gov), or by directing a request to ARYA Sciences Acquisition Corp IV, 51 Astor Place, 10th Floor, New York, New York, Attention: Secretary, [ARYA4@perceptivellife.com](mailto:ARYA4@perceptivellife.com). Additional information regarding the interests of such participants is contained in the proxy statement/prospectus for the Business Combination. Investors, security holders and other interested persons of ARYA, the Company and ListCo are urged to carefully read in their entirety the proxy statement/prospectus and other relevant documents that have been filed or will be filed with the SEC because they contain important information about the Business Combination. Also see above under the heading "Additional Information."

The Company and ListCo, and its directors and executive officers may also be deemed to be participants in the solicitation of proxies from the shareholders of ARYA in connection with the proposed Business Combination. A list of the names of such directors and executive officers and information regarding their interests in the proposed Business Combination is included in the proxy statement/prospectus for the proposed Business Combination.

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This Presentation does not constitute (i) a solicitation of a proxy, consent or authorization with respect to any securities or in respect of the Business Combination or (ii) an offer to sell, a solicitation of an offer to buy, or a recommendation to purchase any security of ARYA, the Company, ListCo or any of their respective affiliates. No such offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act, or an exemption therefrom. The offering and resale of the securities issuable in connection with the PIPE financing described herein has not been and will not be registered under the Securities Act or any applicable state securities laws. If the proposed Business Combination is entered into, the PIPE financing will be offered and sold only to "qualified institutional buyers" (as defined in Rule 144A under the Securities Act) and institutional "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) promulgated under the Securities Act) upon the consummation of the proposed Business Combination.

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The securities are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the UK. For these purposes, a "retail investor" means a person who is one (or more) of: (i) a retail client, as defined in Directive (EU) 2014/65/EU on markets in financial instruments (as amended) and implemented in the UK as it forms part of the domestic law of the United Kingdom by virtue of the EUWA ("UK MiFID II"); (ii) a customer with the meaning of Directive (EU) 2016/97 (as amended) as it forms part of the domestic law of the UK by virtue of the EUWA, where that customer would not qualify as a professional client as defined in UK MiFID II; or (iii) not a "qualified investor" as defined in Article 2(e) of the UK Prospectus Regulation. Consequently, no key information document required by Regulation (EU) No 1286/2014 as it forms part of the domestic law of the UK by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the securities or otherwise making them available to retail investors in the UK has been prepared and, therefore, offering or selling the securities or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.



# TODAY'S PRESENTERS



**Olav Bergheim**  
*CEO & President*

30+ years of experience in life sciences

**Baxter**

Founder of

**VOLCANO** **GLAUKOS**  
TRANSFORMING VISION

**SONENDO** **VEEVA VASCULAR**



**John Dahldorf**  
*Chief Financial Officer*

20+ years of corporate finance experience

**ACUTUS**  
MEDICAL

**VOLCANO**

**Baxter**

## Adagio at a Glance...

~90 Employees

Founded in 2011

Headquartered  
in Laguna Hills,  
California

- ✓ Innovative cardiac ablation medical technology company
- ✓ Focused on large, underserved market – cardiac arrhythmia addressing atrial fibrillation and ventricular tachycardia
- ✓ Unique portfolio that works – supported by compelling clinical data
- ✓ Poised to disrupt the market with unique technologies with commercial approvals in progress and pivotal data readouts

Note: Olav Bergheim serves as the CEO of the Company pursuant to the terms of a Facilities and Shared Services Agreement between the Company and Fjord Ventures, LLC. Based on such agreement, Mr. Bergheim is compensated for serving in such position by Fjord Ventures, LLC. Two funds managed by Mr. Bergheim, one of which is affiliated with Fjord Ventures, LLC, have invested an aggregate of approximately \$10M among the approximately \$100M investment in aggregate that the Company has received so far.

# WHY INVEST: ADAGIO MEDICAL OPPORTUNITY IN A NUTSHELL



Currently ~\$3 billion catheter market; advanced catheter revenue (75% of total) experienced historical double-digit growth<sup>1</sup>



Unique near-term opportunity in ~ \$300M VT ablation market with potential 2-3x segment growth on improved safety, effectiveness and usability



Outcomes-based differentiation in \$0.8B with 14% Y/Y growth persistent AF segment: opportunity for substantial share gain in top tier VT-AF accounts<sup>2</sup>



Value inflection expected from catalysts through the next 18 months



Leading inside investors include Perceptive Advisors and RA Capital

Note: Management's analysis and estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer / Management's Estimates on slide 2.

1) The historical market growth is based on management's analysis and calculations using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 64-69 which are part of Appendix II - Market Sources & Analysis for further details.

2) The combined growth potential is based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 64-69 which are part of Appendix II - Market Sources & Analysis for further details.

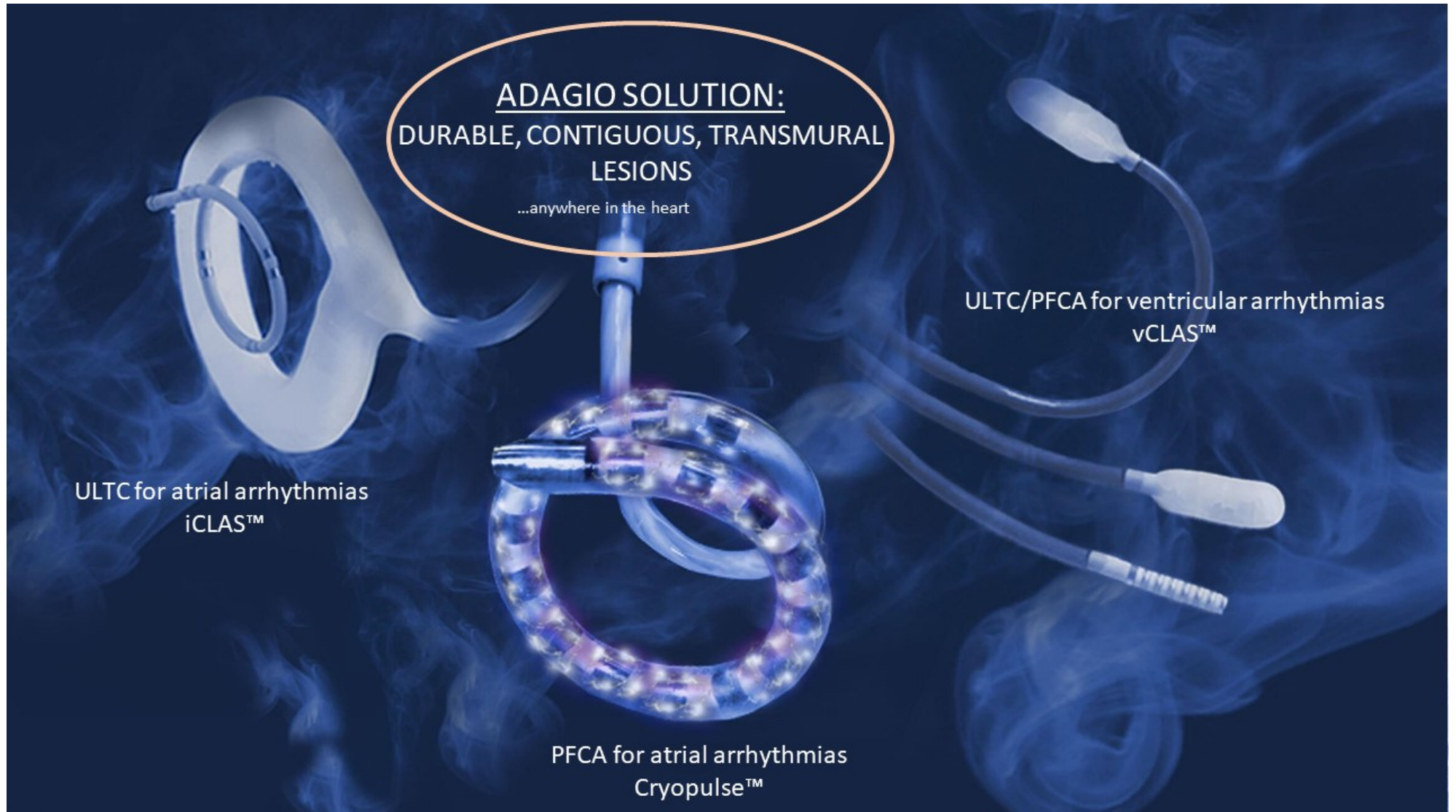
ADAGIO SOLUTION:  
DURABLE, CONTIGUOUS, TRANSMURAL  
LESIONS

...anywhere in the heart

ULTC for atrial arrhythmias  
iCLAS™

ULTC/PFCA for ventricular arrhythmias  
vCLAS™

PFCA for atrial arrhythmias  
Cryopulse™





# ULTC TEMPERATURES AND LESIONS

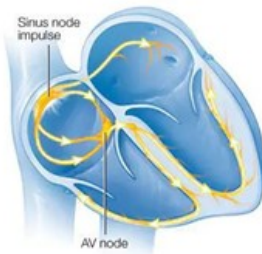


<https://vimeo.com/936025754/f221e1388a?share=copy>

# INVASIVE TREATMENTS OF CARDIAC ARRHYTHMIAS

## Cardiac Conditions

### Normal Electrical Conduction



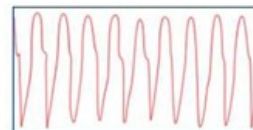
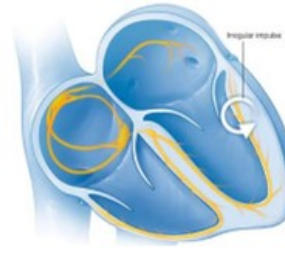
### Atrial Fibrillation (AF)

AFib is an irregular and often very rapid heart rhythm that can lead to blood clots, stroke, heart failure and other heart-related complications.



### Ventricular Tachycardia (VT)

VT is a heart rhythm problem (arrhythmia) caused by irregular electrical signals in the lower chambers of the heart (ventricles).



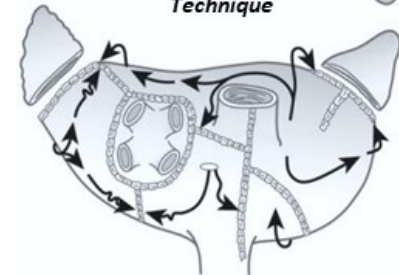
*Using surgical cuts or catheter-created lesions to cut and isolate aberrant electrical circuits in the heart*

Blue images: adopted from: Mayo Clinic, <https://www.mayoclinic.org/>

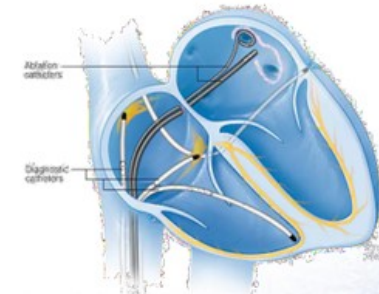
Surgical technique, adopted from: Ruessigri S, Schill MR, Khabbazi MJ, et al. The Cox maze IV procedure in its second decade: still the gold standard? European Journal of Cardio Thoracic Surgery 53 (2018) i19–i25

## Treatment Options

### Original Surgical "Cut and Sew" Technique



### Catheter Ablation



**Adagio**  
MEDICAL

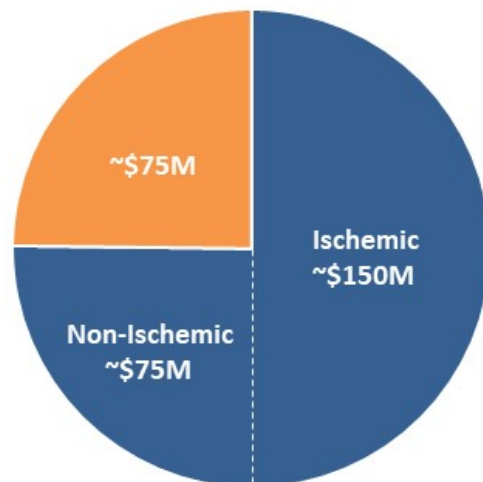
# **VENTRICULAR TACHYCARDIA ABLATIONS MARKET: OPPORTUNITY, DRIVERS AND INHIBITORS**



# VT MARKET: CURRENT SIZE AND GROWTH OPPORTUNITY

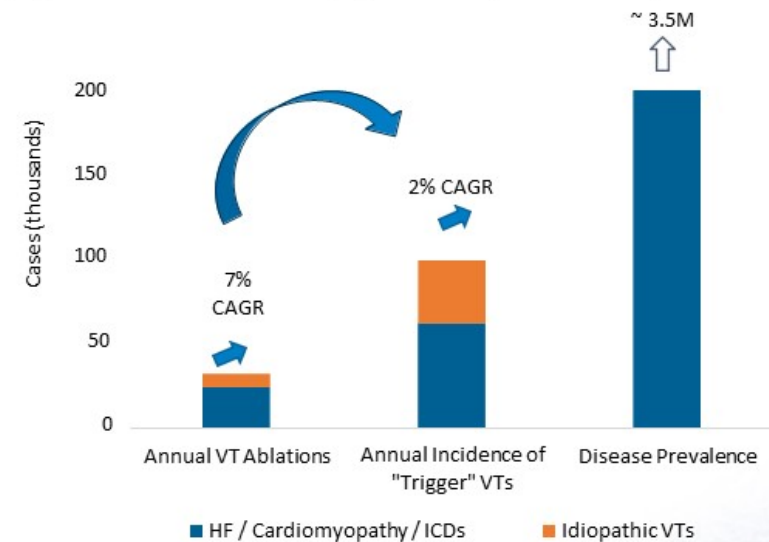
VT Ablations, by Indication<sup>1</sup>

■ HF/Cardiomyopathy/ICDs ■ Idiopathic VT



Estimated US Market For VT Ablations<sup>2</sup>

2-3x<sup>3</sup> market growth opportunity with improved ablation effectiveness and reduced risk profile within EP practice



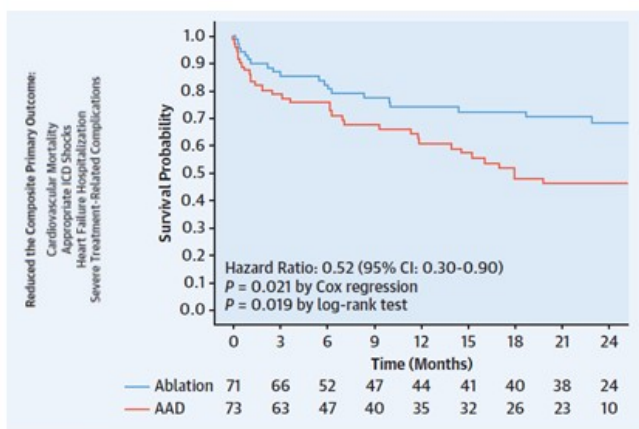
- 1) The estimate VT ablation market size breakdown by etiology is based on management analysis of the reported epidemiologic information in various clinical settings and trials and disregards a contribution of the ablations of VF or polymorphic VTs, and is subject to certain assumptions and limitations. See slides 54-65 of Appendix II – Market Sources and analysis for further detail.
- 2) The annual VT ablations, annual incidence of "trigger" VTs, disease prevalence and market growth are based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 54-65 which are part of Appendix II – Market Sources & Analysis for further details.
- 3) Refer to slide 69 for more information on market growth opportunity.



# VT MARKET: CURRENT RISK-BENEFIT LIMITS ABLATION THERAPY PENETRATION

## Use and Potential Benefits of VT Ablations<sup>1-5</sup>

- Management of VT emergencies (VT storms)
- Reduction of recurring symptomatic arrhythmic events and ICD shocks
- Discontinuation or reduction of harmful AADs



VS.

## Procedural Risks and Complications<sup>6</sup>

Death	2.7%
Perforations/tamponade	2.0%
Major Bleeding	5.6%
Vascular	1.7%
Stroke	0.4%
Unspecified	1.8%
Any Complication	11.5%

## Technical Challenges of the Procedure<sup>7,8</sup>

- Intraprocedural management of patient hemodynamics, particularly in patients with depressed ventricular function
- Maintaining catheter stability and myocardial contact
- Ablations near coronary arteries
- Ablation of deep substrate, particularly in patients with non-ischemic cardiomyopathy

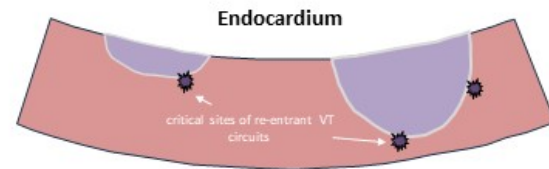
Most are addressable or partially addressable by better ablation catheter technology

- 1) Muser D, Liang JJ, Pathak RK, et al. Long Term Outcomes of Catheter Ablation of Electrical Storm in Nonischemic Dilated Cardiomyopathy Compared With Ischemic Cardiomyopathy. *J Am Coll Cardiol EP* 2017;3:767-78.
- 2) Da Silva GL, Nunes Ferreira A, Cortez Diaz N, et al. Radiofrequency catheter ablation of ventricular tachycardia in ischemic heart disease in light of current practice: a systematic review and meta-analysis of randomized controlled trials. *J Interv Card Electrophysiol*. 2020 Dec;59(3):603-616
- 3) Sapp JL, Wells GA, Parkash R, et al. Ventricular Tachycardia Ablation versus Escalation of Antiarrhythmic Drugs. *N Engl J Med* 2016;375:111-21
- 4) Liang JJ, Yang W, Santangeli P, et al. Amiodarone Discontinuation or Dose Reduction Following Catheter Ablation for Ventricular Tachycardia in Structural Heart Disease. *J Am Coll Cardiol EP* 2017;3:503-11
- 5) Arenal A, Avila P, Jimenez-Candil J, et al. Substrate Ablation vs Antiarrhythmic Drug Therapy for Symptomatic Ventricular Tachycardia. *J Am Coll Cardiol* 2022;79:1441-1453
- 6) Cheung JW, Yeo I, Ip JE, et al. Outcomes, Costs, and 30 Day Readmissions After Catheter Ablation of Myocardial Infarct-Associated Ventricular Tachycardia in the Real World. *Circ Arrhythm Electrophysiol*. 2018;11:e006754.
- 7) Cronin EM, Bogun FM, Maury P, et al. 2019 HRS/EHRA/APHRS/LAHRS expert consensus statement on catheter ablation of ventricular arrhythmias. *Heart Rhythm* 2020; 17:e3-e154
- 8) Sultan A, Futyma P, Metzner A, et al. Management of ventricular tachycardias: insights on centre settings, procedural workflow, endpoints, and implementation of guidelines—results from an EHRA survey. *Europace* 2024;26:1-10

# ROLE OF ULTC LESION DEPTH IN ABLATION OF SCAR-MEDIATED VTs

FOR ILLUSTRATION PURPOSES ONLY

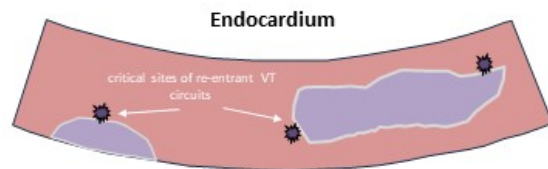
## ISCHEMIC SCAR<sup>1,2</sup>



< 10% require additional epicardial ablations<sup>3</sup>

Epicardium with coronary vessels

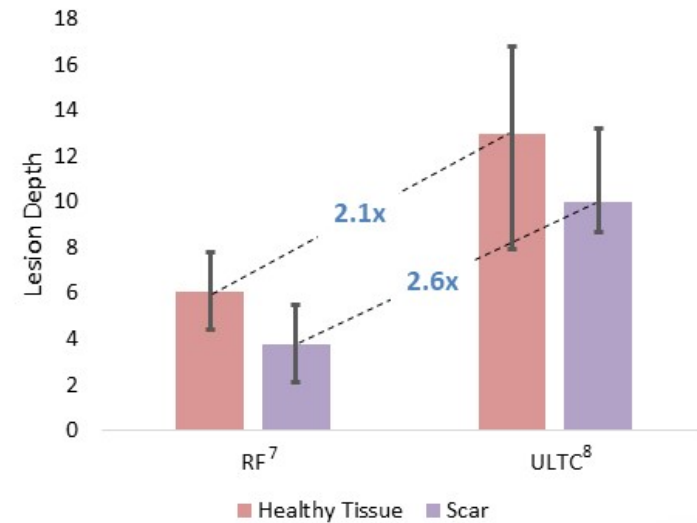
## NON-ISCHEMIC SCAR<sup>2,4,5</sup>



> 30% require epicardial or endo-epicardial ablations<sup>3,6</sup>

Epicardium with coronary vessels

## VENTRICULAR LESION DEPTH FROM DIFFERENT ENERGY SOURCES<sup>7,8</sup>



- 1) Bourantas CV, Nikitin NP, Loh HP, et al. Prevalence of scarred and dysfunctional myocardium in patients with heart failure of ischemic origin: A cardiovascular magnetic resonance study. *Journal of Cardiovascular Magnetic Resonance*. 2011; 13:53
- 2) Piers SRD, Tao Q, de Riva Silva M, et al. CMR-Based Identification of Critical Isthmus Sites of Ischemic and Nonischemic Ventricular Tachycardia. *J Am Coll Cardiol* 2014;7:774-84
- 3) Dinov B, Fielder L, Schonbauer R, et al. Outcomes in Catheter Ablation of Ventricular Tachycardia in Dilated Nonischemic Cardiomyopathy Compared With Ischemic Cardiomyopathy. *Circulation*. 2014;129:728-736.
- 4) Kanagasundaram A, John RM, Stevenson WG. Sustained Monomorphic Ventricular Tachycardia in Nonischemic Heart Disease: Arrhythmia Substrate Correlations That Inform the Approach to Ablation. *Circ Arrhythm Electrophysiol*. 2019;12:e007312
- 5) Betensky BP, Kapa S, Desjardins B, et al. Characterization of Trans-septal Activation During Septal Pacing Criteria for Identification of Intramural Ventricular Tachycardia Substrate in Nonischemic Cardiomyopathy. *Circ Arrhythm Electrophysiol*. 2013;6:1123-11306
- 6) Vaseghi M, Hy TY, Tung R, et al. Outcomes of Catheter Ablation of Ventricular Tachycardia Based on Etiology in Nonischemic Heart Disease. *J Am Coll Cardiol EP* 2018;4:1141-50
- 7) Im SI, Higuchi S, Lee A, et al. Pulsed Field Ablation of Left Ventricular Myocardium in a Swine Infarct Model. *J Am Coll Cardiol EP* 2022;8:722-731
- 8) Dewland TA, Higuchi S, Venkateswaran R, Lee C, Gerstenfeld EP. AB452672 2 Ultra low Temperature Cryoablation Versus Ultra low Temperature Cryoablation Combined With Pulsed Field Ablation in A Swine Ventricular Infarct Model. *Heart Rhythm* 2023;20:S92-S93. doi: doi.org/10.1016/j.hrthm.2023.03.395 . Reference slide #87 for further detail.



# ADAGIO MEDICAL VT CRYOABLATION SYSTEM

## Differentiated and Highly Desirable Functional Performance

- Titratable lesion depth and size
- Catheter stability during ablation
- Ability to ablate deep intramural scar
- No need to irrigate (simplifies hemodynamic management in HF patients)

**INDICATIONS FOR USE<sup>1</sup>:** The Adagio Medical Inc. VT Cryoablation System (Catheter and Console) is indicated for the treatment of monomorphic ventricular tachycardia by ablation of arrhythmogenic tissue that drives and maintains these arrhythmias.

1) vCLAS™ Cryoablation Catheter Instructions for Use, P/N 108-0118-001.



# CRYOCURE-VT STUDY

## (NCT # 04893317)

<b>Patients</b>	64 patients, Rx-refractory persistent recurring monomorphic VT of both ischemic and non-ischemic etiology
<b>Endpoints</b>	Procedural safety, acute and chronic effectiveness
<b>Sites</b>	9 centers
<b>Data Readout</b>	Late-Breaking Clinical Trial Presentation at EHRA 2024
<b>CE-Mark</b>	Received on March 15, 2024
<b>Next Steps</b>	Commercial launch in Q1 2024 / Results to be presented at EHRA 2024 / Initiation of post-market studies
<b>Initial Results</b>	First-in-human experience with ultra-low temperature cryoablation for monomorphic ventricular tachycardia <sup>1</sup>



McGill University  
Health Centre



Note: Expectations are preliminary and subject to change. Please see Disclaimer Forward Looking Statements on slide 2.

(1) De Potter T, Balt J, Boersma L, et al. First in Human Experience With Ultra Low Temperature Cryoablation for Monomorphic Ventricular Tachycardia Open Access. J Am Coll Cardiol EP. 2023 May, 9 (5) 686–691

# vCLAS™ CRYOCURE-VT CLINICAL TRIAL: REDEFINING RISK/BENEFIT IN VT ABLATIONS

Exceptional Acute Effectiveness and Safety

Excellent Procedural Profile		
	CRYOCURE-VT	RF-based Reference
Procedure Time	185 min	225-273 min
# of lesions	9	24 - 34



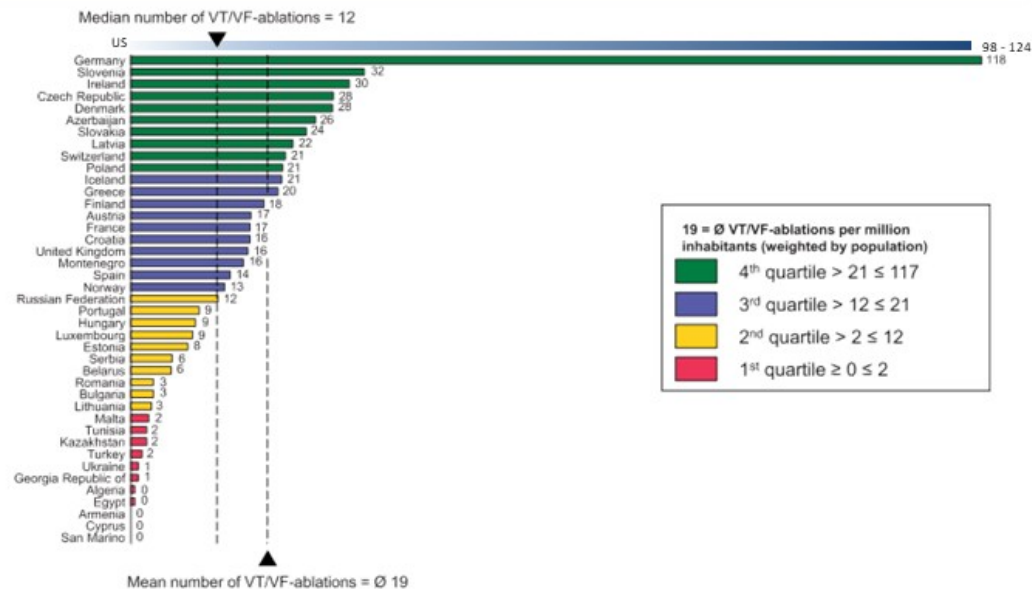
\* patients with inducible clinical VTs pre-ablation and which were non-inducible post-ablation

Adagio Medical, Inc. CryoCure-VT Interim Clinical Investigation Report. CS-191. Data on File.

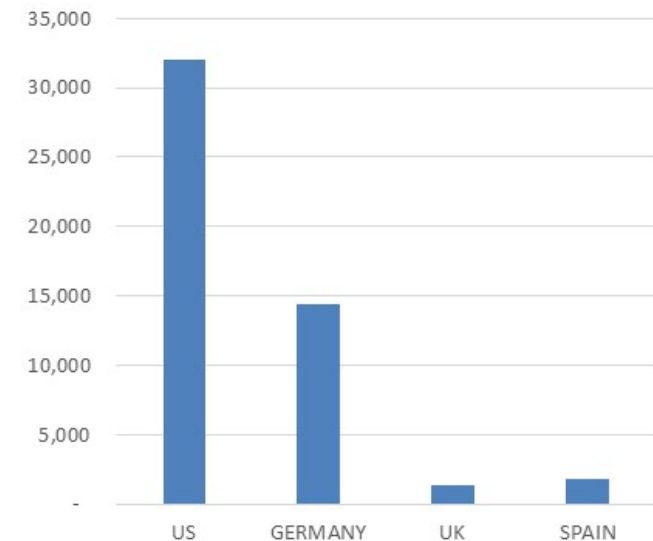


# HIGHLY CONCENTRATED MARKET DRIVES COMMERCIAL STRATEGY

Estimated VT Ablations Penetration in Europe (2016)<sup>1</sup> and US (2023)<sup>2</sup>



Estimated Annual VT Ablations Volumes in 2022<sup>2</sup>

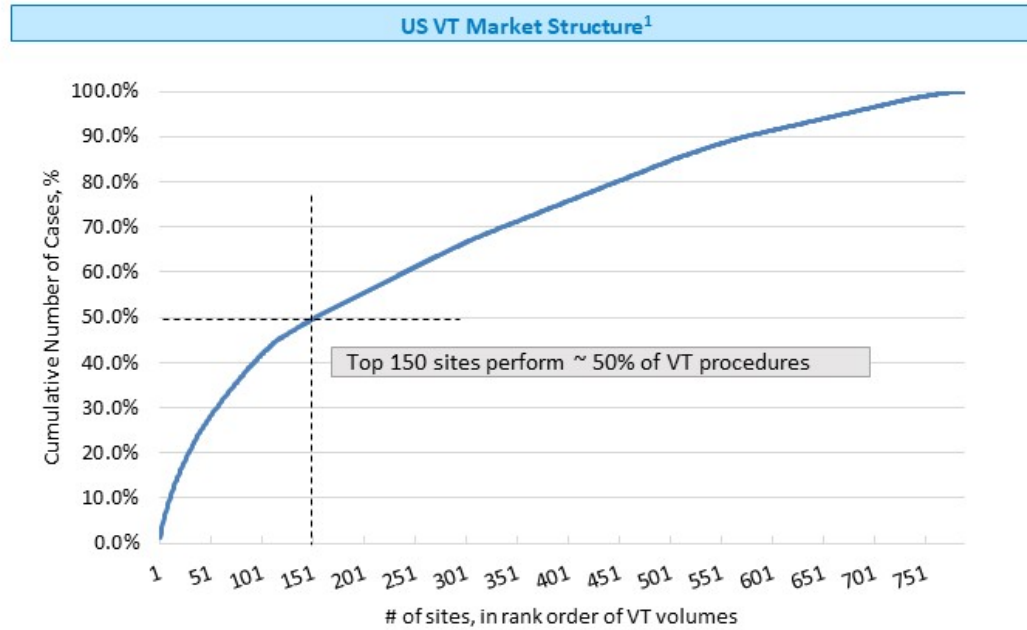


- 2024 Adagio's commercial focus: UK and Germany, large volume / key opinion leader accounts
- Key performance metric: share uptake, translated (mid-to-long term) in increased therapy penetration
- Clinical development through post-market studies, scientific publications and peer-group networks

<sup>1</sup>) Ratikainen MJP, Annar DO, Merikely B, et al. A Decade of Information on the Use of Cardiac Implantable Electronic Devices and Interventional Electrophysiological Procedures in the European Society of Cardiology Countries: 2017 Report from the European Heart Rhythm Association. Europace (2017) 19, iii1-iii90

<sup>2</sup>) Country level volume of VT ablations is based on management's analysis and projections using internal and third party information, subject to certain assumptions and limitations. Please see slide 57 (analysis of the current VT ablations volume in the USA), 71 and 72 which are part of Appendix II - Market Sources & Analysis for further details.

# US MARKET



1) Based on management's analysis of Medicare FFS data, subject to certain assumptions and limitations. Please see Slide #71 which is part of Appendix II - Market Sources & Analysis for further details.

## FULCRUM-VT Early Feasibility IDE Study

Vanderbilt University Medical Center

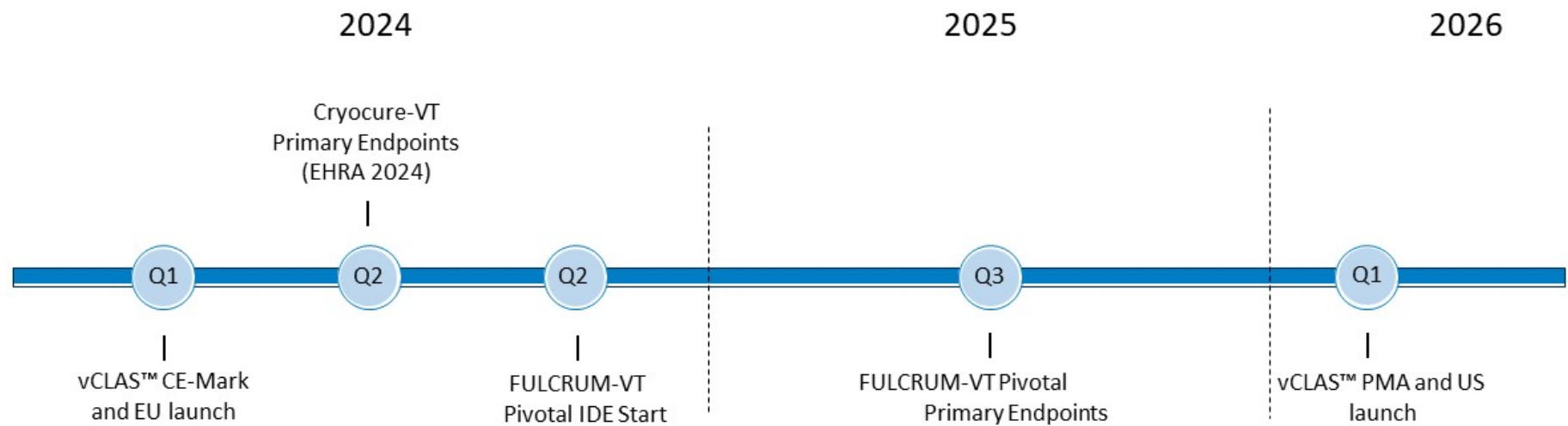
Banner University Health Center

Mount Sinai Hospital

UC San Francisco

- 19 patients enrolled

# NEAR-TERM VT VALUATION -DRIVING MILESTONES



Note: Milestones are preliminary and subject to change. Please see Disclaimer – Forward Looking Statements on slide 2.



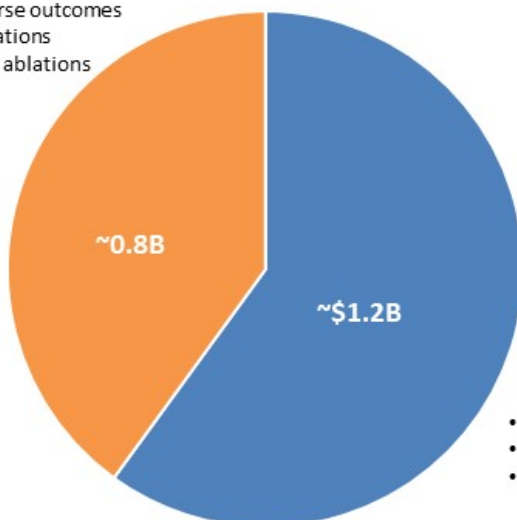
# **ATRIAL FIBRILLATION MARKET: OPPORTUNITY, DRIVERS AND INHIBITORS**

# AF MARKET: FULL UPSIDE REQUIRES IMPROVEMENT IN LONG-TERM OUTCOMES

Current AF Ablation Market By Clinical Diagnosis<sup>1</sup>

■ Paroxysmal AF (PAF) ■ Persistent AF (PsAF)

- Relatively worse outcomes
- Weaker indications
- More "PVI+"\* ablations



- Relatively better outcomes
- Stronger indications
- Mostly "PVI only"\* ablations

\* "PVI only" ablations refer to the strategy of pulmonary vein (PV) isolation without any ablations of non PV targets. "PVI+" refers to procedures combining PV isolation with ablations of non PV targets.

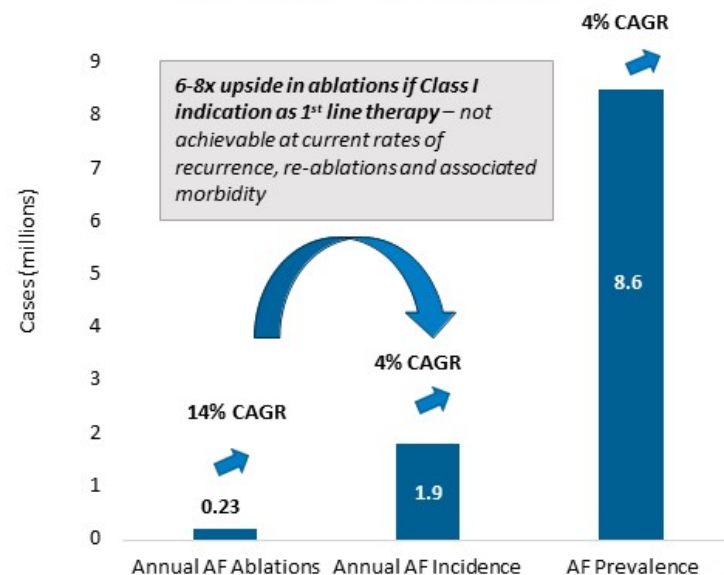
1) Management market size estimates and characterization, subject to certain assumptions and limitations. Refer to slides 50 and 65-69 in Appendix II - Market Sources & Analysis for further details on the market and subsequent slides on the discussion of outcomes.

2) C. Tsao, et al. Heart Disease and Stroke Statistics 2022 Update: A Report From the American Heart Association. Circulation 2022;145:e153-e169

3) Adagio Medical Analysis of Medicare FFS and Commercial Claims

4) The annual AF ablations, annual AF incidence, AF prevalence and market growth are based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 47-52 which are part of Appendix II - Market Sources & Analysis for further details.

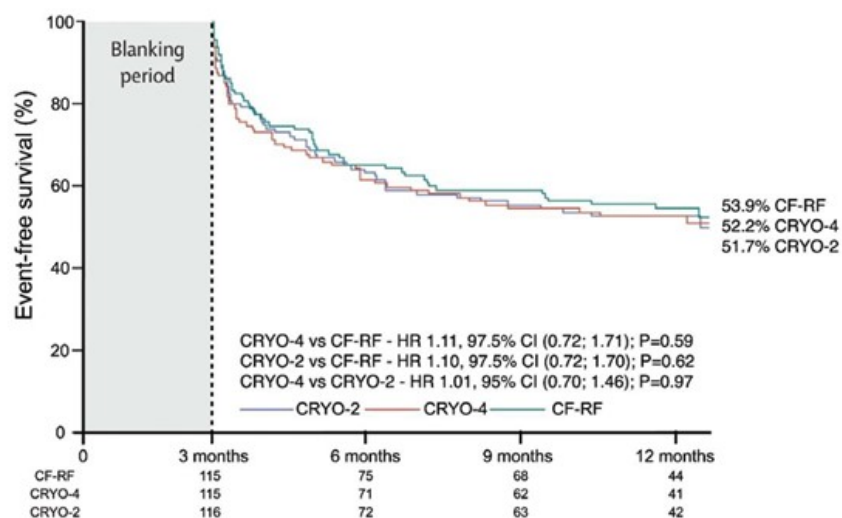
US AF Disease<sup>2</sup> and Treatment Statistics<sup>3,4</sup>



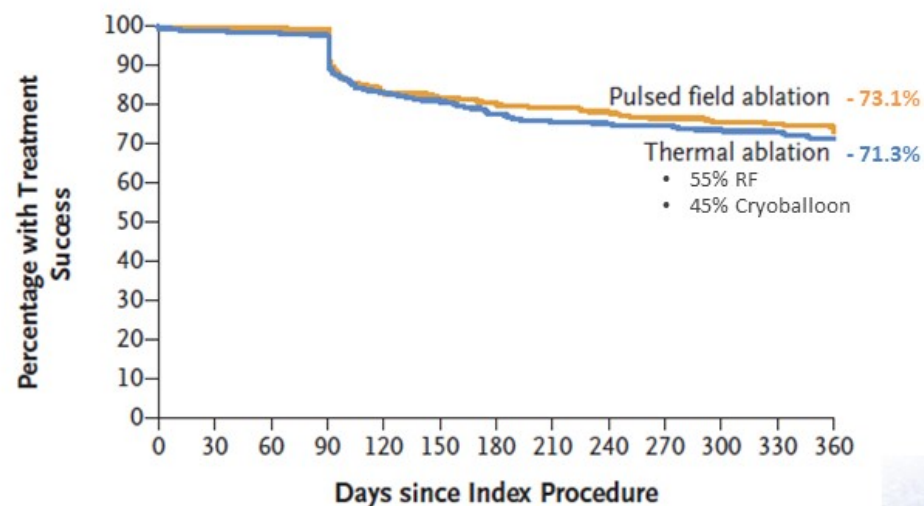
# AF ABLATION MODALITIES: EQUIVALENT SAFETY AND EFFICACY OUTCOMES

Freedom From AF/AT After Single Procedure In Paroxysmal AF Patients

CIRCA-DOSE TRIAL (2019)<sup>1</sup>



ADVENT TRIAL (2023)<sup>2</sup>



1) Andrade JG, et al. Cryoballoon or radiofrequency ablation for atrial fibrillation assessed by continuous monitoring: A randomized clinical trial. *Circulation* 2019;140:1779-1788

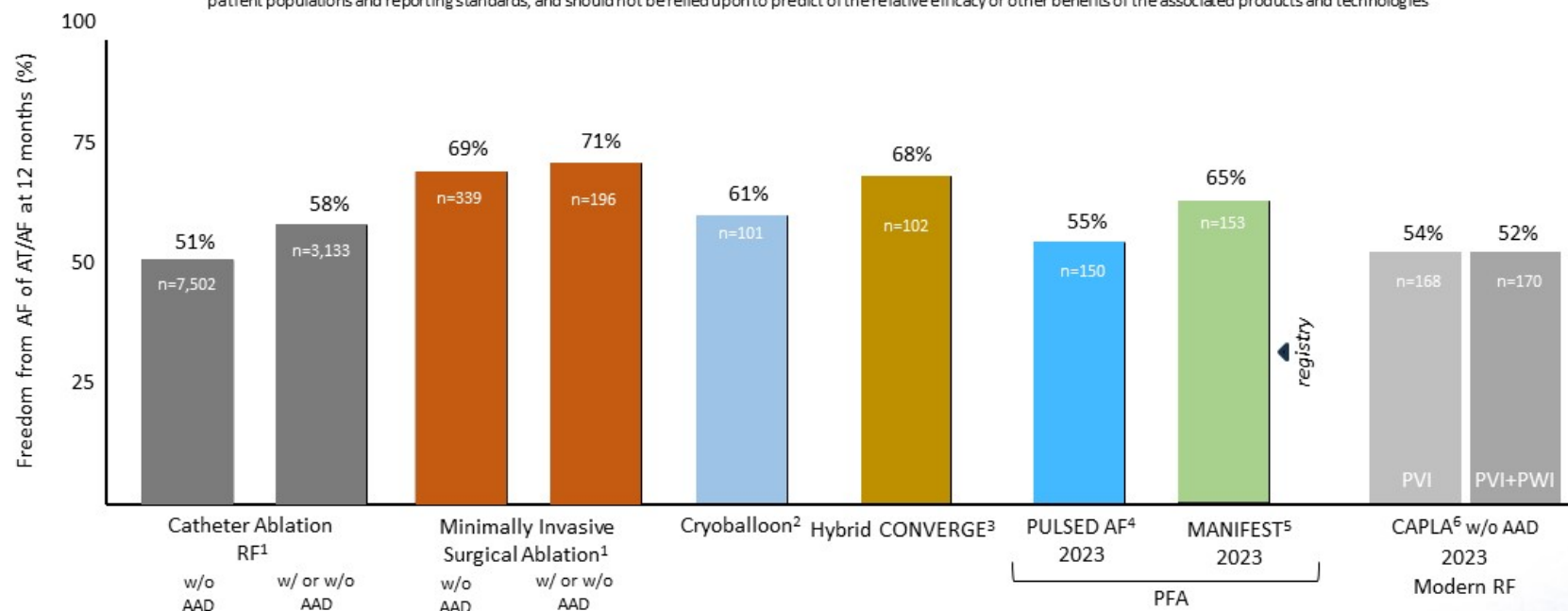
2) Reddy VY, Gerstenfeld W, Natale A, et al. Pulsed Field or Conventional Thermal Ablation for Paroxysmal Atrial Fibrillation. *N Engl J Med* 2023; 389:1660-1671



# PERSISTENTLY WORSE OUTCOMES IN PERSISTENT AF PATIENTS

## Reported Results of Catheter Ablation in Persistent AF Patients Across Multiple Technologies

Directional comparison only. The data presented below is not based on head-to-head clinical trials, as such data may not be directly comparable due to differences in study protocols, conditions, patient populations and reporting standards, and should not be relied upon to predict of the relative efficacy or other benefits of the associated products and technologies



(1) Berger WR, et al. Persistent atrial fibrillation: A systematic review and meta-analysis of invasive strategies. *International Journal of Cardiology*. 2019;276:137-148

(2) Boveda S, Metzner A, Nguyen D, et al. Single-procedure Outcomes and QoL Improvement 12 Months Post Cryoballoon Ablation in Persistent AF. *JACC EP*. 2018; 4:1440-1447

(3) Delurgio DB, et al. Hybrid convergent procedure for the treatment of persistent and longstanding persistent atrial fibrillation. *Circ Arrhythm Electrophysiol*. 2020;13:e009288

(4) Verma A, Haines DE, Boersma LV, et al. Pulsed Field Ablation for the Treatment of Atrial Fibrillation: PULSED AF Pivotal Trial. *Circulation*. 2023;147, in press

(5) Turagam MK, Neuzil P, Schmidt B, et al. Safety and Effectiveness of Pulsed Field Ablation to Treat Atrial Fibrillation: One-Year Outcomes from the MANIFEST PF Registry. *Circulation*. 2023;148:35-46

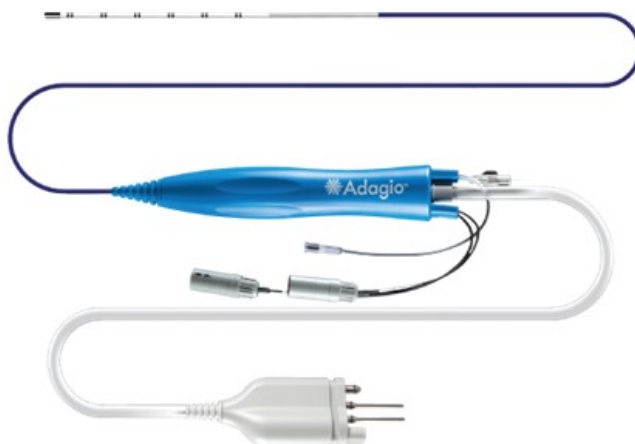
(6) Kistler PM, Chiang D, Sugumar H, et al. Effect of Catheter Ablation Using Pulmonary Vein Isolation With vs Without Posterior Left Atrial Wall Isolation on Atrial Arrhythmia Recurrence in Patients With Persistent Atrial Fibrillation: The CAPLA Randomized Clinical Trial. *JAMA*. 2023;329(2):127-135

# DURABLE, CONTIGUOUS, TRANSMURAL LESIONS FOR TREATMENT OF AFIB



iCLAS™ Cryoablation System is CE-Mark approved for the treatment of drug refractory, recurrent, symptomatic, Paroxysmal Atrial Fibrillation (PAF), Persistent Atrial Fibrillation (PsAF), and Atrial Flutter (AFL). In the U.S.A., iCLAS™ system is an investigational device, limited by Federal law to investigational use (IDE # G180263).

iCLAS™ Cryoablation Catheter



Esophageal Warming Balloon

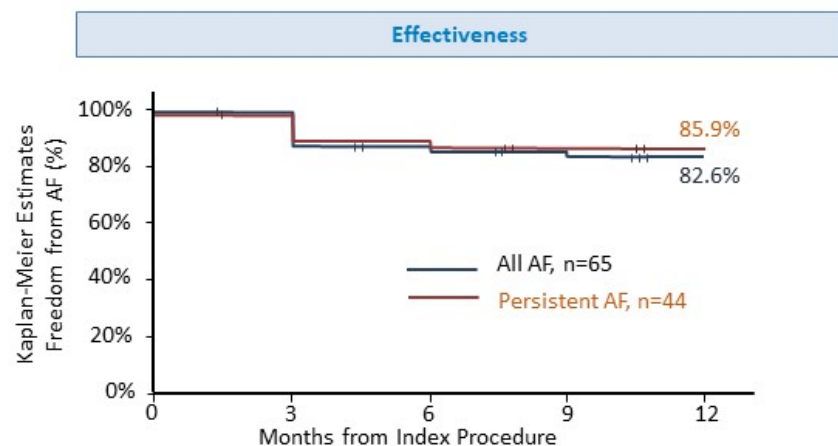


Shaped Stylets



- Same ULTC platform (as vCLAS)
- Same scientific principles of lesion formation (as vCLAS)
- Catheter implementation for patient-tailored atrial ablations

# CRYOCURE-2 CLINICAL TRIAL



**Safety**

Cryomapping Cohort (n=65)	
Phrenic nerve palsy	1
Resolved during procedure	1
Resolved during follow-up	1
Unresolved	0
<b>Total device-related events</b>	<b>1.5%</b>
<i>No esophageal fistula, pericarditis, heart block</i>	

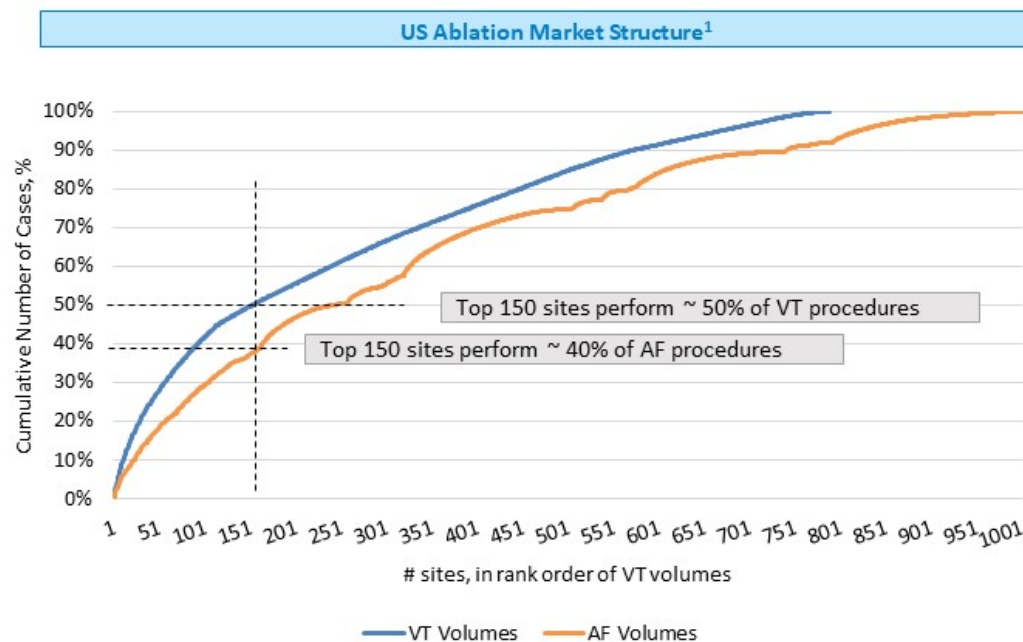


Cryocure-2 (NCT #02839304) data have been used to obtain CE-mark approval for iCLAS™ Cryoablation System

T. De Potter, et al. Ultralow Temperature Cryoablation For Atrial Fibrillation, Primary Outcome Results On Efficacy and Safety. The Cryocure-2 Study. JACC Clinical Electrophysiology 2022; Aug;8(8):1034-1039



# LEVERAGING VT PENETRATION INTO AF MARKET SHARE



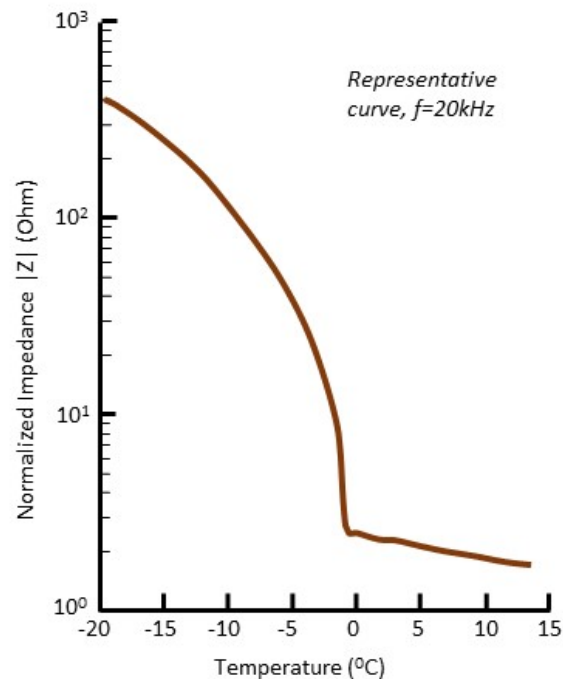
- AF market is slightly less concentrated compared to VT
- Access to 50% of VT volumes creates potential pull-through in ~ 40% of AF volumes

1) Based on management's analysis of Medicare FFS data, subject to certain assumptions and limitations. Please see Slides 48, 50, 71 and 73 which are part of Appendix II - Market Sources & Analysis for further details.

# WHAT IS PULSED FIELD CRYOABLATION?

# PFCA: MODULATING TISSUE IMPEDANCE TO OPTIMIZE PFA ENERGY DELIVERY

Impedance of bovine myocardial tissue as a function of temperature<sup>1</sup>



## Ohm's Law

$$V = R \times I$$

Electric Field  
Strength

$$E = Z \times J$$

Impedance

Current  
density

- **Increased impedance of frozen tissue leads to reduced electric current** for the same magnitude of electric field or and increased magnitude of electric field for the same magnitude of electric current as compared to normal temperature tissue
- Opportunity to modulate pulsed field strength and penetration depth (as well as associated currents) by pre-treatment with ultra-low temperature cryoablation<sup>2</sup>
- Electric field exclusion from low Z (warm) tissues – enhancing selectivity of ablation<sup>2</sup>

1) Fischer G et al. Impedance and conductivity of bovine myocardium during freezing and thawing at slow rates – implications for cardiac cryoablation. Medical Engineering and Physics 2019; 74: 89-98  
2) Daniels CS, Rubinsky B. Temperature Modulation of Electric Fields in Biological Matter. PLoS ONE 2011; 6:e20877. doi:10.1371/journal.pone.0020877



# PFCA: COMBINING THE BENEFITS OF ULTC AND MINIMIZING THE LIMITATIONS OF PFA



*PFA Console*



*Cryoablation Console*

**Connected to standalone or integrated cryoablation and PFA consoles**

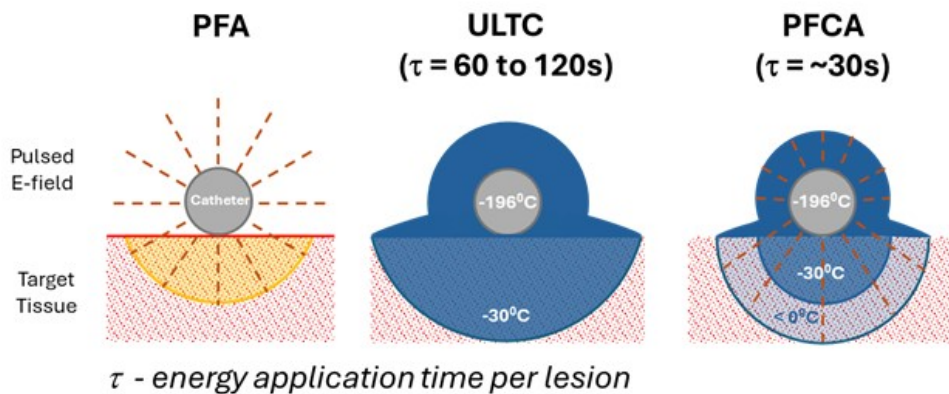
**Single catheter with ablation element capable of both ultra-low temperature cryoablation and PFA**



## **Lesion Formation:**

- 1 Short duration ultra-low temperature cryoablation
- 2 Immediately followed by PFA

# PFCA: COMBINING THE BENEFITS OF ULTC AND MINIMIZING THE LIMITATIONS OF PFA



For illustration purposes only. Adopted from [5].

**PFCA vs ULTC:** up to 85% shorter ablation cycle for the same lesion depth<sup>1</sup>

**PFCA vs PFA<sup>2,3</sup>:**

- Potentially deeper lesions
- Consistent tissue contact
- Contiguity “by design”
- No phrenic nerve capture
- No skeletal muscle activation
- No or minimized microbubbles
- No or minimized coronary spasm<sup>4</sup>

Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer - Management's Estimates on slide 2.

1) Assuming 3 min ablation cycle (freeze thaw freeze) for ULTC vs 30 seconds freeze for PFCA, Adagio ICLAS Cryoablation Catheter (IFU 108 0064 001) and Adagio Cryopulse™ Catheter (IFU 108 0138 001)

2) Verma A, Feld GK, Cox JL, et al. Combined pulsed field ablation with ultra low temperature cryoablation: A preclinical experience. J Cardiovasc Electrophysiol. 2022;1-10

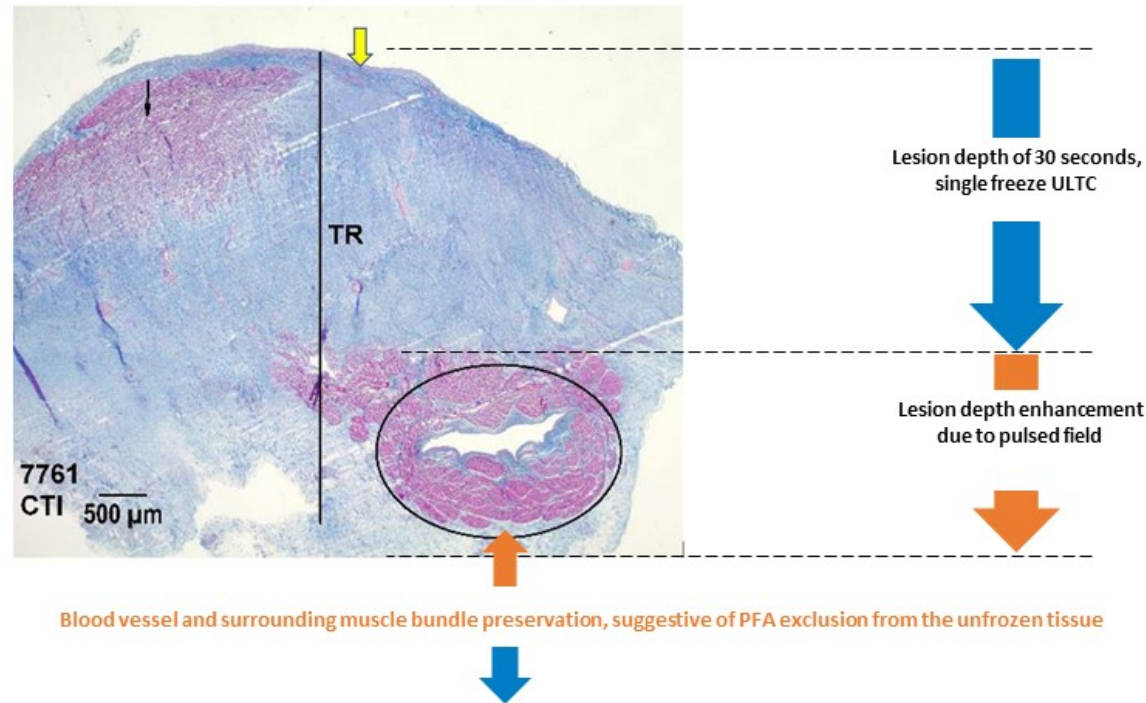
3) Boston Scientific issued an Urgent Field Safety Notice regarding its PFA products dated September 15, 2022, which, among others, warned about the injuries that might potentially caused by the use of PFA: <http://www.bostonscientific.com/content/dam/bostonscientific/quality/documents/Recent%20Product%20Advisories/September%202022%20PFA%20Pulse%20PFA%20Physician%20Letter%20%20EU%20English.pdf>

4) Preliminary data, courtesy Dr. E. Gerstenfeld (UCSF). AF Symposium 2023. <https://vimeo.com/798627743/00bd46d3b>

5) Essebag V, Boersma L, Petry J, et al. Acute Procedural Characteristics and Safety of Pulsed Field Cryoablation for Persistent AF: Multicenter Results from the First in Human PARALLEL Trial. EHRA 2024

# PRE-CLINICAL EVIDENCE<sup>1</sup>: SHORTER ABLATIONS, DEEPER LESIONS, ENHANCED SELECTIVITY

PFCA LESION IN ~ 6mm THICK CTI



Blood vessel and surrounding muscle bundle preservation, suggestive of PFA exclusion from the unfrozen tissue

POTENTIAL MECHANISM OF AVOIDING CORONARY VASOSPASMS REPORTED IN ENDOCARDIAL<sup>2,3</sup> AND EPICARDIAL<sup>4</sup> PFA

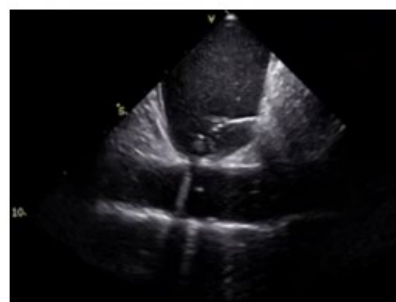
- 1) Verma A, Feld GK, Cox JL, et al. Combined pulsed field ablation with ultra low temperature cryoablation: A preclinical experience. *J Cardiovasc Electrophysiol.* 2022;1-10
- 2) Reddy VY, Petru J, Funasako M, et al. Coronary Arterial Spasm During Pulsed Field Ablation to Treat Atrial Fibrillation. *Circulation.* 2022;146:1808-1819
- 3) Gunawardene MA, Schaeffer BN, Jularic M, et al. Coronary Spasm During Pulsed Field Ablation of the Mitral Isthmus Line. *JACC: Clinical Electrophysiology.* 2021; 7:1618-1620
- 4) Higuchi S, Im SI, Stillson C, et al. Effect of Epicardial Pulsed Field Ablation Directly on Coronary Arteries. *J Am Coll Cardiol EP.* 2022;8:1486-1496

# EU PARALELL TRIAL (NCT #05408754):

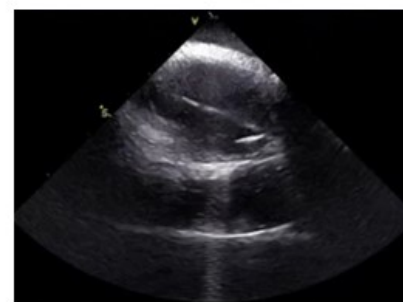
## Pulsed Field Ablation and Pulsed Field Cryoablation for Persistent Atrial Fibrillation

<b>Patients</b>	Projecting 120 PsAF patients (90 PFCA and 30 PFA)
<b>Endpoints</b>	Procedural safety, acute and chronic effectiveness
<b>Sites</b>	7 sites in Canada, the Netherlands, Ireland, Belgium, UK, Czech Republic and Poland and 1 additional site expected in Canada <sup>1</sup>
<b>Data Readout</b>	Expected in Q4 2025
<b>CE-Mark</b>	Expected in Q1 2026
<b>Next Steps</b>	<ul style="list-style-type: none"> <li>Estimated study enrollment completion = Q4 2024 followed by 12-months follow-up</li> <li>CE-mark application/submission expected to start Q2 2025</li> </ul>

PFA



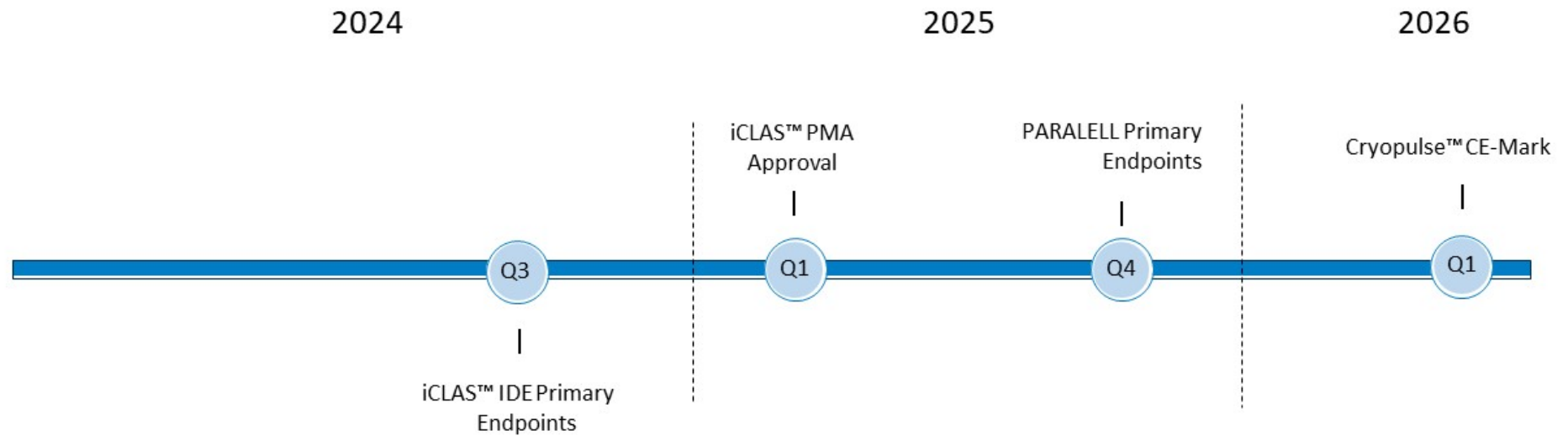
PFCA



<sup>1)</sup> Expectations are preliminary and subject to change. Please see Disclaimer - Forward Looking Statements on slide 2.



# NEAR-TERM AF VALUATION-DRIVING MILESTONES



Note: Milestones are preliminary and subject to change. Please see Disclaimer – Forward Looking Statements on slide 2.

# TRANSACTION SUMMARY

## Transaction Summary

- Business combination between Adagio Medical, Inc. and ARYA Sciences Acquisition Corp IV<sup>6</sup>
- Pre-money equity valuation of \$24 million
- Expected post transaction fully diluted equity value of \$126 million and fully diluted enterprise value of \$116 million<sup>1</sup>
- PIPE investors will receive 1.2 shares and 120% warrant coverage for every share of \$10 they contribute to the transaction (including contributions through non-redemption of ARYA shares); PIPE warrants will have an exercise price of \$10 and a five year maturity
- Transaction expected to close Q2 2024

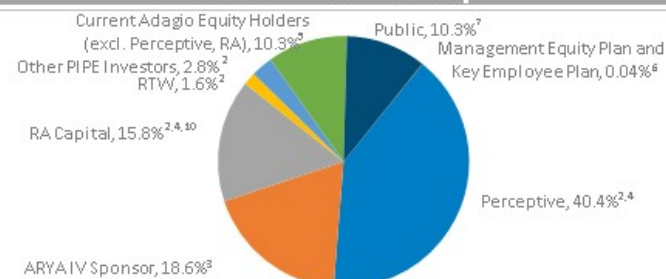
## Cash at Closing

- Expected to raise approximately \$80 million in gross cash and approximately \$30 million in total pro forma cash, after expenses, at closing<sup>1</sup>
- Perceptive has made available to Adagio \$23 million in bridge financing that will be converted, together with any accrued and unpaid interest thereon, into common shares at closing and will fund cash needs prior to transaction close; Perceptive will also invest an additional ~\$8.1 million<sup>2,3</sup> in the PIPE at closing
- \$20 million of senior secured convertible debt (3 years and nine months maturity after closing; 13% interest rate, payable in cash or compounding as additional principal outstanding) to be issued to Perceptive and certain other investors with a conversion price of \$10 per share<sup>2,3</sup>, including \$7 million funded at signing in the form of bridge financing notes from Perceptive which will convert into senior secured convertible notes at closing. Convert warrants (75% coverage) issued in connection with convert financing will have \$24 exercise price and maturity of 7 years.
- Combined company is expected to have sufficient capital through its key milestones in 2025 based on current plans and estimates

## Use of Proceeds

- Ventricular Tachycardia market development in Europe
- Clinical trials supporting regulatory approvals in the US and Europe
- Next generation catheter and console development
- Back-office infrastructure investments (human capital and processes) in HR, IT, and Finance
- Cost of being a public company (D&O insurance, auditors, consultants and legal)
- Repayment of Silicon Valley Bank debt
- Transaction expenses

## Pro Forma Ownership<sup>1</sup>



[1] Assumes (i) price per share of \$40, (ii) pro forma closing cash balance of \$80 million, including \$45 million in cash remaining in ARYA's trust (assuming additional 50% of redemptions in connection with the Business Combination), (iii) \$23 million in bridge financing, (iv) ~\$8.1 million additional PIPE investment from Perceptive at closing (of which ~\$1.1 million is expected to be syndicated by Perceptive to open market purchase investors), (v) \$40 million investment from RA Capital, (vi) \$1.4 million investment from FTW pursuant to a non-redemption agreement (assuming a \$13.30 redemption value per ARYA share; effective redemption value per ARYA share not redeemed by FTW and additional post-business combination company shares to be issued to FTW may vary), (vii) ~\$2.3 million investment from other investors to be satisfied by open market purchases of ~2.39 ARYA shares (assuming a \$11.84 share purchase price (reflects closing price on Tuesday on April 10, 2024); effective average purchase price at closing and additional post-business combination company shares to be issued to such investors may vary), (viii) \$20 million in nonsecured convertible debt with initial conversion price of \$40 per share, including \$7 million funded at signing in the form of bridge financing notes that convert into nonsecured convertible notes at closing, (ix) estimated combined fees and transaction expenses of \$4.9 million, including ARYA IV's deferred IPO underwriting fees (a portion of the transaction fees and expenses may be paid in shares of the post-business combination company), (x) \$2.8 million of assumed cash needs through transaction close, (xi) the conversion into shares of \$8.3 million of working capital loans extended by the ARYA IV Sponsor to ARYA at a conversion price of \$40.00 per share (additional working capital to be extended by the ARYA IV Sponsor to ARYA between signing and closing of the Business Combination may be converted by the ARYA IV Sponsor into shares of the Post-Business Combination company), (xii) \$1.1 million in debt at transaction close, and (xiii) the conversion of accrued and unpaid interest on Adagio convertible notes into shares at closing (assumed to be 4 months after signing of the Business Combination).

[2] Includes pro rata allocation of 1,000,000s sponsor promote shares to PIPE participants.

[3] Reflects forfeiture of sponsor shares as set forth on Transaction Overview slide. ARYA IV Sponsor includes sponsor promote shares (net of the 1,000,000 shares allocated to PIPE investors), 489,000 sponsor private placements shares from ARYA IV IPO, 330,000 shares issued upon conversion of \$8.3 million of working capital loans extended by the ARYA IV Sponsor to ARYA (additional working capital loans extended by the Sponsor to ARYA between signing and closing of the Business Combination may be converted into shares of the Post-Business Combination company) and does not include 1,147,900s sponsor shares subject to \$24 per share price-based vesting.

[4] Includes existing ownership pre-Business Combination.

[5] Excludes equity incentive and other awards, including the HoldCo Incentive Equity Plan and the Employee Stock Purchase Plan.

[6] The terms and conditions of the Post-Business Combination Company Management Equity Plan, Key Employee Plan and Employee Share Purchase Plan (ESPP) will be determined between signing and closing.

[7] ARYA shares subject to redemption in connection with the Business Combination.

[8] The Post-Business Combination Company shares are expected to be issued by a newly incorporated Delaware corporation.

[9] Perceptive may syndicate its commitment in the PIPE financing and the convertible note financing to new investors before closing. The closing of \$7.3 million under the nonsecured convertible convertible debt financing is conditioned on the post-business combination company having a certain amount of available unrestricted cash on the closing date.

[10] Includes shares that are issuable upon exercise of pre-funded warrants with a nominal exercise price of \$0.01.



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# APPENDIX I



# TRANSACTION OVERVIEW

Transaction Summary	<ul style="list-style-type: none"> <li>Adagio Medical, Inc. and ARYA Sciences Acquisition Corp IV ("ARYA", Nasdaq: ARYD) propose to enter into a definitive business combination agreement                             <ul style="list-style-type: none"> <li>ARYA is a special purpose acquisition company sponsored by Perceptive Advisors LLC</li> <li>The Post-Business Combination Company shares are expected to be issued by a newly incorporated Delaware corporation and to trade under the ticker "ADGM"</li> </ul> </li> <li>Pre-money equity valuation of \$24 million. Expected post transaction fully diluted equity value of \$126 million and <b>fully diluted enterprise value of \$116 million<sup>(1)</sup></b></li> <li>Transaction expected to close Q2 2024</li> </ul>
Bridge, PIPE Financing, and Convertible Debt	<ul style="list-style-type: none"> <li>Deal structured to raise approximately \$80 million in gross cash and approximately \$30 million in total pro forma cash, after expenses, at closing<sup>(1)</sup> from ARYA's trust, PIPE financing, Perceptive bridge financing, and convertible debt                             <ul style="list-style-type: none"> <li>PIPE investors will receive 1.2 shares and 120% warrant coverage for every share of \$10 they contribute to the transaction (including contributions through non-redemption of ARYA shares); PIPE warrants will have an exercise price of \$10 and a five year maturity</li> <li>Perceptive has made available to Adagio \$23 million in bridge financing that will be converted, together with any accrued and unpaid interest thereon, into common shares at closing and will fund cash needs prior to transaction close; Perceptive will also invest an additional ~\$8.1 million<sup>(2)</sup> in the PIPE at closing</li> <li>Bridge financing to be used to support expected \$2.6 million cash needs prior to transaction close</li> <li>\$20 million of senior secured convertible debt (3 years and nine months maturity after closing; 13% interest rate, payable in cash or compounding as additional principal outstanding) to be issued to Perceptive and other investors with a conversion price of \$10 per share, including \$7 million funded at signing in the form of bridge financing notes from Perceptive which will convert into senior secured convertible notes at closing; convert warrants (75% coverage) issued in connection with convert financing will have \$24 exercise price and maturity of 7 years<sup>(2)</sup></li> </ul> </li> </ul>
Sponsor Shares and Private Placement Shares	<ul style="list-style-type: none"> <li>1,500,000 of the founder shares and 499,000 private placement shares held by ARYA Sponsor will be retained by ARYA Sponsor and not be subject to adjustment in connection with the transaction</li> <li>Up to 1,000,000 of the founder shares held by ARYA Sponsor will be forfeited in connection with the transaction; participants in the PIPE financing will separately receive a pro rata amount of such forfeited shares as additional consideration for the PIPE financing and bridge financing                             <ul style="list-style-type: none"> <li>Perceptive will receive a proportionate amount of the 1,000,000 ARYA founder shares to be forfeited by ARYA Sponsor based on the portion of the aggregate financing funded by Perceptive in the bridge financing and the PIPE financing</li> </ul> </li> <li>1,147,500 of the founder shares held by ARYA Sponsor will become subject to share trigger price vesting and vest if the post-closing share price exceeds \$24.00 per share</li> </ul>
Cash at Closing	<ul style="list-style-type: none"> <li>Adagio Medical, Inc. expected to have a minimum total pro forma cash of approximately \$30 million<sup>(1)</sup>, after expenses, at closing</li> <li>The combined company is expected to have sufficient capital through 2025 based on current plans and estimates</li> </ul>

[1] Assumes (i) price per share of \$10, (ii) pro forma closing cash balance of \$80 million, including \$15 million in cash remaining in ARYA's trust (assuming additional 90% of redemptions in connection with the Business Combination), (iii) \$23 million in bridge financing, (iv) ~\$8.1 million additional PIPE investment from Perceptive at closing (of which ~\$1.1 million are expected to be syndicated by Perceptive to open market purchase investors); (v) \$40 million investment from RA Capital; (vi) \$1.4 million investment from FTW pursuant to a non-redemption agreement (assuming a \$11.30 redemption value per ARYA share; effective redemption value per ARYA share not redeemed by FTW and additional post-business combination company shares to be issued to FTW may vary); (vii) ~\$2.3 million investment from other investors to be satisfied by open market purchases of ~249,494 ARYA shares (assuming a \$11.34 share purchase price (reflects closing price on Nasdaq on April 13, 2024); effective average purchase price at closing and additional post-business combination company shares to be issued to such investors may vary); (viii) \$20 million senior secured convertible debt with initial loan size of \$10 per share, including \$7 million funded at signing in the form of bridge financing notes that convert into senior secured convertible notes at closing; (ix) estimated combined fees and transaction expenses of \$19 million, including ARYA IV's deferred IPO underwriting fees (a portion of the transaction fees and expenses may be paid in shares of the post-Business Combination Company); (x) \$2.6 million of assumed cash needs through the transaction close; (xi) the conversion into shares of \$9.3 million of working capital loans extended by the ARYA IV Sponsor to ARYA between signing and closing of the Business Combination may be converted by the ARYA IV Sponsor into shares of the Post-Business Combination Company; (xii) \$1.1 million in debt at transaction close, and (xiii) the conversion of accrued and unpaid interest on Adagio convertible notes into shares at closing (assumed to be 4 months after signing of the Business Combination).

[2] Perceptive may syndicate its commitment in the PIPE financing and the convertible note financing to new investors before closing. The closing of \$7.3 million of senior secured convertible debt financing is conditioned on the post-business combination company having a certain amount of available unrestricted cash on the closing date.

# ILLUSTRATIVE PRO FORMA OWNERSHIP<sup>1</sup>

All numbers adjusted fortreasury stock method

Pro Forma Ownership A/P

(In thousands)	At \$ 10.00 <sup>2</sup>			At \$ 16.00 <sup>2</sup>			At \$ 24.00 <sup>2</sup>		
	Shares	%	Value	Shares	%	Value	Shares	%	Value
<b>Summary:</b>									
Perceptus	6,084	40.4%	\$60,844	7,587	43.5%	\$121,392	8,519	41.1%	\$204,456
ARYA IV Sponsor	2,349	15.6%	23,490	2,349	13.5%	36,236	3,497	16.9%	\$83,916
RA	1,989	15.8%	19,892	2,389	13.7%	36,236	2,689	13.0%	64,540
RTW	206	1.6%	2,067	264	1.5%	3,963	307	1.5%	7,365
PIPE Inter	363	2.8%	3,632	453	2.6%	6,788	527	2.5%	12,649
Convertible Debt Issues	-	-	-	750	4.3%	11,250	750	3.6%	18,000
Public <sup>5</sup>	1,301	10.3%	13,010	1,301	7.5%	19,546	1,301	6.3%	31,273
Adagio Other <sup>4</sup>	1,301	10.3%	13,015	1,301	7.5%	19,522	1,301	6.3%	31,236
Management Equity Incentive Plan	6	0.0%	56	1,053	6.1%	15,942	1,286	5.9%	44,537
<b>Total</b>	<b>12,802</b>	<b>100.0%</b>	<b>\$128,018</b>	<b>9,468</b>	<b>100.0%</b>	<b>\$281,338</b>	<b>20,748</b>	<b>100.0%</b>	<b>\$487,822</b>
<b>Detailed:</b>									
Sponsor Promote (Refined)	1,500	11.5%	\$15,000	1,500	8.6%	\$22,500	1,500	7.2%	\$36,000
Sponsor Promote (Barclay)	-	-	-	-	-	-	1,148	5.5%	27,540
Sponsor Private Placement Shares	499	4.0%	4,990	499	2.9%	7,485	499	2.4%	11,976
Sponsor Working Capital Shares <sup>3</sup>	360	2.8%	3,600	360	2.0%	5,280	360	1.7%	8,400
Perceptus Existing Ownership, PIPE shares, Bridge Financing and Convert Shares <sup>6</sup>	4,404	34.5%	44,040	5,654	32.4%	86,510	5,654	27.2%	135,996
Perceptus New Shares Through PIPE Warrant and Convert Warrant Exercise <sup>6</sup>	-	-	-	1,243	7.1%	19,542	2,175	10.5%	52,199
Perceptus Sponsor Promote (Allocated)	680	5.5%	6,805	680	4.0%	10,367	680	3.3%	16,571
PIPE RA Shares <sup>7</sup>	1,767	14.0%	17,669	1,767	10.1%	26,504	1,767	8.5%	42,407
PIPE RA New Shares Through PIPE Warrant Exercise	-	-	-	400	2.3%	6,000	700	3.4%	16,800
PIPE RA Sponsor Promote Allocation	222	1.8%	2,222	222	1.3%	3,333	222	1.1%	5,333
PIPE RTW Shares	174	1.4%	1,735	174	1.0%	2,603	174	0.8%	4,195
PIPE RTW New Shares Through PIPE Warrant Exercise	-	-	-	58	0.3%	868	101	0.5%	2,429
PIPE RTW Sponsor Promote Allocation	32	0.3%	321	32	0.2%	482	32	0.2%	771
PIPE Inter Investor (excl. Perceptus, RA, RTW) Shares	258	2.4%	2,580	258	1.7%	4,470	258	1.4%	7,152
PIPE Inter Investor (excl. Perceptus, RA, RTW) New Shares Through PIPE Warrant Exercise	-	-	-	99	0.6%	1,480	174	0.8%	4,172
PIPE Inter Investor (excl. Perceptus, RA, RTW) Sponsor Promote Allocation	56	0.4%	562	56	0.3%	828	56	0.3%	1,324
Convertible Debt Issues (excl. Perceptus) <sup>8</sup>	-	-	-	750	4.3%	11,250	750	3.6%	18,000
Convertible Debt Issues for Shares Through Convert Warrant Exercise (excl. Perceptus) <sup>8</sup>	-	-	-	-	-	-	-	-	-
Current Adagio Equity Holders (excl. Perceptus, RA)	1,301	10.3%	13,015	1,301	7.5%	19,522	1,301	6.3%	31,236
Public Shareholders <sup>5</sup>	1,301	10.3%	13,010	1,301	7.5%	19,546	1,301	6.3%	31,273
Management Equity Plan and Key Employee Plan, collectively representing up to 35% of Pro Forma Fully Diluted, Treasury Stock Method Adjusted, Capitalization	6	0.0%	56	1,053	6.1%	15,942	1,286	5.9%	44,537
<b>Total</b>	<b>12,802</b>	<b>100.0%</b>	<b>\$128,018</b>	<b>9,468</b>	<b>100.0%</b>	<b>\$281,338</b>	<b>20,748</b>	<b>100.0%</b>	<b>\$487,822</b>

(1) Subject to all assumptions and disclosures set forth in "Transaction Summary" and "Transaction Overview" slides.

(2) Illustrative not a forecast of Pro Forma Business Combination company (as it is merely illustrative and not a forecast).

(3) ARYA has not yet been approved by the Business Combination.

(4) Includes Adagio warrants and other securities issued in the merger with ARYA as a fully-diluted basis.

(5) Assumes conversion of shares of \$3.50 million of convertible preferred stock issued by the ARYA IV Sponsor to ARYA, however signing and closing of the Business Combination may be required by the ARYA IV Sponsor to the shares of the Pro Forma Business Combination.

(6) Perceptus may syndicate its commitments in the PIPE financing and convertible debt financing with investors before closing.

(7) Includes shares that are issued to management and other key employees with a nominal exercise price of \$0.01.

(8) Assumes 100% conversion.



# HIGHLY ACCOMPLISHED EXECUTIVE TEAM



**Olav Bergheim**  
*CEO & President*  
30+ years of  
experience in life  
sciences

**Baxter**



Founder of  
3F Therapeutics  
Prelude Corporation



**Hakon Bergheim**  
*Chief Operating  
Officer*  
10+ years of  
experience in  
medical devices



**John Dahldorf**  
*Chief Financial  
Officer*  
20+ years of  
corporate finance  
experience



**Nabil Jubran**  
*Chief Compliance  
Officer*  
20+ years of  
medical device  
experience



**Tim Glynn**  
*VP of Global  
Sales*  
25+ years of  
medical experience



**Ilya Grigorov**  
*Vice President,  
Global Marketing  
and Product  
Management*

20+ years of medical  
device experience



**Doug Kurschinski**  
*Vice President of  
Clinical Affairs*  
30+ years of  
medical device  
experience



Note: Olav Bergheim serves as the CEO of the Company pursuant to the terms of a Facilities and Shared Services Agreement between the Company and Fjord Ventures, LLC. Based on such agreement, Mr. Bergheim is compensated for serving in such position by Fjord Ventures, LLC. Two funds managed by Mr. Bergheim, one of which is affiliated with Fjord Ventures, LLC, have invested an aggregate of approximately \$10M among the approximately \$100M investment in aggregate that the Company has received so far.

1) Volcano Corporation was acquired by Royal Philips in 2015.



# SELECTED RISK FACTORS

*No representation or warranty (whether express or implied) has been made by ARYA, the Company, ListCo or any of their respective directors, officers, employees, affiliates, agents, advisors or representatives with respect to the proposed PIPE financing or Business Combination or the manner in which the proposed PIPE financing or Business Combination is conducted, and the recipient hereby disclaims any such representation or warranty. The recipient of this Presentation acknowledges that ARYA, the Company, ListCo and their respective directors, officers, employees, affiliates, agents, advisors or representatives are under no obligation to accept any offer or proposal by any person or entity regarding the PIPE financing and the Business Combination. None of ARYA, the Company, ListCo or any of their respective directors, officers, employees, affiliates, agents, advisors or representatives has any legal, fiduciary or other duty to any recipient of this Presentation with respect to the manner in which the proposed PIPE financing or Business Combination is conducted.*

*Unless the context otherwise requires, all reference in this subsection to the "Company," "Adagio," "we," "us" or "our" refer to Adagio Medical, Inc. and its subsidiaries, prior to, or following, the consummation of the Business Combination, as the context requires. The risks presented below are some of the general risks to the business and operations of Adagio, ARYA Sciences Acquisition Corp IV ("ARYA") and Aja Holdco, Inc., of which Adagio will become a subsidiary following the consummation of the Business Combination (the "Post-Combination Company"), and such risks are not exhaustive. The list below is qualified in its entirety by disclosures that will be contained in the future filings by ARYA and the Post-Combination Company, or of each of their respective affiliates or by third parties with the U.S. Securities and Exchange Commission (the "SEC"), including any documents filed in connection with the proposed transaction. The risks presented in such filings may differ significantly from and may be more extensive than those presented below. The list below is not exhaustive, and you are encouraged to perform your own investigation with respect to the business, financial condition and prospects of Adagio or the Post-Combination Company. You should carefully consider the following risk factors in addition to the information included in this presentation. Adagio or the Post-Combination Company may face additional risks and uncertainties that are not presently known to it or that it currently deems immaterial, which may also impair Adagio's or the Post-Combination Company's business or its financial condition. These risks speak only as of the date of this presentation, and neither the Company, ARYA nor the Post-Combination Company undertake any obligation to update the disclosure contained herein. In making any investment decision, you should rely solely upon independent investigation made by you. You acknowledge that you are not relying upon, and have not relied upon, any of the summary of risks or any other statement, representation or warranty made by any person or entity other than the statements, representations and warranties of the Company, ARYA or the Post-Combination Company explicitly contained in any definitive agreement you enter into. You acknowledge that you have such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of an investment in the Company or the Post-Combination Company and you have sought such accounting, legal and tax advice from your own advisors as you have considered necessary to make an informed decision.*



# SELECTED RISK FACTORS (CONT.)

- The consummation of the Business Combination is subject to a number of conditions, and if those conditions are not satisfied or waived, the Business Combination may not be completed;
- Some of ARYA's, the Company's or the Post-Combination Company's officers and directors may have conflicts of interest that may influence them to approve the Business Combination without regard to your interests;
- ARYA's directors and officers may have interests in the Business Combination different from the interests of ARYA, the Company, the Post-Combination Company or their respective shareholders;
- If ARYA is unable to close certain financing transactions and sufficient shareholders exercise their redemption rights in connection with the Business Combination such that there is less than \$60 million of cash proceeds available from ARYA's trust account and the financing transactions, then ARYA may lack sufficient funds to consummate the Business Combination;
- A portion of the total outstanding shares of the Post-Business Combination Company is expected to be restricted from immediate resale but may be sold into the market in the near future;
- Sales of a substantial number of shares of the Post-Business Combination Company's common stock in the public market by existing stockholders could cause the Post-Business Combination Company's share price to decline, even if our business is doing well;
- ARYA's shareholders will experience dilution due to (i) the issuance to existing Company security holders and investors in the financing transactions in connection with the Business Combination of securities, and (ii) additional sources of dilution upon exercise or conversion of securities that will be issued in connection with or following the Business Combination (for instance, any earn-out shares, the PIPE Warrants, the Convert Warrants, the New Adagio Convertible Notes, securities issued in connection with the post-Business Combination Company equity plan or employee share purchase plan), in each case potentially entitling recipients of such securities to a significant voting stake in the Post-Business Combination Company;
- If ARYA does not consummate an initial business combination within the required time period, as may be extended at the option of ARYA Sciences Holdings IV (the "Sponsor"), its public shareholders may receive only their pro rata portion of the funds in the ARYA's trust account that are available for distribution to its public shareholders;
- There are no assurances that ARYA will be able to complete the Business Combination prior to its expiration date or that the Sponsor will continue to exercise its monthly options to extend the time period ARYA has in order to consummate an initial business combination;
- The Company or Post-Business Combination Company stockholders cannot be certain of the value of the merger consideration they will receive until the closing of the Business Combination;
- Because there are no current plans to pay cash dividends on the common stock of the Post-Business Combination Company for the foreseeable future, you may not receive any return on investment unless you sell your ARYA ordinary shares or the Post-Business Combination Company common stock at a price greater than what you paid for it;
- ARYA, the Company and the Post-Business Combination Company expect to incur substantial transaction fees and costs in connection with the Business Combination and the integration of their businesses;
- The costs related to the Business Combination could be significantly higher than currently anticipated;
- ARYA's, the Company's or the Post-Business Combination Company's business and operations could be negatively affected, or the Business Combination may be delayed or prevented from being completed, if they become subject to any securities litigation or shareholder activism;
- In connection with the Business Combination, the Sponsor and ARYA's directors, executive officers, advisors and their affiliates may elect to purchase Class A ordinary shares of ARYA from public shareholders, which may reduce the public "float" of ARYA's Class A ordinary shares;

# SELECTED RISK FACTORS (CONT.)

- The proceeds held in ARYA's trust account could be reduced and the per-share redemption amount received by ARYA shareholders may be less than \$10.00 per share;
- The Nasdaq Stock Market LLC may delist ARYA's Class A ordinary shares from its exchange prior to the closing of the Business Combination or Nasdaq may not list the Post-Business Combination Company's securities on its exchange, which could limit investors' ability to make transactions in the Post-Business Combination Company's securities and subject the Post-Business Combination Company to additional trading restrictions;
- Following the closing of the Business Combination, an active trading market for the Post-Business Combination Company's common stock may not be available on a consistent basis to provide stockholders with adequate liquidity. The share price may be extremely volatile and shareholders could lose a significant part of their investment;
- If, following the Business Combination, securities or industry analysts do not publish or cease publishing reports about the Post-Business Combination Company, its business, or its market, or if they change their recommendations regarding the Post-Business Combination Company's securities adversely, the price and trading volume of the securities of the Post-Business Combination Company could decline;
- The benefits of the Business Combination may not be realized to the extent currently anticipated by ARYA, the Company and the Post-Business Combination Company, or at all. The ability to recognize any such benefits may be affected by, among other things, competition, the ability of the Post-Business Combination Company to grow and manage growth profitably, maintain relationships with customers, landlords and suppliers and retain its management and key employees. If the Business Combination's benefits do not meet the expectations of investors, shareholders or financial analysts, the market price of ARYA's or the Post-Business Combination Company's securities may decline;
- The potential business combination will result in changes to the composition of the board of directors of the Company and the composition of the board of directors of the Post-Business Combination Company which may affect the strategy of the Post-Business Combination Company;
- The ability of ARYA, the Company and the Post-Business Combination Company to successfully effect the Business Combination and to be successful thereafter will be dependent upon the efforts of certain key personnel, including the Company's key personnel. The loss of key personnel could negatively impact the operations and profitability of the Post-Business Combination Company and its financial condition could suffer as a result;
- The Post-Business Combination Company does not have experience operating as a public company subject to U.S. federal securities laws and may not be able to adequately develop and implement the governance, compliance, risk management and control infrastructure and culture required for a public company, including compliance with the Sarbanes Oxley Act;
- The requirements of being a public company may strain the Post-Business Combination Company's resources, incur increased costs and distract its management, which could make it difficult to manage its business, particularly after the Post-Business Combination Company is no longer an emerging growth company;
- Subsequent to the completion of the Business Combination, the post-Business Combination company may be required to take write-downs or write-offs, restructuring and impairment or other charges that could have a significant negative effect on its financial condition, results of operations and stock price, which could cause you to lose some or all of your investment;
- As a private company, the Company has not been required to document and test its internal controls over financial reporting nor has management been required to certify the effectiveness of its internal controls and its auditors have not been required to opine on the effectiveness of its internal control over financial reporting. As such, material weaknesses may be identified in the Company's or the Post-Business Combination Company's internal control over financial reporting that could lead to errors in the Post-Business Combination Company's financial reporting, which could adversely affect the Post-Business Combination Company's business and the market price of its securities;
- If the Post-Business Combination Company fails to maintain an effective system of disclosure controls and internal controls over financial reporting, its ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired;
- If the Post-Business Combination Company's estimates or judgments relating to its critical accounting standards prove to be incorrect, or such standards change over time, its results of operations could be adversely affected;
- Because the Post-Business Combination Company will become a publicly traded company by virtue of mergers in connection with the Business Combination as opposed to an underwritten initial public offering, there are no underwriters involved in the process, which could result in less diligence being conducted on the Company or the Post-Business Combination Company than in an underwritten initial public offering;
- The ability of ARYA's public shareholders to exercise redemption rights with respect to a large number of ARYA's public shares may not allow the Post-Business Combination Company to complete the most desirable business combination, fully fund the Company's business plan, or changes thereto, or optimize the capital structure of the Post-Business Combination Company;
- Past performance by ARYA's management team or their affiliates, including Perceptive Advisors, ARYA Sciences Acquisition Corp., ARYA Sciences Acquisition Corp II, ARYA Sciences Acquisition Corp III, or their respective business combination targets, may not be indicative of future performance of an investment in ARYA or the Post-Business Combination Company;
- The Post-Business Combination Company's governing documents may include provisions that may discourage takeover attempts;
- The Company's operating and financial results, which were presented to the ARYA board of directors, may not prove accurate;
- Activities taken by existing ARYA shareholders to increase the likelihood of approval of the Business Combination proposal and the other proposals to be described in the proxy statement/prospectus that will be filed in connection with the Business Combination could have a depressive effect on ARYA's share price;

# SELECTED RISK FACTORS (CONT.)

- Upon executing a definitive agreement with respect to the Business Combination by and among the Company, ARYA and the Post-Business Combination Company, ARYA may be prohibited from entering into certain transactions that might otherwise be beneficial to it or its shareholders;
- The Business Combination may be completed even though material adverse effects may result from the announcement of the Business Combination, industry wide changes, and other causes;
- Delays in completing the Business Combination may substantially reduce the expected benefits of the Business Combination;
- Adagio has, and the Post-Business Combination Company will have, broad discretion in the use of cash on hand and may not use it effectively. There is no guarantee that Adagio or the Post-Business Combination Company will have sufficient capital to fund the Post-Business Combination Company business plan through 2025 and Adagio's or the Post-Business Combination Company's anticipated cash runway through 2025 may be shorter than expected;
- The Post-Business Combination Company may not be able to remain compliant with the covenants of, and other obligations under, the senior secured convertible notes that will be issued in connection with the closing of the Business Combination.

## Risks Related to Adagio's Business

- Adagio is a medical device company that has incurred net losses in every period to date and expects to continue to incur significant losses as it develops its business.
- Adagio's growth prospects partially depend on its ability to accelerate the commercialization of its products and to capitalize on market opportunities.
- Adagio is dependent on the success of its pipeline portfolio, which remains in the development stage and subject to on-going scientific and technical validation.
- Even if Adagio is able to launch its pipeline portfolio successfully, it may experience material delays in its commercialization program relative to its current expectations.
- The commercialization of Adagio's products will require Adagio to establish relationships and successfully collaborate with leading life science companies and research institutions.
- The life sciences technology market is highly competitive. Competitors include new entrants and established companies, many of which have significantly greater resources than Adagio. If Adagio fails to compete effectively, its business and results of operation will suffer.
- If Adagio is unable to establish manufacturing capacity by itself or with third-party partners in a timely and cost-effective manner, commercialization of its products would be delayed, which would result in lost revenue and harm its business.
- If Adagio is unable to establish an effective network for commercialization, including effective distribution channels and sales and marketing functions, it may adversely affect its business, results of operations, financial condition and prospects.
- Adagio's operating results may fluctuate significantly in the future, which makes its future operating results difficult to predict and could cause its operating results to fall below expectations or any guidance Adagio may provide.
- There is no assurance that Adagio will be able to execute on its business model, including achieving market acceptance of its products.
- Adoption of Adagio's products depends upon appropriate physician training, practice and patient selection.
- Even if Adagio's products are commercialized and achieve broad scientific and market acceptance, if Adagio fails to improve them or introduce compelling new products, its revenue and its prospects could be harmed.
- Adagio may need to raise additional capital to fund its development and commercialization plans.
- The size of the markets for Adagio's products may be smaller than estimated, limiting Adagio's ability to successfully sell its products.
- Adagio is dependent on limited third-party suppliers and manufacturers for some of the components and materials used in its products, and the loss of any of these suppliers and manufacturers, or any difficulties encountered by these suppliers and manufacturers in the production of Adagio's products, could harm its business.
- If Adagio experiences a significant disruption in its information technology systems or security incidents, its business could be adversely affected, including its ability to operate, the loss of confidential and proprietary information, increased remediation costs, and reputational damage.
- Adagio may be unable to manage its anticipated growth effectively.
- Adagio may acquire other companies or technologies, or form strategic partnership with other companies, which could divert its management's attention, increase its capital requirements, and otherwise disrupt its operations, subject it to other risks and harm its operating results.
- If Adagio is unable to recruit and retain key executives and scientists, it may be unable to achieve its goals.
- Adagio's products could have unknown defects or errors, which may give rise to claims against it and adversely affect market adoption of its products.
- Consolidation in the medical device industry could have an adverse effect on Adagio's revenue and results of operations.
- Since Adagio commercializes its products outside of the United States, its international business could expose it to business, regulatory, political, operational, financial, and economic risks associated with doing business outside of the United States.
- Unfavorable U.S. or global economic conditions as a result of the COVID-19 pandemic, political instability, natural disasters, or otherwise, could adversely affect Adagio's ability to raise capital and its business, results of operations and financial condition.
- If Adagio fails to maintain an effective system of internal control over financial reporting, the Post-Combination Company may not be able to accurately report its financial results in a timely manner or prevent fraud, which would harm its business.





# SELECTED RISK FACTORS (CONT.)

- If the Post-Combination Company estimates or judgments relating to its critical accounting policies are based on assumptions that change or prove to be incorrect, its results of operation could fall below its publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of its common stock.
- If Adagio's facilities become unavailable or inoperable, Adagio's research and development program and commercialization launch plan could be adversely affected, which could materially and adversely impact Adagio's business and operations.
- Adagio uses hazardous chemicals and biological materials in its business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

## Risks Related to Adagio's Intellectual Property

- If Adagio is unable to obtain and maintain sufficient intellectual property protection for its products and technology, or if the scope of the intellectual property protection obtained is not sufficiently broad, competitors could develop and commercialize products similar or identical to Adagio's products, and Adagio's ability to successfully commercialize its products may be impaired.
- The U.S. law relating to the patentability of certain inventions in the life sciences technology industry is uncertain and rapidly changing, which may adversely impact Adagio's existing patents or its ability to obtain patents in the future.
- Adagio may not be able to protect its intellectual property rights throughout the world.
- Adagio may become involved in lawsuits to defend against third-party claims of infringement, misappropriation or other violations of intellectual property or to protect or enforce Adagio's intellectual property, any of which could be expensive, time consuming and unsuccessful, and may prevent or delay its development and commercialization efforts.
- Issued patents covering Adagio's products could be found invalid or unenforceable if challenged.
- If Adagio is unable to protect the confidentiality of its trade secrets, the value of its technology could be materially adversely affected and its business could be harmed.
- Adagio may not be able to protect and enforce its trademarks and trade names, or build name recognition in its markets of interest thereby harming its competitive position.
- Patent terms may be inadequate to protect Adagio's competitive position of their products for an adequate amount of time.
- Obtaining and maintaining Adagio's patent protection depends on compliance with various required procedures, document submissions, fee payments and other requirements imposed by governmental patent agencies, and Adagio's patent protection could be reduced or eliminated for non-compliance with these requirements.
- Adagio may be subject to claims that its employees, consultants, independent contractors or any third parties that have access to Adagio's confidential information or trade secrets have wrongfully used or disclosed confidential information of third parties or that its employees have wrongfully used or disclosed trade secrets of their former employers.
- If Adagio cannot license rights to use technologies on reasonable terms, it may not be able to commercialize new products in the future.
- Adagio's use of open source software and failure to comply with the terms of the underlying open source software licenses could impose limitations on its ability to commercialize its products and provide third parties access to its proprietary software.
- Intellectual property rights do not necessarily address all potential threats.

## Risks Related to Regulatory and Legal Compliance Matters

- Adagio expects to incur substantial expenses in its pursuit of regulatory clearances and approvals for its products in the United States and can provide no assurances that it will obtain the necessary approvals from the FDA to market its products in the United States.
- Adverse findings in post-marketing vigilance or regulatory audits could subject Adagio to suspension or withdrawal of its certificates of conformity, mandatory product recalls and significant legal liability, which could materially and adversely affect its business, financial condition and results of operations.
- Adagio may be subject to enforcement action if Adagio engages in marketing of its products pursuant to improper regulatory classifications in the EU, including suspension or withdrawal of its certificates of conformity, mandatory product recalls and significant legal liability, fines, penalties, and injunctions, which could materially and adversely affect its business, financial condition and results of operations.



# SELECTED RISK FACTORS (CONT.)

- Adagio is subject to regulation by the FDA or other regulatory authorities in the future and would be required to obtain prior approval or clearance by the FDA or other regulatory authorities, which could take significant time and expense and could fail to result in FDA clearance or approval for the intended uses Adagio believes are commercially attractive.
- Adagio's products are subject to government regulation as medical devices by the FDA and other regulatory agencies and the regulatory clearance or approval and the maintenance of continued and post-market regulatory compliance for such products will be expensive, time-consuming, and uncertain both in timing and in outcome.
- Adagio is currently subject to, and may in the future become subject to additional, U.S. federal and state laws and regulations imposing obligations on how Adagio collects, stores and processes personal information. Adagio's actual or perceived failure to comply with such obligations could harm its business. Ensuring compliance with such laws could also impair Adagio's efforts to maintain and expand its future customer base, and thereby decrease its revenue.
- If Adagio expands its development and commercialization activities outside of the United States, it will be subject to an increased risk of inadvertently conducting activities in a manner that violates the U.S. Foreign Corrupt Practices Act and similar laws. If that occurs, Adagio may be subject to civil or criminal penalties which could have a material adverse effect on its business, financial condition, results of operations and growth prospects.
- Adagio's employees, independent contractors, consultants, commercial partners, distributors and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.
- Adagio is or will be subject to anti-corruption and anti-bribery and anti-money laundering and similar laws, and non-compliance with such laws can subject it to administrative, civil and criminal fines and penalties, collateral consequences, remedial measures and legal expenses, all of which could adversely affect its reputation, business and results of operations.
- Risks Related to Litigation and Regulation
- Adagio is subject to evolving laws and regulations that could impose substantial costs, legal prohibitions or unfavorable changes upon its operations, and any failure to comply with these laws and regulations, including as they evolve, could result in litigation and substantially harm Adagio's business and results of operations.
- Adagio is subject to risks relating to disputes and other legal proceedings, product liability lawsuits, that may be time consuming and costly.
- Adagio's lack of a trade compliance program leaves certain regulatory trade risk inherent in international business unmitigated. If Adagio fails to comply with applicable international trade and sanctions regulations, Adagio may become subject to regulatory investigations, penalties, and fines. A trade compliance program including a screening process for customers, independent contractors, and other third parties would help avoid violations, and if a violation occurred, having a trade compliance program is often a mitigating factor in determining penalties.

## Risks Related to Financing Transactions

- ARYA and Adagio will incur significant transaction and transition costs in connection with the Business Combination. Whether or not the Business Combination is completed, the incurrence of these costs will reduce the amount of cash available to the Post-Business Combination Company for other corporate purposes.
- Adagio or the Post-Business Combination Company is subject to financing risks. There are no guarantees that Adagio or the Post-Business Combination Company can meet its financing needs for its operations and future investments at a reasonable cost or at all.
- Adagio or the Post-Business Combination Company is subject to risks relating to increased interest rates and any adverse developments in the credit markets.
- There are risks associated with the senior secured convertible notes that will be issued by the Post-Business Combination Company in connection with closing and the Post-Business Combination Company may be unable to remain in compliance with covenants or other obligations and restrictions under such convertible notes, which could materially impact the Post-Business Combination Company's business, prospectus and plans or result in the Post-Business Combination Company's bankruptcy or insolvency.

## Risks Related to Tax

- Unanticipated tax laws or any changes in tax rates or in the application of the existing tax laws to Adagio may adversely impact its results of operations.

# **APPENDIX II – MARKET SOURCES & ANALYSES**

# ATRIAL FIBRILLATION



# ANALYSIS OF EPIDEMIOLOGY (US)

## AF Epidemiology in the USA<sup>1</sup>

	2010	2030	CAGR, %
Prevalence, millions	5.2	12.1	4.3%
Incidence, millions	1.2	2.6	3.9%

Stated

1 Calculated,  
20-year CAGR

2

## Annual Projections of AF Prevalence and Incidence 2010-2030 Linear Interpolation Based on the End-Period Estimates

	CAGR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Prevalence, millions	4.3%	5.2	5.4	5.7	5.9	6.2	6.4	6.7	7.0	7.3	7.6	7.9
Incidence, millions	3.9%	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8

	CAGR	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Prevalence, millions	4.3%	7.9	8.3	8.6	9.0	9.4	9.8	10.2	10.7	11.1	11.6	12.1
Incidence, millions	3.9%	1.8	1.8	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.5	2.6

3

- 25% (10-40%) of incident AF may be asymptomatic<sup>2</sup>
- Current guidelines recommend catheter ablation of the AF as a 2<sup>nd</sup>-line therapy in patient with symptomatic disease<sup>3,4</sup>

## Catheter Ablation Recommendations<sup>3</sup>

Recommendations for rhythm control/catheter ablation of AF	
<b>General recommendations</b>	
For the decision on AF catheter ablation, it is recommended to take into consideration the procedural risks and the major risk factors for AF recurrence following the procedure and discuss them with the patient.	I
Repeated PVI procedures should be considered in patients with AF recurrence provided the patient's symptoms were improved after the initial PVI.	IIa
<b>AF catheter ablation after antiarrhythmic drug therapy failure</b>	
AF catheter ablation for PVI should be considered for rhythm control after one failed or intolerant to beta-blocker treatment to improve symptoms of AF recurrences in patients with paroxysmal and persistent AF.	IIa
<b>First-line therapy</b>	
AF catheter ablation for PVI should/may be considered as first-line rhythm control therapy to improve symptoms in selected patients with symptomatic:	IIa
<ul style="list-style-type: none"> <li>Paroxysmal AF episodes, or</li> <li>Persistent AF without major risk factors for AF recurrence as an alternative to AAD class I or III, considering patient choice, benefit, and risk.</li> </ul>	IIb

- 4.3% and 3.9% CAGRs calculated for AF prevalence and incidence, respectively, from 2010-2030
- Appropriate CAGR applied on annual basis to interpolate yearly prevalence and incidence values
- 2022 prevalence of 8.6 million and incidence of 1.9 million calculated via method above and used in later slides

- C. Tsao, et al. Heart Disease and Stroke Statistics 2022 Update: A Report From the American Heart Association. Circulation 2022;145:e153-e169
- Dobrev D, et al. Current practice for diagnosis and management of silent atrial fibrillation: results of the European Heart Rhythm Association survey. Europace 2011; 15:1223-1225
- Hindricks G, et al. 2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association for Cardio Thoracic Surgery (EACTS). European Heart Journal 2020;41: 373-488
- January CT, et al. 2014 AHA/ACC/HRS Guideline to the Management of Patients with Atrial Fibrillation: Executive Summary. Circulation 2014;130:2071-2104

# ANALYSIS OF CURRENT VOLUME OF AF ABLATIONS IN THE USA

## Data Sources:

- Analysis of Medicare FFS Standard Analytical Files using CPT 93656<sup>1</sup>
  - Limitations:
    - Outpatient sample only
    - Medicare FFS only
    - Changes to coding during period of interest
  - Required adjustments:
    - Inpatient-outpatient mix, using sample of Medicare FFS physicians' claims (85-89% outpatient)
    - Adjustments for Medicare Advantage Mix (37-48%)<sup>2</sup> and Medicare patients % (32%, see Lexis Nexis)
- Lexis Nexis Risk MarketView™ analysis of all-payer claims through medical claims exchanges, CPT 93656<sup>1</sup>
  - Limitations:
    - Outpatient sample mostly, undercounting of inpatient claims
    - Limitations on claims capture
    - Changes to coding during period of interest
  - Required adjustments
    - Independent outpatient-inpatient mix (see Medicare FFS)
    - Estimated coverage of 75%<sup>3</sup>
  - Upside: payor distribution analysis

**Total Estimate ≈ 229-234K, @ 13-14% growth**

- Calculated multiplying B by C and taking A divided by the product
- Growth estimate from final table
- Persistent atrial fibrillation represents ~40% of all AF ablations, with ~16% growth rate

## Medicare FFS SAF Claims

	HCPCS 93656						
	I48.0	I48.11	I48.19	I48.20	I48.21	I48.91	Total
	Paroxysmal AF	Longstanding Persistent AF	Other Persistent AF	Chronic AF	Permanent AF	Unspecified AF	
	OPPS %						
2018	22,745	New codes, data unreliable for 1-2 years				4,386	27,131
2019	25,851	283	4,290	120	46	4,568	35,158
2020	23,861	1,233	17,512	424	166	4,218	47,414
2021	30,159	1,678	21,698	436	183	5,126	59,280
2022	33,368	1,792	24,603	472	174	5,438	65,847
	OPPS %						
2018	85.70%	85.70%	85.70%	85.70%	85.70%	85.70%	
2019	86.30%	86.30%	86.30%	86.30%	86.30%	86.30%	
2020	86.30%	86.30%	86.30%	86.30%	86.30%	86.30%	
2021	88.50%	88.50%	88.50%	88.50%	88.50%	88.50%	
2022	89.44%	89.44%	89.44%	89.44%	89.44%	89.44%	
	Medicare Advantage %						
2018	37%	37%	37%	37%	37%	37%	
2019	39%	39%	39%	39%	39%	39%	
2020	42%	42%	42%	42%	42%	42%	
2021	46%	46%	46%	46%	46%	46%	
2022	48%	48%	48%	48%	48%	48%	
	Total Medicare Only						
2018	42,127		8,149	228	87	8,124	50,251
2019	49,106	538	8,149	228	87	8,677	66,786
2020	47,671	2,463	34,986	847	332	8,427	94,726
2021	63,107	3,511	45,403	912	383	10,726	124,043
2022	71,742	3,853	52,897	1,015	374	11,692	141,573
	Growth						
2019-2022	13%				10%	28%	
2021-2022	14%	10%	17%	11%	-2%	9%	14%

## Lexis Nexis MarketView™ AF ablation payor mix\*

PAYER	PERCENTAGE
Medicare	32.17
OtherSmallerPayers	10.06
United Healthcare	9.79
Blue Cross Blue Shield	7.65
Commercial Insurance Company	4.83
Aetna	4.3
United Healthcare	4.24
Humana	3.18
Anthem	3.13
Cigna	2.48
Medicaid	2.32
OtherSmallerPayers	2.32
Humana	1.86
Aetna	1.65
Tricare	1.35
Blue Cross Blue Shield Texas	1.22
Blue Cross Blue Shield Tennessee	1.15
OtherSmallerPayers	1.07
Centene Corporation	0.88
Other	0.79
UNKNOWN	0.69
Horizon	0.68
Kaiser Permanente	0.63
Empire Blue Cross Blue Shield	0.56
Regence	0.51
OtherSmallerPayers	0.26
OtherSmallerPayers	0.24
OtherSmallerPayers	0.06
OtherSmallerPayers	0.02

\*Medicare means Medicare FFS as Medicare Advantage is billed via commercial carriers



(1) <https://www.aspc.com/codes/cpt/codes/93656>

(2) Kaiser Family Foundation: <https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2023-enrollment-update-and-key-trends/>

(3) Lexis Nexis Risk, private communications

# UTILIZATION OF PVI vs PVI+ PROCEDURES IN PATIENTS WITH DIFFERENT AF DIAGNOSIS

## Data Sources:

- Analysis of Medicare FFS Standard Analytical Files using CPT 93656<sup>1</sup> and CPT 93657<sup>2</sup>

- Limitations:

- Outpatient sample only
- Medicare FFS only
- Consider only ICD-10 diagnostic codes i48.0 (Paroxysmal AF), i48.11 (Longstanding Persistent AF) and i48.19 (Other Persistent AF), representing ~90% of all AF diagnoses marked on procedure claims<sup>3</sup>

	PAF	PsAF
PVI Only	71%	53%
PVI +	29%	47%
Total	100%	100%

Patients with persistent AF are much more likely to receive PVI+ procedures vs patients in paroxysmal AF (47% vs 29%)

Main AF ablation code inclusive of all PVI ablations

—

Add-on code to mark procedures with extra-PVI ablations. Since PVI is always performed, denoted “PVI+”

||

Procedures that have PVI but not extra-PVI, denoted as “PVI only”

## Medicare FFS SAF Claims

HCPCS 93656						
All PVI						
I48.0	I48.11	I48.19	I48.20	I48.21	I48.91	Total 93656
Paroxysmal AF	Longstanding Persistent AF	Other Persistent AF	Chronic AF	Permanent AF	Unspecified AF	
33368	1792	24603	472	174	5438	65847
51%	3%	37%	1%	0%	8%	100%
HCPCS 93657						
PVI+						
I48.0	I48.11	I48.19	I48.20	I48.21	I48.91	Total 93657
Paroxysmal AF	Longstanding Persistent AF	Other Persistent AF	Chronic AF	Permanent AF	Unspecified AF	
9828	983	11452	194	82	2165	24704
40%	4%	46%	1%	0%	9%	100%
PVI Only						
I48.0	I48.11	I48.19	I48.20	I48.21	I48.91	Total 93657
Paroxysmal AF	Longstanding Persistent AF	Other Persistent AF	Chronic AF	Permanent AF	Unspecified AF	
23540	809	13151	278	92	3273	41143
57%	2%	32%	1%	0%	8%	100%

(1) [https://www.aspc.com/codes/cpt\\_codes/93656](https://www.aspc.com/codes/cpt_codes/93656)

(2) [https://www.aspc.com/codes/cpt\\_codes/93657](https://www.aspc.com/codes/cpt_codes/93657)

(3) <https://www.icd10data.com>



# MARKET OPPORTUNITY ASSESSMENT

## Assumptions:

- Outcomes with Adagio technology are sufficient to establish ablation as a 1<sup>st</sup> line therapy for symptomatic patients
- Calculation to be made on incidence basis, larger prevalence representing additional upside

## Opportunity in 2022-2023:

- Total incidence / current ablation volume: 8.3x<sup>(1)</sup>
- Discounting for lower number (75%)<sup>(2)</sup> of symptomatic patients: 6.2x

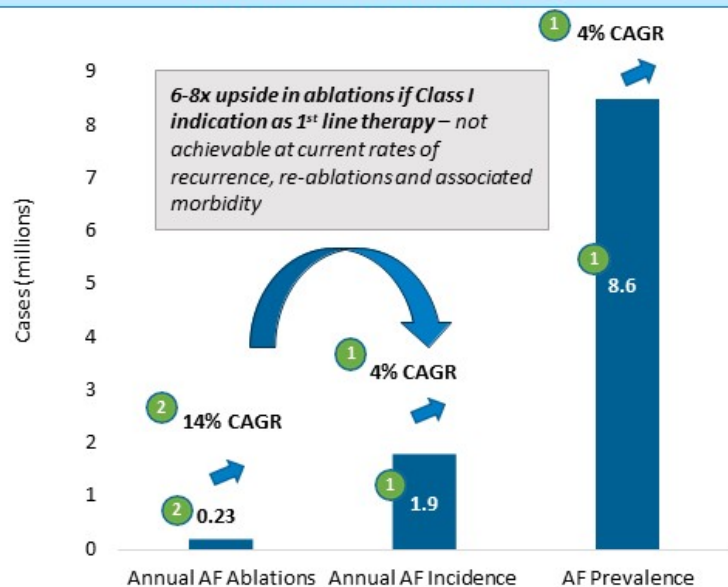
**Total Market Growth Opportunity: 6-8x**

(1) Calculated as 1.9 million incidence divided by 0.23 million current ablation volume.

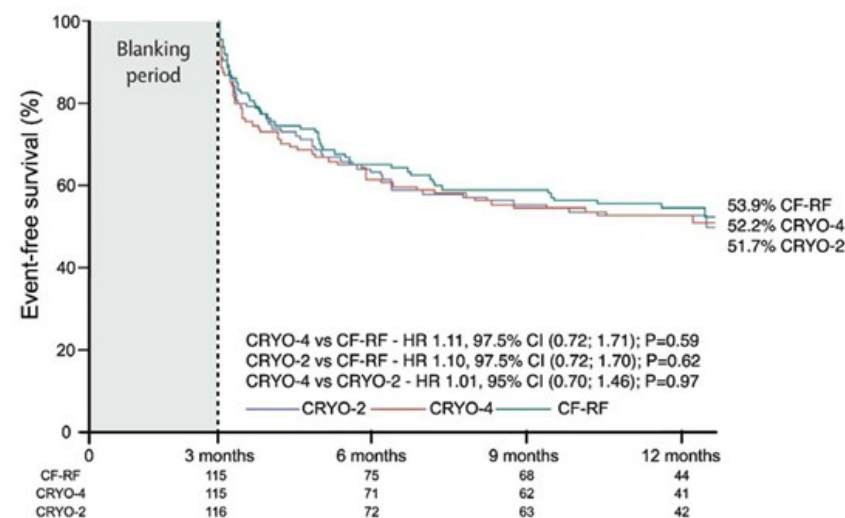
(2) Management estimate based on Gibbs H, et al. Clinical Outcomes in Asymptomatic and Symptomatic Atrial Fibrillation Presentations in GARFIELD AF: Implications for AF Screening. The American Journal of Medicine 2021;134:893-901

# AF MARKET: FULL UPSIDE REQUIRES IMPROVEMENT IN LONG-TERM OUTCOMES

US AF Disease<sup>1</sup> and Treatment Statistics<sup>2</sup>



Freedom From AF/AT After Single Procedure In Paroxysmal AF Patients<sup>3</sup>



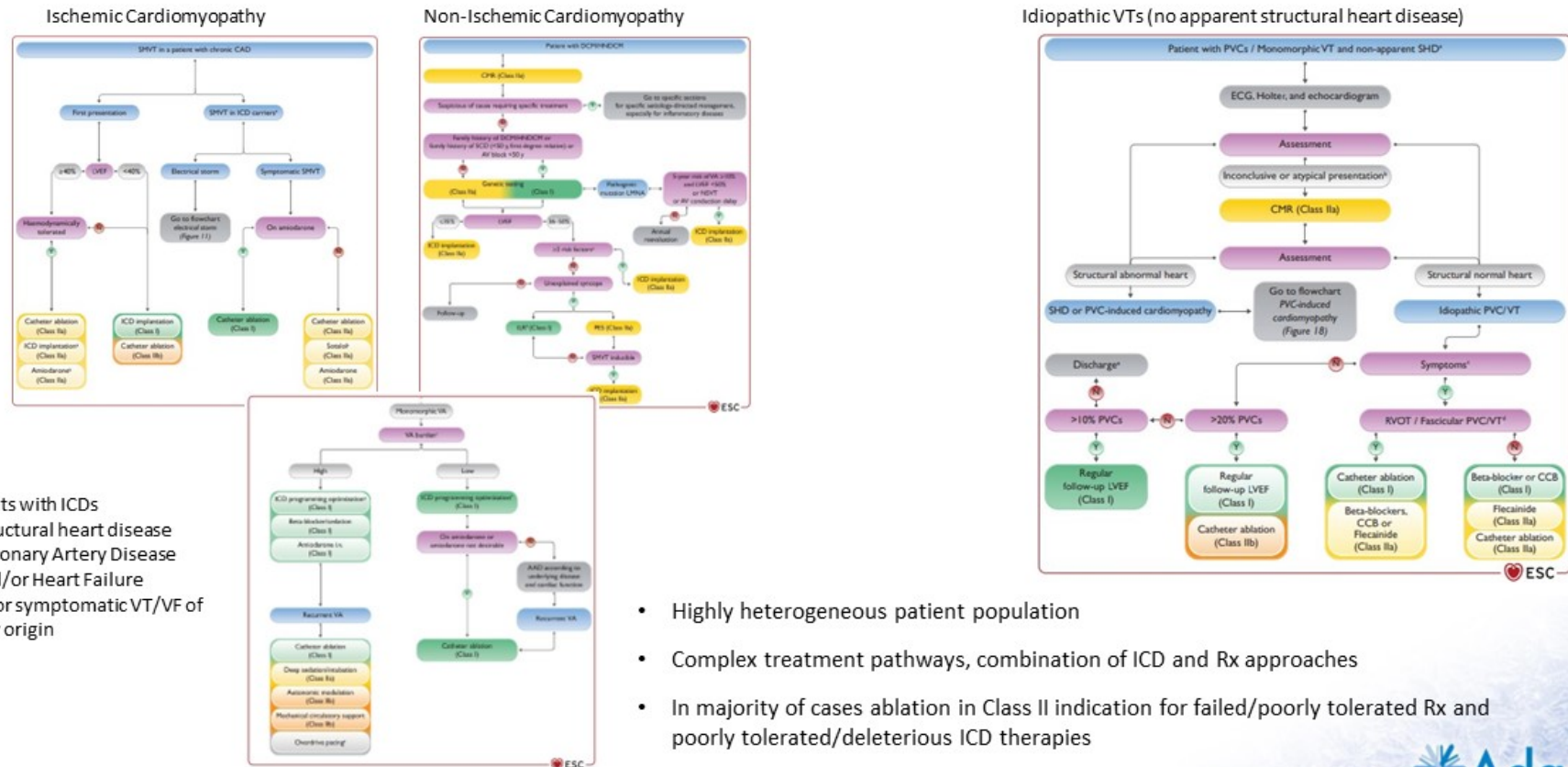
- 1 Calculation on slide 48
- 2 Calculation on slide 49

1) C. Tsao, et al. Heart Disease and Stroke Statistics 2022 Update: A Report From the American Heart Association. Circulation 2022;145:e153-e169  
2) Adagio Medical Analysis of Medicare FFS and Commercial Claims  
3) Andrade JG, et al. Cryoballoon or radiofrequency ablation for atrial fibrillation assessed by continuous monitoring: A randomized clinical trial. Circulation 2019;140:1779-1788

# MONOMORPHIC VENTRICULAR TACHYCARDIA



# CATHETER ABLATION INDICATIONS IN VT<sup>1,2</sup>



- Highly heterogeneous patient population
- Complex treatment pathways, combination of ICD and Rx approaches
- In majority of cases ablation in Class II indication for failed/poorly tolerated Rx and poorly tolerated/deleterious ICD therapies

# EPIDEMIOLOGY OF VT ABLATIONS

## Brigham and Women Hospital Cohort<sup>1</sup>

	14%	34%	52%
Characteristic	No SHD (n = 98)	NICM (n = 239)	ICM (n = 358)
Age (y)	47 ± 15	52 ± 14	67 ± 10
Sex: Male gender (%)	49	79	86
LVEF (%)	61 ± 6	40 ± 17	28 ± 12
LVEF ≤30%	0	68	40
Number of failed antiarrhythmic drugs	1.6 ± 1.3	2.1 ± 1.3	2.6 ± 1.4
Failed amiodarone before ablation	17	65	81
Implanted defibrillator	0	77	90
Cardiac resynchronization device	0	12	20
NYHA class ≥II	0	58	56
Subtype of NICM heart disease of all patients with NICM			
Idiopathic dilated		132 (55)	
Arrhythmogenic right ventricular dysplasia		39 (16)	
Sarcoidosis		12 (5)	
Valvular		30 (13)	
Congenital		19 (8)	
Other		7 (3.4)	
Total number of VT ablation procedures performed (mean ± SD of procedures performed per patient)	109 (1.1 ± 0.4)	341 (1.4 ± 0.7)	470 (1.3 ± 0.6)
Procedural indication of VT storm, n/total number of procedures (%)	13/109 (12)	84/340 (25)	145/470 (31)
Number of inducible VTs per procedure, mean ± SD	1.1 ± 0.5	2.4 ± 1.6	2.8 ± 1.7
Epicardial ablation required during at least 1 procedure, n/number of patients (%)	3/98 (3)	71/239 (30)	30/358 (8)
Acute procedural outcome after the final procedure (%)			
Complete success	79	56	60
Partial success	3	19	20
Failure	12	13	9
Not tested or noninducible at beginning	6	12	11
Major complications, n/number of procedures (%)	4/109 (3.7)	23/341 (6.7)	39/470 (8.3)

## US Community Medicare Cohort<sup>2</sup>

	78%	22%
	Subgroup With ICD/CRT-D (n = 7,982)	Subgroup Without ICD/CRT-D (n = 2,207)
Patients		
Age, yrs	71 ± 9.2	70 ± 8.9
Age group, yrs		
0-64	1,318 (16.5)	325 (14.7)
65-74	3,680 (46.1)	1,257 (57)
75-84	2,672 (33.5)	574 (26)
>85	312 (3.9)	51 (2.3)
Sex		
Male	6,589 (83)	1,345 (61)
Female	1,393 (17)	862 (39)
Race		
White	7,145 (89.5)	1,976 (89.5)
Black	575 (7.2)	147 (6.7)
Other	262 (3.3)	84 (3.8)
Region		
West	1,282 (16.1)	402 (18.2)
Midwest	1,985 (24.9)	559 (25.3)
Northeast	1,641 (20.6)	294 (13.3)
South	3,074 (38.5)	952 (43.1)
Comorbidities		
Atrial fibrillation	3,439 (43.1)	342 (15.5)
Cancer	756 (9.5)	217 (9.8)
Cardiomyopathy	4,900 (61.4)	391 (17.7)
Cerebrovascular disease	930 (11.7)	167 (7.6)
Congenital heart disease	172 (2.2)	45 (2.0)
COPD	565 (7.1)	70 (3.2)
Dementia	52 (0.7)	8 (0.4)
Diabetes	2,805 (35.1)	481 (21.8)
Hypertension	6,439 (80.7)	1,455 (65.9)
Coronary artery disease	4,085 (51.2)	157 (7.1)
Myocardial infarction	488 (6.1)	27 (1.2)
PAD	979 (12.3)	105 (4.8)
Renal disease	2,261 (28.3)	199 (9.0)
Sarcoidosis	48 (0.6)	11 (0.5)
Valvular disorders	1,723 (21.6)	381 (17.3)
TIA or stroke	84 (1.0)	24 (1.1)

## German VT Ablation Registry Cohort<sup>3</sup>

	35%	65%	17%	48%
	Subgroup With ICD/CRT-D (n = 1,118)	Subgroup Without ICD/CRT-D (n = 2,116)	No ICD (n = 55)	ICD (n = 161)
Variable				
Age, mean (y)	59.3 ± 14.6	50.4 ± 14.8	64.2 ± 12.0 *	55.1 ± 16.0
Male	72.2%	50.0%	84.3%*	78.2%
LVEF ≤30% <sup>2</sup>	27.6%	0%	42.0%*	29.6%
NYHA ≥ III	29.9%	NA	29.9%	18.0%
Hypertension <sup>3</sup>	53.1%	31.9%	63.5%*	37.9%
Diabetes mellitus	14.4%	5.9%	19.0%*	7.3%
Renal insufficiency <sup>3</sup>	13.9%	0.0%	20.6%*	10.3%
Previous VT ablation	18.0%	16.9%	18.5%	30.9%
SHD	64.7%	0%	100%*	100%
IHD	48.2%	0%	74.5%*	0%
Valvular heart disease	9.6%	0%	14.8%*	7.5%*
Cardiomyopathy (dilated/hypertrophic)	14.1%	0%	21.8%*	54.5%
Hypertensive cardiomyopathy	7.2%	0%	11.1%*	25.5%
Symptoms				
Palpitations	92.4%	94.9%	91.1%	90.4%
Presyncope	13.0%	12.8%	13.1%	19.2%
Syncope	10.3%	11.1%	9.9%	11.2%
Previous resuscitation	3.6%	0.0%	5.6%*	6.2%

- 25% (14 - 35%) are patients without structural heart disease (few ICDs)
- 75% (65 - 86%) are patients with structural heart disease (mostly ICDs)
- 61% - 74% are patients with ischemic heart disease\*

\*% 61% = 52/(52+34) from Brigham and Women Hospital Cohort, 74% = (48/17+48) from German VT Ablation Registry Cohort.

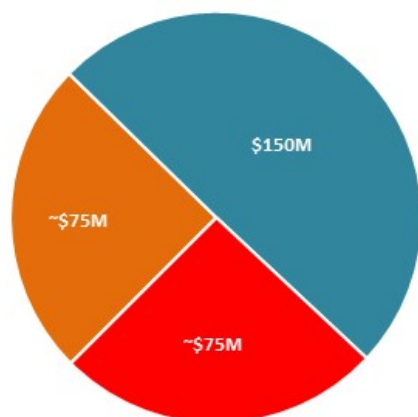


1) Kumar S, et al. Long term outcomes after catheter ablation of ventricular tachycardia in patients with and without structural heart disease. Heart Rhythm 2016;13:1957-1963  
 2) Yousuf OK, et al. Trends and outcomes of catheter ablation for ventricular tachycardia in a community cohort. J Am Coll Cardiol EP 2018;4:1189-99  
 3) Tille RR, et al. Ablation outcomes and predictors of mortality following catheter ablation of ventricular tachycardia: data from German multicenter ablation registry. J Am Heart Assoc. 2018;7:e007045

# VT ABLATIONS MARKET BY CATEGORY AND CURRENT ABLATION TRIGGERS (ICM/NICM ONLY)

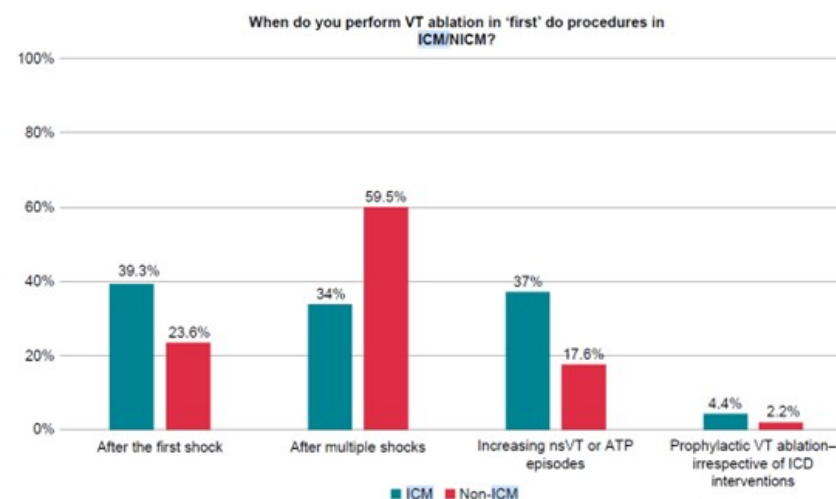
VT ABLATIONS, BY INDICATION<sup>1,2,3,4</sup>

■ Idiopathic VT ■ Ischemic cardiomyopathy VT ■ Non-ischemic cardiomyopathy VT



Breakdown of VT Ablation Conditions	As reported			Adjusted for SHD	
	Idiopathic	ICM	NICM	ICM	NICM
Kumar 2016	14%	52%	34%	52%	34%
Tilz 2018	35%	48%	17%	48%	17%
Sultan 2024		44%		44%	
Dinov 2016		72%	28%	54%	21%
Vaseghi 2018		62%	38%	47%	29%
Averages	24.5%	75.5%		49.0%	25.2%

TRIGGERS OF ABLATION<sup>4</sup>



SHD Adjustment: if idiopathic VT is reported, SHD numbers are used without adjustment. If idiopathic VT is not reported, i.e. populations is only ischemic + nonischemic cardiomyopathy (SHD), the ischemic/nonischemic populations are adjusted proportionally on the assumptions that the SHD represents 75% of total.

- 1) Refer to Slide #68 for management assessment of total market of VT ablations (\$0.38) and slide #55, Epidemiology of VT ablations
- 2) Dinov B, et al. Outcomes in Catheter Ablation of Ventricular Tachycardia in Dilated Nonischemic Cardiomyopathy Compared With Ischemic Cardiomyopathy. Circulation. 2014;129:728-736
- 3) Vaseghi M, et al. Outcomes of Catheter Ablation of Ventricular Tachycardia Based on Etiology in Nonischemic Heart Disease. J Am Coll Cardiol EP 2018;4:1141-50
- 4) Sultan A, et al. Management of ventricular tachycardias: insights on centre settings, procedural workflow, endpoints, and implementation of guidelines—results from an EHRA survey. Europace (2024) 26, 1-10



# ANALYSIS OF CURRENT VOLUME OF VT ABLATIONS IN THE USA

- Data sources:

- Analysis of Medicare FFS Standard Analytical Files using CPT 93654<sup>1</sup>
  - Limitations:
    - Outpatient sample only
    - Medicare FFS only
    - Changes to coding during period of interest
  - Required adjustments:
    - Inpatient-outpatient mix, using sample of Medicare FFS physicians' claims (65-70% outpatient)
    - Adjustments for Medicare Advantage Mix (37-48%)<sup>2</sup> and Medicare patients % (65% total Medicare<sup>3</sup>)
- Lexis Nexis Risk MarketView™ analysis of all-payer claims through medical claims exchanges, CPT 93654<sup>1</sup>
  - Limitations:
    - Outpatient sample mostly, undercounting of inpatient claims
    - Limitations on claims capture
    - Changes to coding during period of interest
  - Required adjustments
    - Independent outpatient-inpatient mix (see Medicare FFS)
    - Estimated coverage of 75%<sup>4</sup>
  - Upside: payor distribution analysis

Medicare FFS SAF Claims

	HCPCS 93654				Total 93654
	I49.3 Ventricular Premature Depolarization	I47.2 Ventricular Tachycardia	I49.01 Ventricular Fibrillation	Other	
2018	3,308	2,017	41	204	5,560
2019	3,736	2,105	50	203	6,079
2020	3,493	1,867	58	161	5,564
2021	4,136	2,122	61	181	6,490
2022	4,465	1,603	59	747	6,874
OPPS %					
2018	63.90%	63.90%	63.90%	63.90%	63.90%
2019	65.30%	65.30%	65.30%	65.30%	65.30%
2020	66.40%	66.40%	66.40%	66.40%	66.40%
2021	68.60%	68.60%	68.60%	68.60%	68.60%
2022	70.23%	70.23%	70.23%	70.23%	70.23%
Medicare Advantage %					
2018	37%	37%	37%	37%	37%
2019	39%	39%	39%	39%	39%
2020	42%	42%	42%	42%	42%
2021	46%	46%	46%	46%	46%
2022	48%	48%	48%	48%	48%
Total Medicare Only					
2018	8,217	5,010	102	507	13,811
2019	9,379	5,285	126	510	15,261
2020	9,070	4,848	151	418	14,447
2021	11,165	5,728	165	489	17,520
2022	12,227	4,390	162	2,046	18,824
Growth					
2019-2022	9%	-6%	9%	58%	7%
2021-2022	10%	-23%	-2%	319%	7%

Lexis Nexis MarketView™ VT ablation claims count

	VT			
	93654 Patients	93654 Procedures	Outpatient %	Medicare %
2019	13,133	15,915	89.2%	27.4%
2020	12,500	15,416	88.7%	28.7%
2021	14,280	17,641	89.3%	27.1%
Current	14,707	18,429	91.2%	26.3%

1  
1 + 2  
Total Estimate ≈ 29-32K,  
@ 6-7% growth  
3  
~ 8K Idiopathic VTs (25%)\*  
~ 24K VTs in SHD (ICDs)\*\*

\* 1,603 / 6,874

\*\*The limitations of analysis include lack of detailed accounting for lower prevalence/incidence conditions such as congenital heart disease, some inflammatory conditions, etc.

1) <https://www.aspc.com/codes/cpt/codes/93654>

2) Kaiser Family Foundation: <https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2022-enrollment-update-and-key-trends/>

3) Cheung JW, Yeo I, IP, JE, Thomas G, et al. Outcomes, Costs, and # Day Readmissions After Catheter Ablation of Myocardial Infarct Associated Ventricular Tachycardia in the Real World. *Circulation Arrhythmia Electrophysiol.* 2018;11:e006754

4) Lexis Nexis Risk, private communications

# THE BURDEN OF INCIDENT IDIOPATHIC VTs

**Table 2. Incidence Rate of Idiopathic Ventricular Arrhythmias**

	Overall Cohort (N=614)	Idiopathic VT (N=177)	Symptomatic PVC (N=408)	IVA-CM (N=29)
Overall crude incidence rate	48.10 (41.75–55.41)	13.85 (11.92–16.09)	31.93 (27.72–36.78)	2.27 (1.52–3.27)
Males	36.65 (31.81–42.22)	15.52 (12.59–18.93)	18.88 (15.69–22.69)	2.24 (1.22–3.76)
Females	58.97 (51.19–67.93)	12.25 (9.71–15.19)	44.42 (38.56–51.17)	2.30 (1.29–3.80)
2005–2007	41.34 (35.43–48.20)	12.71 (9.49–16.65)	26.42 (22.25–32.02)	
2008–2010	44.05 (38.06–50.92)	12.42 (9.30–16.27)	29.52 (24.68–35.28)	
2011–2013	58.13 (50.46–66.97)	16.29 (12.74–20.53)	39.36 (33.81–45.78)	
Age-adjusted incidence rate	52.05 (47.90–56.01)	15.79 (13.45–18.13)	33.72 (30.42–37.02)	2.55 (1.61–3.48)
Males	42.43 (36.83–48.03)	19.18 (15.29–23.06)	20.54 (16.77–24.31)	2.72 (1.27–4.17)
Females	61.97 (55.74–68.20)	13.31 (10.37–16.24)	46.22 (40.87–51.57)	2.44 (1.20–3.68)
Age- and sex-adjusted	51.86 (47.72–56.01)	15.80 (13.46–18.15)	33.51 (30.23–36.80)	2.55 (1.61–3.48)
2005–2007	44.91 (38.04–51.78)	14.90 (10.80–18.99)	27.52 (22.26–32.78)	
2008–2010	47.62 (40.76–54.49)	13.91 (10.15–17.68)	31.32 (25.80–36.84)	
2011–2013	62.01 (54.37–69.65)	18.41 (14.14–22.69)	40.84 (34.73–46.95)	

Rates per 100 000 (95% CIs). CI indicates confidence interval; IVA-CM, idiopathic ventricular arrhythmia-associated cardiomyopathy; PVC, premature ventricular complex; and VT, ventricular tachycardia.

**Table 3. Arrhythmia Burden Among Patients With Idiopathic VA**

PVC Burden*	Total n (%)	Idiopathic VT (N=177)	Symptomatic PVC (N=408)	IVA-CM
<10%	382 (81.3)	110 (70.9)	254 (88.2)	18 (66.7%)
11%–20%	55 (11.7)	26 (16.8)	26 (9.0)	3 (11.1%)
21%–30%	22 (4.7)	13 (8.4)	5 (1.7)	4 (14.8%)
31%–40%	10 (2.1)	5 (3.2)	3 (1.0)	2 (7.4%)
>41%	1 (0.2)	1 (0.6)	0	0

IVA-CM indicates idiopathic ventricular arrhythmia-associated cardiomyopathy; PVC, premature ventricular complex; VA, ventricular arrhythmias; and VT, ventricular tachycardia.

\*PVC burden=PVC count/total number of beats over a 24-h period expressed as percent. PVC burden reported here are at the time of diagnosis.

- 1) Sinichand S, Killu AM, Padmanabhan D, et al. Incidence of Idiopathic Ventricular Arrhythmias: A Population Based Study. Circ Arrhythm Electrophysiol. 2017;10:e004662
- 2) US Census 2020 Population Estimates: <https://www.census.gov/data/tables/2020/demographic/2020-demographic-analysis-tables.html>
- 3) CAGR for IVA CM is taken to be equal to CAGR for idiopathic VTs since IVA CM is a subset of the group, with further disease progression

Original Reporting			
	Idiopathic VT	Symptomatic PVC	IVA-CM
2005–2007	14.9	27.5	2.55
2008–2010	13.9	31.3	
2011–2013	18.4	40.8	
Ablation Rate <sup>(1)</sup>	11.9%	2.9%	37.9%
Estimations from Original			
CAGR, 2005–2013 <sup>(3)</sup>	3.2%	6.1%	3.2%
Projections			
2022 Projection @ CAGR	25.3	73.8	3.5
Eligibility, %	19%	8%	100%
2023 Eligibility	4.8	5.9	3.5
2023 Total Eligibility	14.2		

All incidence is provided as age adjusted for persons > 18 y.o., as per original paper methodology

- Growth assumptions
  - Extrapolation of 2013 observed growth incidence rate per disease state to 2022
  - Weighted average growth rate
- VT ablation eligibility assumptions
  - Symptomatic PVCs: those with >20% burden
  - Idiopathic VTs: those with >20% burden
  - IVA-CM: 100%
- Total VT ablation opportunity is based on 258M US residents ≥ 18 y.o.<sup>2</sup> ~ 37,000 cases/year



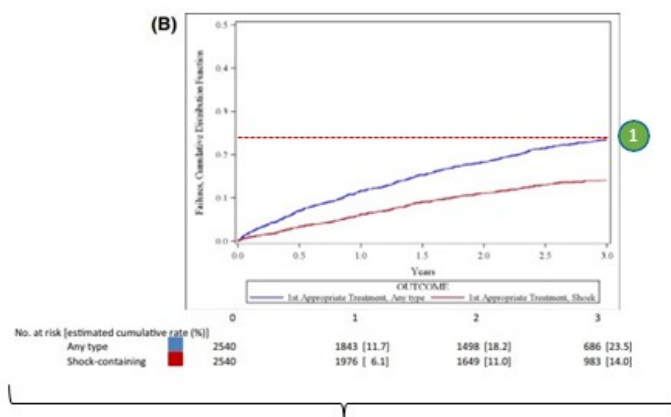
# TOTAL BURDEN OF VT IN ICD POPULATION

Estimated Volumes of US De-Novo ICD Implants<sup>1</sup>

	ACTUALS						CAGR	PROJECTIONS	
ICD Leads	2010	2011	2012	2013	2014	2015		2022	2023
Single Coil	8,123	13,795	17,499	22,705	27,796	35,521			
Dual Coil	49,086	56,635	54,926	53,894	50,028	48,764			
<b>Total Annual</b>	<b>76,279</b>	<b>70,430</b>	<b>72,425</b>	<b>76,599</b>	<b>77,824</b>	<b>84,285</b>		<b>96,925</b>	<b>98,879</b>
Annual Growth	N/A	-7.7%	2.8%	5.8%	1.6%	8.3%	2.0%	2.00%	2.00%

On the incident basis, ~30K patients (98.9K new implants x 30%) are likely to receive 1<sup>st</sup> ICD therapy, which bring them for consideration for a VT ablation (vs escalation of antiarrhythmic drug therapy). This is an underestimate of the burden in the ICD eligible patient population as the referral/implantation rate in primary prevention population is only 28%.<sup>4</sup>

Cumulative Rates of ICD Therapies as a Function of Time<sup>2</sup>



1 Appropriate therapies - 24% @ 3 years, linear assumption this reaches 30% @ 5 years, which is shorter than the average survival for ICD patients<sup>3</sup>

- 1) Pokorney S, Parzynski CS, Daubert JP, et al. Temporal Trends in and Factors Associated With Use of Single- Versus Dual-Coil Implantable Cardioverter Defibrillator Leads: Data From the NCDR ICD Registry. *J Am Coll Cardiol EP*. 2017;3:612-9.
- 2) Grenelle RT, Go AS, Peterson PN, et al. Device Therapies Among Patients Receiving Primary Prevention Implantable Cardioverter Defibrillators in the Cardiovascular Research Network. *J Am Heart Assoc*. 2018;7:e008292.
- 3) LSaxon, et al. Long-term outcomes after ICD and CRT implantation and influence of remote device follow-up. *Circulation* 2010 ;122:2359-2367
- 4) Thalappillil A, et al. Impact of an automated best practice alert on sex and race disparities in implantable cardioverter defibrillator therapy. *J Am Heart Assoc*. 2022;11:e023669



# HF HOSPITALIZATIONS IN US

Gross Epidemiology of HF and HF Hospitalizations in US<sup>(1)</sup>

Table 22-2. HF in the United States

Population group	Prevalence, 2015–2018, age ≥20 y	Incidence, 2014, age ≥55 y	Mortality, 2019, all ages*	Hospital discharges, 2018, all ages	Cost, 2012†
Both sexes	6 000 000 (2.1%) [95% CI, 1.8%–2.4%]	1 000 000	86 177	1 250 000	\$30.7 billion
Males	3 400 000 (2.5%)	495 000	40 101 (46.6%)‡	...	...
Females	2 600 000 (1.7%)	505 000	46 076 (53.5%)‡	...	...
NH White males	2.4%	430 000§	32 335	...	...
NH White females	1.4%	425 000§	37 679	...	...
NH Black males	3.6%	65 000§	4721	...	...
NH Black females	3.3%	80 000§	5146	...	...
Hispanic males	2.4%	...	2066	...	...
Hispanic females	1.7%	...	2222	...	...
NH Asian males	1.9%	...	755	...	...
NH Asian females	0.7%	...	812	...	...
NH American Indian or Alaska Native	...	...	342	...	...

1.9% - the lower bound of annual growth in HF hospitalizations from 2005 to 2014 was 1.9%.<sup>1</sup>

- The equivalent prevalence of patients most likely to experience VT due to reduced EF (<50%) in 2018: 3.24M = 6M x 54%

↓  
1.9% CAGR  
3.51M  
in 2022

Distribution of HF Hospitalizations By EF<sup>(2)</sup>

TABLE 1. Baseline Patient and Hospital Characteristics in HF Patients by EF Groups

	Overall (n = 39,982)	HFpEF (EF ≥40%) (n = 18,398)	HFmrEF (EF 40%–49%) (n = 3,283)	HFrEF (EF <50%) (n = 18,299)	p Value	% SGL DHT HFpEF vs. HFmrEF HFmrEF vs. HFrEF
<b>Demographics</b>						
Age, yrs	80 (74–86)	79 (73–85)	81 (74–86)	82 (75–87)	<0.0001	27.4 10.5
Female	54.02	40.99	51.51	67.58	<0.0001	55.4 33.2
Race/ethnicity						
White	80.94	79.58	81.71	82.17	<0.0001	5.9 0.9
Black	10.57	11.73	9.24	9.63		6.8 1.3
Hispanic (any race)	4.42	4.82	4.37	4.02		3.9 1.8
Asian	1.14	0.95	1.29	1.30		3.2 0.0
Other	2.94	2.92	3.39	2.88		0.3 2.9
LVEF source					<0.0001	
Quantitative LVEF	91.86	95.86	100	86.37		33.8 56.2
Qualitative LVEF	8.14	4.14	0	13.63		33.8 56.2
EF, quantitative, %	44 (30–56)	78 (70–85)	45 (45–45)	60 (55–65)	<0.0001	>99 >99
<b>Medical history</b>						
Atrial flutter/fibrillation	36.78	34.52	37.43	38.92	<0.0001	9.1 3.1
CCPD or asthma	27.61	25.91	26.87	29.44	<0.0001	7.9 5.7
Diabetes	38.82	38.31	43.57	38.83	0.0029	1.1 5.6
Hyperlipidemia	42.05	43.52	44.02	40.23	<0.0001	6.7 7.7
Hypertension	73.98	69.86	75.29	77.88	<0.0001	18.3 6.1
Peripheral vascular disease	13.28	13.89	15.32	12.30	<0.0001	4.7 8.8
CAD	50.59	56.84	55.30	43.52	<0.0001	26.9 23.3
Prior MI	36.77	22.29	17.51	11.11	<0.0001	30.3 18.4
CVA/TIA	15.65	14.91	15.98	16.33	0.0013	3.9 1.0
Implantable cardioverter defibrillator only	7.72	14.75	3.91	1.41	<0.0001	50.4 15.6
Heart failure	47.84	50.77	46.82	45.30	<0.0001	11.4 3.5
Anemia	17.55	14.73	19.40	20.03	<0.0001	14.0 1.6
Pacemaker	12.74	15.76	12.19	9.82	<0.0001	17.8 7.6
Dialysis, chronic	2.83	2.52	2.90	3.12	0.0035	3.6 1.3
Chronic renal insufficiency (Scr >2.0)	18.51	19.37	18.81	17.58	0.0001	4.6 3.2
Depression	9.34	7.78	9.59	10.87	<0.0001	10.6 4.2
Valvular heart disease	11.05	9.53	11.22	12.54	<0.0001	9.6 4.3
CRT-P (pacing only)	0.33	0.37	0.29	0.30	0.5460	1.1 0.1
CRT-D (with implantable cardioverter-defibrillator)	0.79	1.48	0.52	0.35	<0.0001	14.9 6.5
Ischemic etiology: medical history of CAD, MI, prior PCI, prior CABG, or prior PPCI/CABG	57.78	65.94	62.70	48.72	<0.0001	35.4 28.4
Medical history panel missing	7.41	7.70	6.64	7.26	0.0581	1.7 2.4
Smoking	9.10	10.94	8.04	7.44	<0.0001	12.1 2.2

Continued on next page

54% (21683/39982) of hospitalized patients with reduced systolic function (EF <50%) due to ischemic and non-ischemic cardiomyopathy are most susceptible to VTs



# BURDEN OF VT IN HOSPITALIZED HF PATIENTS

Incidence of VTs After Advanced Heart Failure Hospitalization<sup>1</sup>

Characteristic	No prior VA (N=675)	Prior VA (N=261)	P value
LVEF (categorical), n (%)			
<40%	236 (35.0)	160 (61.3)	<0.001*
40%–49%	94 (13.9)	40 (15.3)	
≥50%	345 (51.1)	61 (23.4)	
LVEF≤35%	203 (30.0%)	140 (53.6%)	<0.001*
CIED placed, n (%)			
None	475 (70.4)	92 (32.3)	<0.001*
ICD before advanced HF	44 (6.5)	115 (44.1)	
New ICD postadvanced HF	21 (3.1)	7 (2.7)	
Pacemaker prior → ICD postadvanced HF	3 (0.4)	1 (0.4)	
Pacemaker only	132 (19.6)	46 (17.6)	

43% has LVEF≥50%, taking them out of immediate consideration for ablation. Additional 12% have ICDs and previous arrhythmias.

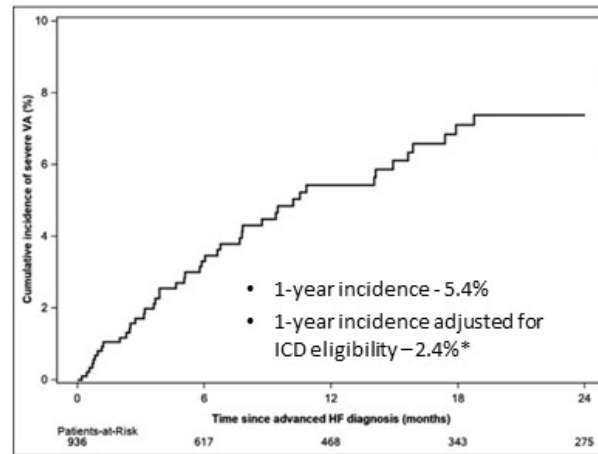


Figure 2. Kaplan-Meier curve of severe VA following advanced HF diagnosis. HF indicates heart failure; and VA, ventricular arrhythmia.

\*2.4% incidence is based on discounting of 5.4% incidence rate by 55% = 43% for high LVEF + 12% of ICDs and previous arrhythmias.

Incident VTs Carry Bad Prognosis<sup>2</sup>

Table 4 Differences in in-hospital events and mortality between VA and non-VA patients

Variable	Heart failure patients		
	VA (110)	Non-VA (2500)	P value
In-hospital events			
Recurrent CHF	69 (62.7)	747 (29.9)	>0.001
Dialysis	25 (22.7)	100 (4.0)	>0.001
Intra-aortic balloon pump	28 (25.5)	58 (2.3)	<0.001
Sepsis	36 (32.7)	160 (6.4)	<0.001
Shock	64 (58.2)	164 (6.6)	>0.001
Pacing	6 (5.4)	30 (1.2)	0.003
Major bleeding	10 (9.1)	28 (1.1)	<0.001
ICD	8 (7.3)	142 (5.7)	0.483
CRT	5 (4.5)	63 (2.5)	0.208
TIA/stroke	5 (4.5)	43 (1.7)	0.049
All-cause mortality			
In-hospital	53 (48.2)	117 (4.7)	<0.001
1 month	53 (48.2)	159 (6.3)	<0.001
1 year	58 (52.7)	451 (18.0)	<0.001
2 year	61 (55.4)	554 (22.1)	<0.001
3 year	61 (55.4)	574 (23.0)	<0.001

CHF, chronic heart failure; CRT, cardiac resynchronization therapy; ICD, implantable cardioverter defibrillator; TIA, transient ischaemic attack; VA, ventricular arrhythmia. Data are expressed in n (%). All-cause mortality includes cumulative of previous years.

- Estimated incidence of post-hospitalization VTs in HF patients is ~ 32K, based on 1.35M HF hospitalizations projected in 2022 based on 1.9% annual growth from 1.25M in 2018<sup>3</sup>

1) Tan NY, Roger VL, Killian JM, et al. Ventricular Arrhythmias Among Patients With Advanced Heart Failure: A Population Based Study. J Am Heart Assoc. 2022;11:e023377.  
2) Alenazy B, Thakkar S, Kashour T, et al. In hospital ventricular arrhythmia in heart failure patients: 7 year follow-up of the multi-centric HEARTS registry. ESC Heart Failure 2019; 6: 1283-1290.  
3) C. Tsao, et al. Heart Disease and Stroke Statistics 2022 Update: A Report From the American Heart Association. Circulation 2022;145:e153-e169

# SUMMARY CALCULATION OF INCIDENT “TRIGGER” VTs PROMPTING CONSIDERATION FOR ABLATION

Estimated Annual Incidence of Trigger VTs<sup>(1)</sup>

	Annual pre-conditions	Rate	Total Events	Growth
ICD implants	96,925	30%	29,078	2%
HF hospitalizations	1,350,000	2.4%	32,400	2%
Idiopathic VTs	257,939,000	0.014%	36,627	5%
<b>Total</b>			<b>98,105</b>	<b>3%</b>

- Market growth opportunity:
  - All trigger VTs / Current VT ablations = 3.1x\*
  - Trigger VTs due to cardiomyopathy (HF hospitalizations + ICD Implants) / Current VT ablations = 1.9x\*\*
  - 2-3x range represents conservative assessment, provided:
    - Ambiguity of VT ablation eligibility per current guidelines across multiple, complex patient populations
    - Clear under-penetration of the ICD therapy thus creating a pool of patients at risk of ventricular tachycardias, not captured by current calculations
    - Current indication of Adagio’s vCLAS™ catheter for ablation of monomorphic VTs due to cardiomyopathy, subject to future expansion

\* All Trigger VTs of 37K (slide 56) + 30K (slide 57) + 32K (slide 59) divided by Current VT ablations of 32K (slide 55).

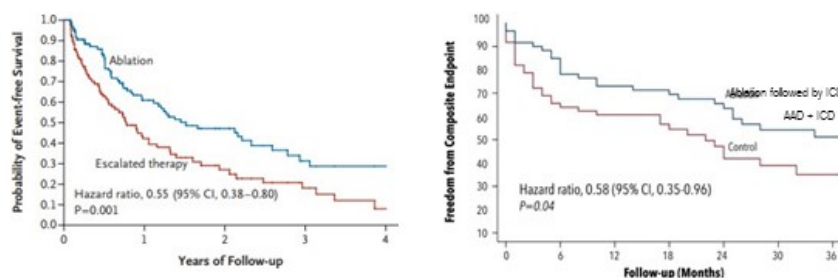
\*\* Trigger VTs due to cardiomyopathy of 30K (slide 57) + 32K (slide 59) divided by Current VT ablations of 32K (slide 55).



# VT MARKET: CURRENT RISK-BENEFIT CAPS ABLATION THERAPY PENETRATION

## Potential Benefits of VT Ablations

- 1 Acute and sub-acute termination of symptomatic arrhythmias and ICD shocks
- 2 Reduction of symptomatic arrhythmic events (VT storms), ICD therapies, and removal vs escalation of harmful AAD Tx<sup>1,2,3</sup>
- 3 VT prophylaxis prior to ICD implantation<sup>4</sup>



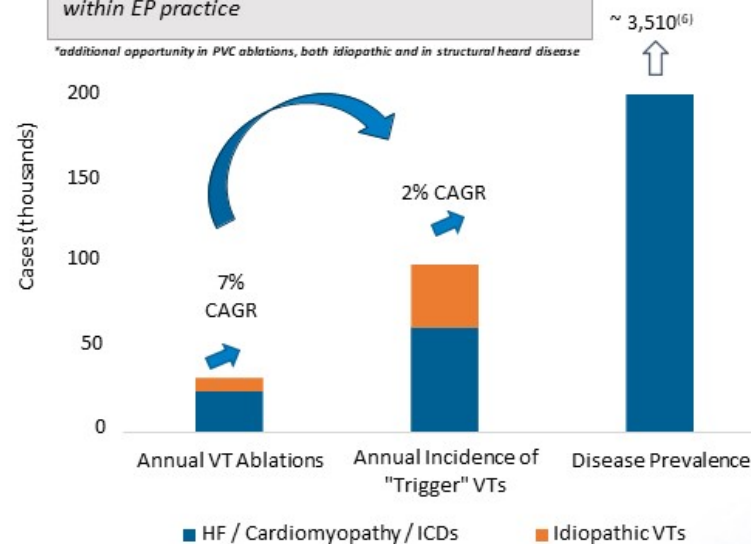
## Procedural Risks and Complications<sup>5</sup>

Death	2.7%
Perforations/tamponade	2.0%
Major Bleeding	5.6%
Vascular	1.7%
Stroke	0.4%
Unspecified	1.8%
Any Complication	11.5%

## Estimated US Market For VT Ablations

2-3x market growth opportunity\* with improved ablation effectiveness and reduced risk profile within EP practice

\*additional opportunity in PVC ablations, both idiopathic and in structural heart disease



- 1) Da Silva GL, Nunes Ferreira A, Cortez Diaz N, et al. Radiofrequency catheter ablation of ventricular tachycardia in ischemic heart disease in light of current practice: a systematic review and meta analysis of randomized controlled trials. J Interv Card Electrophysiol. 2020 Dec;59(3):603-616
- 2) Sapp JL, Wells GA, Parkash R, et al. Ventricular Tachycardia Ablation versus Escalation of Antiarrhythmic Drugs. N Engl J Med 2016;375:111-21
- 3) Liang JJ, Yang W, Santangeli P, et al. Amiodarone Discontinuation or Dose Reduction Following Catheter Ablation for Ventricular Tachycardia in Structural Heart Disease. J Am Coll Cardiol EP 2017;3:503-11
- 4) Tung R, Xue Y, Chen M, et al. First-Line Catheter Ablation of Monomorphic Ventricular Tachycardia in Cardiomyopathy Concurrent With Defibrillator Implantation: The PAUSE SCD Randomized Trial. Circulation. 2022;145:1839-1849
- 5) Cheung JW, Yeo L, Ip JE, et al. Outcomes, Costs, and 30 Day Readmissions After Catheter Ablation of Myocardial Infarct-Associated Ventricular Tachycardia in the Real World. Circ Arrhythm Electrophysiol. 2018;11:e006754.
- 6) Shah KS, Xu H, Matsoukas RA, et al. Heart failure with preserved, borderline and reduced ejection fraction: 5 year outcomes. J Am Coll Cardiol 2017;70:2476-86, adjusted for estimated growth.

# OVERALL MARKET SIZING AND GROWTH

# OVERALL MARKET SIZING

## QUARTERLY MARKET REPORTING

Quarterly Revenue	CY 2018				CY 2019				CY 2020				CY 2021				CY 2022			
\$M	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JnJ	\$ 591	\$ 616	\$ 604	\$ 634	\$ 676	\$ 694	\$ 683	\$ 716	\$ 673	\$ 544	\$ 772	\$ 825	\$ 875	\$ 966	\$ 884	\$ 941	\$ 1,007	\$ 971	\$ 981	\$ 1,018
ABT	\$ 391	\$ 428	\$ 406	\$ 443	\$ 429	\$ 430	\$ 427	\$ 459	\$ 388	\$ 299	\$ 441	\$ 450	\$ 431	\$ 487	\$ 485	\$ 504	\$ 485	\$ 486	\$ 469	\$ 487
MDT	\$ 177	\$ 177	\$ 177	\$ 173	\$ 204	\$ 193	\$ 198	\$ 188	\$ 106	\$ 158	\$ 194	\$ 184	\$ 212	\$ 209	\$ 204	\$ 201	\$ 222	\$ 205	\$ 208	\$ 205
BSX	\$ 72	\$ 79	\$ 76	\$ 81	\$ 79	\$ 84	\$ 81	\$ 84	\$ 74	\$ 51	\$ 76	\$ 85	\$ 83	\$ 95	\$ 86	\$ 100	\$ 118	\$ 152	\$ 148	\$ 167
	\$ 1,231	\$ 1,300	\$ 1,263	\$ 1,331	\$ 1,388	\$ 1,401	\$ 1,389	\$ 1,447	\$ 1,240	\$ 1,052	\$ 1,484	\$ 1,545	\$ 1,601	\$ 1,757	\$ 1,658	\$ 1,746	\$ 1,832	\$ 1,814	\$ 1,806	\$ 1,877

\$5,128M

9.3% CAGR

\$7,330M

Sources: company public reporting, downloads from the Investor Relations portions of the respective websites

- JnJ, ABT and BSX report Electrophysiology revenue on quarterly basis using standard annual calendar
  - Prior to 2023 JnJ reported revenue for Interventional Solutions segment, comprising predominantly of Electrophysiology + much smaller Neurovascular products. Starting 2023, Electrophysiology is reported separately, thus allowing to correct prior years entries on the proportional basis
- MDT does not report Ablation Solutions revenue directly + reports off standard calendar year
  - Revenue have been extrapolated from 2014 using reported growth rate + underwent minor correction based on BofA Global Research, February 2023
  - Quarterly revenue are recorded for consistency purposes into most overlapping quarter of the calendar year

Example: MDT reporting and incorporation into the overall market model

FY 2023			
Q4	Q1	Q2	Q3
CY 2022			
Q1	Q2	Q3	Q4
\$ 222	\$ 205	\$ 208	\$ 205





# MARKET STRUCTURE BY SEGMENT

Recalibrating Market to Exclude LAA, Cardiac Monitors and ICE/Other

	St Jude %	Adagio Model %	Revenue, \$B
Ablation Catheter	31%	43%	\$ 3.1
EP Diagn	16%	22%	\$ 1.6
EP Mapping And Recording	14%	19%	\$ 1.4
Access	11%	15%	\$ 1.1
Sum	72%	100%	\$ 7.3 <sup>1</sup>

- Normalization procedure is performed against total revenue of main market players to exclude line items representing non-essential or separately reported lines of business
- Ablation catheter revenue - \$3.1 - \$3.2B



EP Catheter Type	% Market	Revenue, \$B
Advanced	75%	\$2.4
Simple	25%	\$0.8

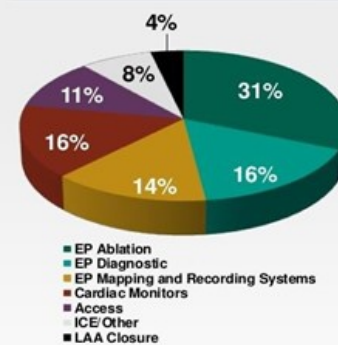
Market percentage source: Electrophysiology Ablation Catheters Market Size (Value, Volume, ASP) by Segments, Share, Trend and SWOT Analysis, Regulatory and Reimbursement Landscape, Procedures and Forecast to 2033:  
<http://www.globaldatamarket.com/store/report/electrophysiology-ablation-catheters-devices-market-analysis/>

1) Treating AF with ablation (electrophysiology/EP) is an \$8 billion market with a long runway, according to Travis Steed, a medtech analyst at Bank of America: <https://www.mddonline.com/cardiovascular/boston-scientific-takes-the-lead-in-pulsed-field-ablation-race>

Market Structure Per St. Jude Medical 2016 Investor and Analyst Day

## ATRIAL FIBRILLATION (AF) – THE MARKET

2016 Market Revenue >\$4B  
 Market Growth\*: Low double digits



2016\* Market Growth Expectations  
 WW: 11%-12%  
 U.S.: 12%-14%  
 Intl: 9%-10%

ST. JUDE MEDICAL

Market dynamics impacting the AF market in 2016:

- ~2.5% of patient population
- Strong growth in ablation
- WW ablation almost 50%
- Force-sensing standard
- Continuous expect

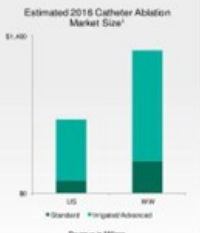
### ELECTROPHYSIOLOGY (EP) ABLATION MARKET IS ~75% IRRIGATED/ADVANCED ABLATION

#### WW Catheter Ablation

- Procedures estimated to be ~950K in 2016 (10% growth)
- Market revenue growing at 11% ('13-'16 CAGR)
- STJ expects to gain multiple share points in 2016

#### U.S. Catheter Ablation

- Procedures estimated to be ~270K in 2016 (8% growth)
- In two years over 50% of the U.S. irrigated ablation catheter market moved to contact force
- Market revenue growing at 17% ('13-'16 CAGR)
- STJ expects to gain multiple share points in 2016



\*excludes the impact from currency  
 All dollar market sizes are based on estimated revenues

Source: St. Jude Medical 2016 Analyst and Investor Meeting:

[http://www.slideshare.net/ir\\_stjude/stj-2016-analyst-and-investor-day-presentation-v2](http://www.slideshare.net/ir_stjude/stj-2016-analyst-and-investor-day-presentation-v2)

## VOLUMES AND GROWTH CONSIDERATIONS

### Estimated Volumes

	2	3	4	5	1
Ablations Volumes	UK	Germany	Spain	Switzerland	US
Years Reporting	2020	2020	2019	2019	2022
AF	9,768	34,888	5,194	3,075	230,000
VT	1,310	7,525	1,484	540	32,000
VT (as % of AF)	13%	22%	29%	18%	14%
	14% in 2022, considering higher AF Growth				

← for further calculations

### Reported or Estimated Growth Rates

Ablations Growth Rates	6 Australia	2 UK	3 Germany	4 Spain	5 Switzerland	1 US	Suggested Total
SVT/Simple		2.2%	3.2 - 4.7%	6.4-7.1%	8%	-5 to 6%	<b>1-4%</b>
AF	11.7 - 12.7%	6.0%	8.5-11.5%	16.8-17.8%	25%	13-14%	<b>10-13%</b>
VT	12.7 - 18.0%	5.0%	6.7 - 10.9%	6.4-10.6%	15%	6-7%	<b>5-8%</b>

Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer - Management's Estimates on slide 2.

(1) Adagio Medical Analysis of Medicare FFS and Commercial Claims

(2) UK National Audit of Cardiac Rhythm Management. 2021. <https://www.nicor.org.uk/national-cardiac-audit-programme/previous-reports/cardiac-rhythm-management-1/2022-1/nacrm-2022-final/?layout=default>

(3) Eckardt L, Doldi F, Busch S, et al. 10-year follow-up of interventional electrophysiology: updated German survey during COVID-19 pandemic. *Clinical Research in Cardiology* 2023;112:784-794.

(4) Quesada A, Cozar R, Anquera J. Registro Español de Ablación con Cateter. XIX Informe Oficial de la Asociación del Ritmo Cardíaco de la Sociedad Española de Cardiología 2019. *Rev Esp Cardiol*. 2020;73(12):1049–1060.

(4) Quesada A, Cozar R, Anguera I, Registro Espanol de Ablacion con Cateter. XIX Informe Oficial de la Asociacion del Ritmo Cardiaco de la Sociedad Espanola de Cardiologia. Rev Esp Cardiol. 2019;70(12):1203-1210.

(6) Anderson R, Lee G, Prabhu M, et al. Ten-year trends in catheter ablation for ventricular tachycardia vs other interventional procedures in Australia. *J Cardiovasc Electrophysiol*. 2019 Nov;30(11):2353-2361.

# SEGMENTAL MARKET REVENUE

	Relative Weights	Market Size	Growth Rate	Segments Revenue	Segment Growth
PAF	60%	\$1.2	11.50%	\$1.2	11.5%
PsAF	40%	\$0.8	11.50%	\$1.1	10.2%
VT	14%	\$0.3	6.50%		

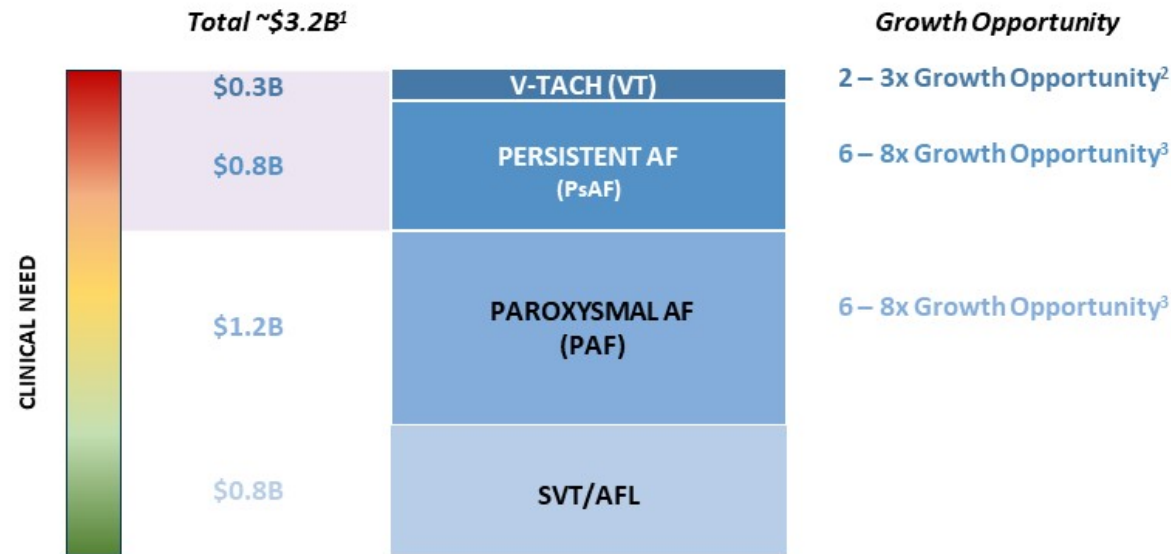


*Mid-range values for segmental growth*

- Based on prior assumptions and market estimates in slides 63-65
- Growth potential per segment:
  - PAF: 6-8x per slide #50
  - PsAF+VT
    - 6-8x for PsAF (slide #50)
    - 2-3x for VT (slide #60)
    - Weighted potential is ~ 5x, suggest conservative assessment of 3x for combined



# INITIAL FOCUS ON SEGMENTS OF HIGHEST NEED



**High clinical need**



**Lower competitive intensity**



**Opportunity to build new treatment approaches**

**VT + Persistent AF markets: ~\$1B / ~10% CAGR – attractive segment for share taking and market expansion**

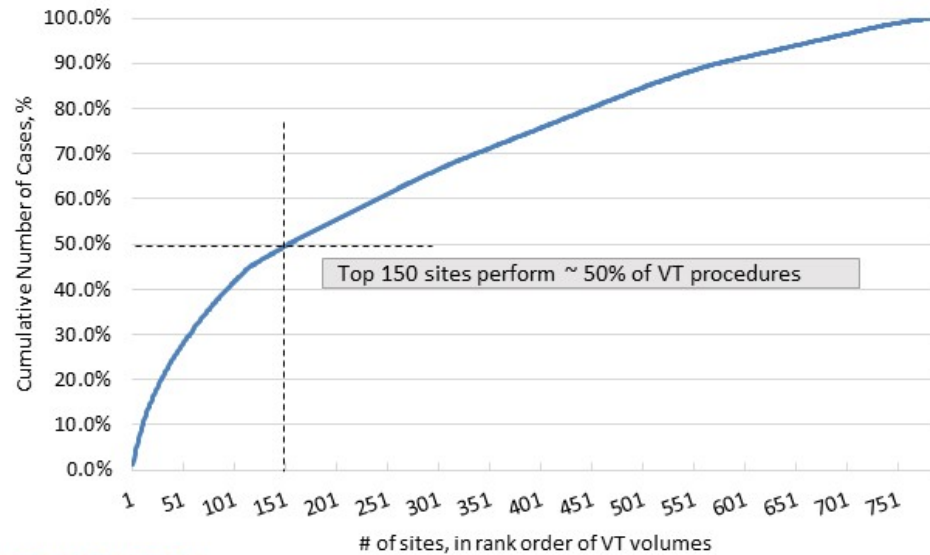
- 1) The current worldwide market size and segment sizes are based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 63-66 which are part of Appendix II - Market Sources & Analysis for further details.
- 2) The VT ablation market growth is based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 53-60 which are part of Appendix II - Market Sources & Analysis for further details.
- 3) The AF ablation market growth is based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 48-51 which are part of Appendix II - Market Sources & Analysis for further details.

# GO-TO-MARKET ASSESSMENTS

# US MARKET OF VT ABLATIONS (MEDICARE FFS 2022 DATA)

Provider	Name	Street	City	State	ZIP	HCPCS 93654										Total 93654
						I49.3	I47.2	I47.20	I47.29	I49.01	R00.0	I46.9	I49.02	Other		
						Ventricular Premature Depolarization	Ventricular Tachycardia	Ventricular Tachycardia Unspecified	Other Ventricular Tachycardia	Ventricular Fibrillation	Tachycardia Unspecified	Cardiac Arrest Unspecified	Ventricular Flutter			
010001	SOUTHEAST HEALTH MEDICAL CENTER	1108 ROSS CLARK CIRCLE	DOTHAN	AL	36301	4	0	0	0	0	0	0	0	1	5	
010006	NORTH ALABAMA MEDICAL CENTER	1701 VETERANS DRIVE	FLORENCE	AL	35630	0	3	0	0	0	0	0	0	0	3	
010011	ST VINCENT'S EAST	50 MEDICAL PARK EAST DRIVE	BIRMINGHAM	AL	35235	4	3	0	0	0	0	0	0	0	6	
010016	SHELBY BAPTIST MEDICAL CENTER	1000 FIRST STREET NORTH	ALABASTER	AL	35007	4	0	0	0	0	0	0	0	0	4	
010023	BAPTIST MEDICAL CENTER SOUTH	2105 EAST SOUTH BOULEVARD	MONTGOMERY	AL	36116	4	3	0	0	0	0	0	0	0	6	
010024	JACKSON HOSPITAL & CLINIC INC	1725 PINE STREET	MONTGOMERY	AL	36106	0	0	0	0	0	0	0	0	0	0	
010029	EAST ALABAMA MEDICAL CENTER	2000 PEPPERELL PARKWAY	OPELIKA	AL	36801	0	0	0	0	0	0	0	0	0	0	
010033	UNIVERSITY OF ALABAMA HOSPITAL	619 SOUTH 19TH STREET	BIRMINGHAM	AL	35233	35	12	2	0	1	0	0	0	0	50	

Select centers (in sequence of their Medicare Provider IDs) are shown for demonstration purposes, total # exceeds 750.



## Per center volume analysis

- Number of VT ablations is based on the total number of claims CPT/HCPCS 03654
- Non-numerical reporting of claims (1-10) is interpolated to achieve reported totals
- Population-based average:
- 32,000 claims (see slide #57) / 326M\* = ~ 98 / million
- 32,000 claims (see slide #57) / 253M\* adults (18+y.o.) = ~ 124 / million

\* US Census: <https://www.census.gov/data/tables/2021/demo/age-and-sex/2021-age-sex-composition.html>



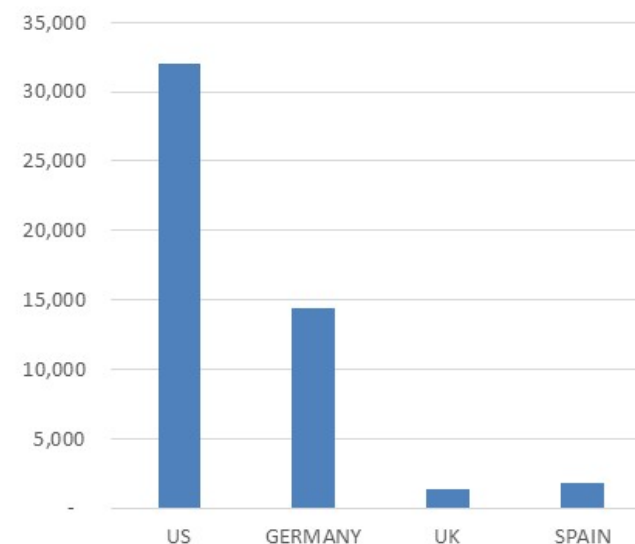
# EU MARKET FOR VT ABLATIONS (MANAGEMENT ESTIMATES)

Estimated Ablation Volumes

Country	EHRA 2016 Survey <sup>2</sup>			Other Data Sources						CAGR	2022 VT Volume Projections
	Population (millions) <sup>1</sup>	Penetration per million <sup>2</sup>	2016 Est. VT Volume	2015	2016	2017	2018	2019	2020		
Germany <sup>3</sup>	82.6	118	9747	5429					7525	6.7%	14383
UK <sup>4</sup>	65.6	16	1050	1026	1123	1345	1368	1366	1310	5.0%	1407
Spain <sup>5</sup>	43.3	14	606	1158	1348	2445	1325	1484		6.4%	1788

- 2016 Estimated VT ablation volumes are based on 2016 EHRA survey and population data, and used for Germany, where more specific data is not available.
- Country-level CAGR is calculated based on available data points for the years provided in the table.
- 2022 projections are based on interpolation of the growth rates from the last reported year to 2022

VT Ablations, Top Countries, 2022 Estimate



1) World Population Data 2016. Population Reference Bureau. <https://www.prb.org/wp-content/uploads/2016/08/prb-wpds2016.pdf>

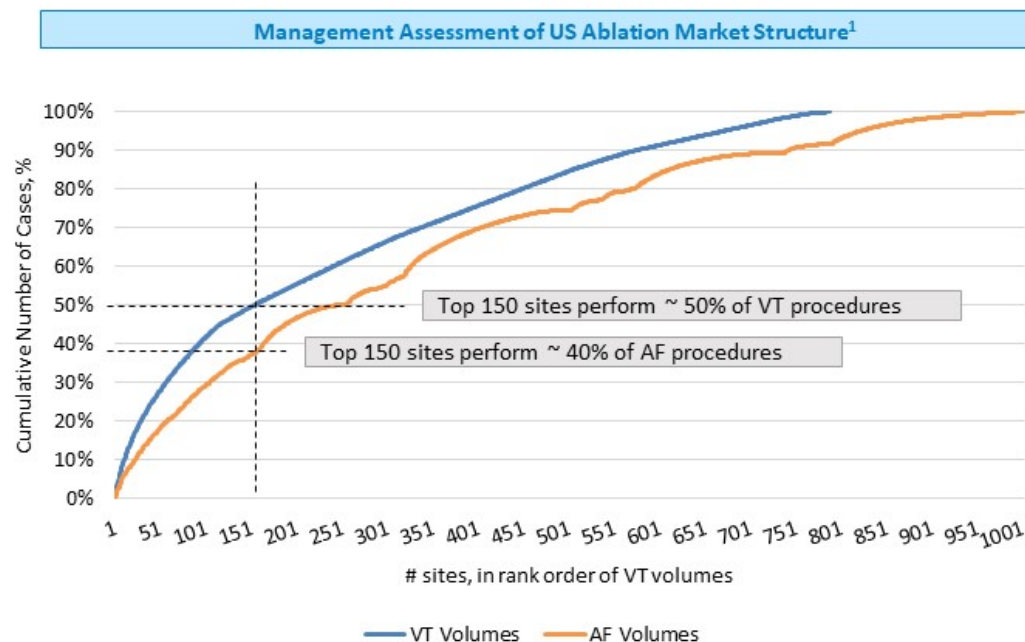
2) Raatikainen MJP, Armar DO, Merkely B, et al. A Decade of Information on the Use of Cardiac Implantable Electronic Devices and Interventional Electrophysiological Procedures in the European Society of Cardiology Countries: 2017 Report from the European Heart Rhythm Association

3) Ekhardt L, et al. 10-year follow-up of interventional electrophysiology: updated German survey during the COVID-19 pandemic. Clinical Research in Cardiology (2023) 112:784-794

4) NICOR data and 5y growth from 2015-2020: <https://www.nicor.org.uk/national-cardiac-audit-programme/previous-reports/cardiac-rhythm-management-1/2022-1/nacrm-2022-final/playout/default>

5) Quesada A, Cozar R, Anguera I, et al. Spanish Catheter Ablation Registry. 19th Official Report of the Heart Rhythm Association of the Spanish Society of Cardiology (2019) Rev Esp Cardiol. 2020;73(12):1049-1060

# LEVERAGING VT PENETRATION INTO AF MARKET SHARE



See slides #48, #50 and #71 for additional details

Per center volume analysis

- Number of VT ablations is based on the total number of claims CPT/HCPCS 93654 (see slide #71 for methodology)
- Number of AF ablations is based on the total number of claims CPT/HCPCS 93656 (see slides #48 and #50 for details on the CPT code 93656 reporting and slide #71 for methodology (identical to the one for CPT 93654))
  - The number of procedures attributable to CPT 93656 and classified in accordance to the diagnosis on the site level has the same structure as reporting for CPT 93654, corrected for unique diagnostic codes associated with AF vs VT.
- Non-numerical reporting of claims (1-10) is interpolated to achieve reported totals

- AF market is slightly less concentrated compared to VT
- Access to 50% of VT volumes creates potential pull-through in ~ 40% of AF volumes

1) Based on management's analysis of Medicare FFS data, subject to certain assumptions and limitations. Please see Slides 48, 50 and 71.

# **COMPETITIVE DEVICES AND INDICATIONS**



# ABBOTT / ST. JUDE MEDICAL

Product Name	US IFU Available	Indicated Conditions	Energy Source
TactiCath™ Contact Force Ablation Catheter, Sensor Enabled™	YES	PAF, PsAF	RF
TactiCath™ Quartz Contact Force Ablation Catheter	YES	PAF	RF
TactiFlex™ Ablation Catheter, Sensor Enabled™	YES	PAF, AFL	RF
Safire™ Ablation Catheters (non-irrigated)	NO		
Therapy™ Ablation Catheter	NO		
Therapy™ 4mm Tip Thermistor Ablation Catheter	NO		
Therapy™ 8mm Tip Thermistor Ablation Catheter	NO		
Therapy™ Dual-8™ Ablation Catheter	NO		
Safire™ TX Bi-directional Ablation Catheter	YES	AFL	RF
Therapy™ Cool Path™ Ablation Catheter	YES	AFL	RF
Therapy™ Cool Path™ SP Ablation Catheter	YES	AFL	RF
SAFIRE™ BLU™ Ablation Catheter	NO		
SAFIRE™ BLU™ SP Ablation Catheter	NO		
Therapy™ Cool Path™ Duo Ablation Catheter	NO		
Safire™ BLU™ Duo Ablation Catheter	YES	AFL	RF
Therapy™ Cool Path™ Duo SP and Safire™ BLU™ Duo SP Ablation Catheters	YES	AFL	RF
Therapy™ Cool Path™ Duo Ablation Catheter MediGuide Enabled™/Safire™ Duo Ablation Catheter MediGuideEnabled™	YES	AFL	RF
Safire™ Duo and Cool Path™ Duo Ablation Catheters, VeriSense Enabled™	YES	AFL	RF
Therapy™ Cool Flex™ Ablation Catheter	YES	AFL	RF
FlexAbility™ Ablation Catheter	YES	AFL	RF
FlexAbility™ Ablation Catheter, Sensor Enabled™	YES	AFL, VT	RF

Source: product Instructions For Use downloaded from US portion of the website. OUS indications for use may vary.

# EXPANDED INDICATION FOR FLEXABILITY CATHETER

## ABBOTT ANNOUNCES U.S. AND EUROPEAN APPROVALS FOR NEW TECHNOLOGIES TO SUPPORT EFFECTIVE TREATMENT FOR ABNORMAL HEART RHYTHMS

- TactiFlex™ Ablation Catheter, Sensor Enabled™, the world's first and only ablation catheter with a flexible electrode tip and built-in contact force technology, receives CE Mark for treating patients with common arrhythmias like atrial fibrillation
- FlexAbility™ Ablation Catheter, Sensor Enabled™ secures FDA approval for an expanded indication following favorable study outcomes in treating complex heart condition

ABBOTT PARK, Ill., Feb. 2, 2023 — Abbott today announced two approvals as part of its growing suite of electrophysiology products in the global market. The company's TactiFlex™ Ablation Catheter, Sensor Enabled™, the world's only ablation catheter with a flexible tip and contact force sensing, received CE Mark<sup>1</sup> for treating people with abnormal heart rhythms like atrial fibrillation (AFib). Abbott's FlexAbility™ Ablation Catheter, Sensor Enabled™ also recently secured an expanded indication<sup>2</sup> for treating patients with a complex heart condition by the U.S. Food and Drug Administration (FDA).

### EUROPEAN APPROVAL FOR NEW CATHETER OPENS NEW DOORS FOR AFIB PATIENTS

Abbott received CE Mark of the TactiFlex™ Ablation Catheter, Sensor Enabled™ (SE), the world's first ablation catheter designed with a unique flexible tip and contact force sensing, proven to reduce procedure times<sup>3</sup> and patients' exposure to radiation compared to standard catheters.

The TactiFlex catheter can deliver high-power ablation energy to the heart wall, similar to conventional catheters<sup>4</sup>. The TactiFlex catheter is the company's previous generation catheters<sup>5</sup>.

The European launch of TactiFlex is the latest better treat arrhythmias - especially around AFib affecting 37 million people worldwide<sup>6</sup>. Initial data from Germany.

"When we treat complex ablation cases for people and get our patients back to living their lives," said Dr. Michael Comilla, MD, Director of Electrophysiology at the German Heart Center Berlin, "using high-power during ablation will be game-changing."

Abbott's EnSite X EP System, the innovation in catheter technology, has been used to treat millions of Europeans affected by cardiac arrhythmias.

The heart that can lead to erratic heartbeats or cause the heart to beat too fast or too slow. AFib is a condition in which the heart's chambers are out of sync, causing them to beat in a rapid fashion. If left untreated, AFib may eventually lead to heart failure or stroke.

Physicians can perform an ablation to treat arrhythmias, in which long flexible tools—called catheters—are inserted into the heart to study and treat the arrhythmia. The catheters deliver radiofrequency (RF) energy to disrupt the tissue in the heart responsible for creating the abnormal heart rhythm.

Abbott's TactiFlex catheter uses a tip design with a laser-cut pattern that flexes when in contact with the heart wall to direct irrigation flow to the treated tissue<sup>7</sup> and to increase catheter stability by up to two-times for consistent therapy delivery<sup>8</sup>.

The catheter generated strong clinical outcomes in the TactiFlex AF IDE study for its treatment using high-power ablation (between 40 and 50 Watts)<sup>9</sup>. The study showed the catheter created fast, safe lesions to treat the patient's arrhythmia the first time with over 99% acute procedural success<sup>3</sup>.

Abbott's TactiFlex catheter is now available in Europe, Africa, Japan and Australia. It is currently undergoing FDA review for pre-market approval.

### NEW U.S. EXPANDED INDICATION FOR CATHETER DESIGNED TO TREAT COMPLEX HEART CONDITION

The company also received FDA approval for an expanded indication of its FlexAbility Ablation Catheter™, Sensor Enabled™ (SE), a flexible tip catheter that helps physicians identify abnormal signals and apply therapy to treat a complex heart condition known as ventricular tachycardia (VT) in patients with non-ischemic cardiomyopathy (NICM). NICM is a type of heart muscle disease that prevents the heart from pumping blood effectively. This is associated with VT, a fast heart rhythm that can lead to cardiac arrest if untreated. Procedures to treat these patients are considered complex due to the nature of the disease itself and the need

to treat both inside and outside surfaces of the heart.

Abbott's LESS-VT study was the first FDA-approved pre-market trial to study the safety and effectiveness of ablation for the treatment of VT with NICM origin. Once treated with the FlexAbility Ablation Catheter, SE, 80% of study patients were free from VT for at least six months post-procedure<sup>9</sup>. The data also showed statistically significant improvements in patients' mental and physical quality-of-life measures<sup>9</sup>.

### About Abbott

Abbott is a global healthcare leader that helps people live more fully at all stages of life. Our portfolio of life-changing technologies spans the spectrum of healthcare, with leading businesses and products in diagnostics, medical devices, nutritional and branded generic medicines. Our 115,000 colleagues serve people in more than 160 countries.

Connect with us at [www.abott.com](http://www.abott.com), on LinkedIn at [www.linkedin.com/company/abbott/](https://www.linkedin.com/company/abbott/), on Facebook at [www.facebook.com/Abbott](https://www.facebook.com/Abbott) and on Twitter @AbbottNews.

<sup>1</sup> EU Indication for TactiFlex: The TactiFlex™ Ablation Catheter, Sensor Enabled™ is indicated for use in creating focal lesions during cardiac ablation procedures (mapping, stimulation, and ablation) for the treatment of arrhythmias. Epicardial ablation should be limited to appropriately selected patients with ventricular

## NEW U.S. EXPANDED INDICATION FOR CATHETER DESIGNED TO TREAT COMPLEX HEART CONDITION

The company also received FDA approval for an expanded indication of its FlexAbility Ablation Catheter™, Sensor Enabled™ (SE), a flexible tip catheter that helps physicians identify abnormal signals and apply therapy to treat a complex heart condition known as ventricular tachycardia (VT) in patients with non-ischemic cardiomyopathy (NICM). NICM is a type of heart muscle disease that prevents the heart from pumping blood effectively. This is associated with VT, a fast heart rhythm that can lead to cardiac arrest if untreated. Procedures to treat these patients are considered complex due to the nature of the disease itself and the need

<sup>6</sup> Lippi G, Sanchez-Gomez F, Cervellin G. Global epidemiology of atrial fibrillation: An increasing epidemic and public health challenge. Int J Stroke. 2021 Feb;16(2):217-221. doi: 10.1177/1747493019897870. Epub 2020 Jan 19. Erratum in: Int J Stroke. 2020 Jan 28;:1747493020905964. PMID: 31955707.

<sup>7</sup> Abbott data on file; 90906650

<sup>8</sup> CL1019990 TactiFlex PAF IDE As Treated Repeat Procedure Details

<sup>9</sup> CL1018185 LESS-VT NICM PMA Report

For further information: Abbott Media: Shelley Lange (612) 346-3514; Abbott Financial: Michael Comilla (224) 668-1872



# BOSTON SCIENTIFIC

Product Name	US IFU Available	Indicated Conditions	Energy Source
Blazer II®, Blazer II HTD® Temperature Ablation Catheters	YES	Accessory Pathway, AVNRT, AV Junction Ablation, AV Node, AT, AFL, VT	RF
Blazer II® XP Temperature Ablation Catheter	YES	AFL	RF
Blazer Prime® XP Temperature Ablation Catheter	YES	AFL	RF
IntellaNav™ Open-Irrigated Ablation Catheter	YES	AFL, PAF	RF
IntellaNav MiFi™ Open-Irrigated Ablation Catheter	YES	AFL, PAF	RF
IntellaNav MiFi™ XP Temperature Ablation Catheter	YES	AFL	RF
IntellaNav™ ST Ablation Catheter	YES	Accessory Pathway, AVNRT, AV Junction Ablation, AV Node, AT, AFL, VT	RF
IntellaNav™ XP Temperature Ablation Catheter	YES	AFL	RF
IntellaTip MiFi™ Open-Irrigated Ablation Catheter	YES	AFL, PAF	RF
IntellaTip MiFi™ XP Temperature Ablation Catheter	YES	AFL	RF
POLARx FIT™ Cryoablation Balloon Catheter	YES	PAF	Cryoballoon
FARAWAVE™ PFA Catheter	NO	PAF <sup>1</sup>	PFA

Source: product Instructions For Use downloaded from US portion of the website, except FARAWAVE (see reference 1). OUS indications for use may vary.

1) <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=P230030>



# JNJ (Biosense Webster, Inc.)

Product Name	US IFU Available	Indicated Conditions	Energy Source
QDOT MICRO™ Uni-directional Catheter	YES	AFL, PAF	RF
QDOT MICRO™ Bi-directional Catheter	YES	AFL, PAF	RF
THERMOCOOL SMARTTOUCH™ SF Uni-Directional Catheter	NO		
THERMOCOOL SMARTTOUCH™ SF Bi-Directional Catheter	YES	AFL, PAF, PsAF	RF
THERMOCOOL SMARTTOUCH™ Uni-Directional Catheter			
THERMOCOOL SMARTTOUCH™ Bi-Directional Catheter	YES	AFL, PAF, VT	RF
THERMOCOOL™ SF NAV Uni-Directional Catheter			
THERMOCOOL™ SF NAV Bi-Directional Catheter	YES	AFL, PAF	RF
THERMOCOOL™ SF NAV Uni-Directional Catheter with curve visualization	NO		
THERMOCOOL™ SF NAV Bi-Directional Catheter with curve visualization	NO		
NAVISTAR™ THERMOCOOL™ Uni-Directional Catheter	NO		
NAVISTAR™ THERMOCOOL™ Bi-Directional Catheter	YES	AFL, PAF, VT	RF
NAVISTAR™ 4 mm Catheter	NO		
NAVISTAR™ DS Catheter	NO		
NAVISTAR™ RMT THERMOCOOL™ Catheter	YES	AFL, VT	RF
NAVISTAR™ RMT 4 mm Catheter	NO		
THERMOCOOL™ SF Uni-Directional Catheter	NO		
THERMOCOOL™ SF Bi-Directional Catheter	NO		
EZ STEER™ THERMOCOOL™ NAV Catheter	YES	AFL, PAF, VT	RF
EZ STEER™ 4 mm Bi-Directional Catheter	NO		
EZ STEER™ NAV DS Bi-Directional Catheter	YES	AFL	RF
CELSIUS™ THERMOCOOL™ Uni-Directional Catheter	NO		
CELSIUS™ RMT THERMOCOOL™ Catheter	YES	AFL	RF
CELSIUS™ 4 mm Catheter Thermocouple	NO		
CELSIUS™ 4 mm Catheter Thermistor	NO		
CELSIUS™ 4 mm Braided Tip Catheter	NO		
CELSIUS FLTR™ 8 mm Uni-Directional Catheter	NO		
CELSIUS FLTR™ 8 mm Bi-Directional Catheter	NO		
CELSIUS™ DS Catheter	NO		
CELSIUS™ RMT Catheter	YES	Atrial, VT	RF
HELIOSTAR™ Balloon Ablation Catheter	YES	Atrial arrhythmias	RF Balloon
Varipulse Pulsed Field Ablation Catheter	NO	PAF	PFA
Thermocool Smarttouch SF Dual Energy	NO	PAF	RF, Focal PFA


Source: product Instructions For Use downloaded from US portion of the website. OUS indications for use may vary.

# ORIGINAL INDICATION FOR THERMOCOOL CATHETER

Source:

<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=P030031>

Note: this medical device has supplements. The device description/function or indication may have changed. Be sure to look at the supplements to get an up-to-date information on device changes. The labeling included below is the version at time of approval of the original PMA or panel track supplement and *may not represent the most recent labeling*.

<b>Device</b>	BIOSENSE WEBSTER NAVISTAR/CELSIUS THERMO COOL DIAGNOSTIC/ABLATION DEFLECTABLE TIP CATHETERS
<b>Generic Name</b>	catheter, percutaneous, cardiac ablation, for treatment of atrial flutter 
<b>Applicant</b>	BIOSENSE WEBSTER, INC. 31 Technology Drive Suite 200 Irvine, CA 92618
<b>PMA Number</b>	P030031
<b>Date Received</b>	07/28/2003
<b>Decision Date</b>	11/05/2004
<b>Product Code</b>	<a href="#">OAD</a>
<b>Docket Number</b>	04M-0497
<b>Notice Date</b>	11/12/2004
<b>Advisory Committee</b>	Cardiovascular
<b>Expedited Review Granted?</b>	No
<b>Combination Product</b>	No
<b>Recalls</b>	<a href="#">CDRH Recalls</a>

## Approval Order Statement

APPROVAL FOR FOR THE NAVISTAR/CELSIUS THERMOCOOL DEFLECTABLE DIAGNOSTIC/ABLATION CATHETERS, WHICH INCLUDE THESE MODELS: NAVISTAR THERMOCOOL (MODELS NS75T-BCT-252-HS, NS75T-CCT-252-HS, NS75T-DCT-252-HS, NS75T-FCT-252-HS, NS75TC-BCT-252-HS, NS75TC-CCT-252-HS, NS75TC-DCT-252-HS, AND NS75TC-FCT-252-HS), AND CELSIUS THERMOCOOL (MODELS D7IT-BL-252-RT, D7IT-DL-252-RT, D7IT-FL-252-RT, D7ITC-BL-252-RT, D7ITC-DL-252-RT, AND D7ITC-FL-252-RT). THE BIOSENSE WEBSTER NAVISTAR/CELSIUS THERMOCOOL DIAGNOSTIC/ABLATION DEFLECTABLE TIP CATHETERS AND RELATED ACCESSORY DEVICES ARE INDICATED FOR CATHETER-BASED CARDIAC ELECTROPHYSIOLOGICAL MAPPING (STIMULATING AND RECORDING), AND WHEN USED WITH THE STOCKERT 70 GENERATOR, FOR THE TREATMENT OF TYPE I ATRIAL FLUTTER IN PATIENTS AGE 18 OR OLDER. THE NAVISTAR THERMOCOOL CATHETER PROVIDES LOCATION INFORMATION WHEN USED WITH THE CARTO EP/XP NAVIGATION SYSTEM.

**Approval Order** [Approval Order](#)



# MEDTRONIC

Product Name	US IFU Available	Indicated Conditions	Energy Source
AFFERA Sphere-9™ Mapping and Ablation Catheter	YES	PAF, PsAF, AFL, AT	RF, PFA
ARCTIC FRONT ADVANCE™ 2AF233, 2AF283	YES	PAF, PsAF, LSPAF	Cryoballoon
Arctic Front Advance Pro™ AFAPRO23, AFAPRO28	YES	PAF, PsAF, LSPAF	Cryoballoon
DiamondTemp™ CEDT100S, CEDT200L, CEDTB300S, CEDTB400L	YES	SVT (AT, AFL, AVNRT), AF	RF
Freezor™ 207F1, 207F3, 207F5	YES	AVNRT	Focal Cryo
Freezor™ MAX 209F3, 209F5	YES	PAF, PsAF	Focal Cryo
Freezor™ Xtra 217F1, 217F3, 217F5	YES	AVNRT	Focal Cryo
FREEZOR® XTRA 227F1, 227F3, 227F5	YES	AVNRT	Focal Cryo
RF MARINR™	YES	AVNRT	RF
RF MARINR™ UNIPOLAR	YES	AVNRT	RF
RF CONDUCTR™	YES	AVNRT, AVN, AFL	RF
RF ENHANCER™ II	YES	AVNRT	RF
PulseSelect™	NO	PAF, PsAF <sup>1</sup>	PFA

Source: product Instructions For Use downloaded from US portion of the website, excluding PulseSelect (see reference 1). OUS indications for use may vary.

1) <https://www.medtronic.com/us-en/healthcare-professionals/products/cardiac-rhythm/ablation-atrial-fibrillation/indications-safety-warnings.html>



# **ABLATION MODALITIES COMPARISON**

# USING NHS COST-EFFECTIVENESS MODEL FOR TECHNOLOGY COMPARISONS

## Baseline and treatment effects 1<sup>st</sup> year

NHS Model %		1- NHS Model %
AF recurrence		1 <sup>st</sup> year freedom from AF
AADs	73%	27%
RF PP ablation	31%	69%
RF ME ablation	32%	68%
Cryoballoon ablation	32%	68%
Laser ablation	36%	64%
Thoracoscopy	15%	85%
Hybrid ablation	22%	78%

*conventionally referred to in US as mini-thoracotomy*

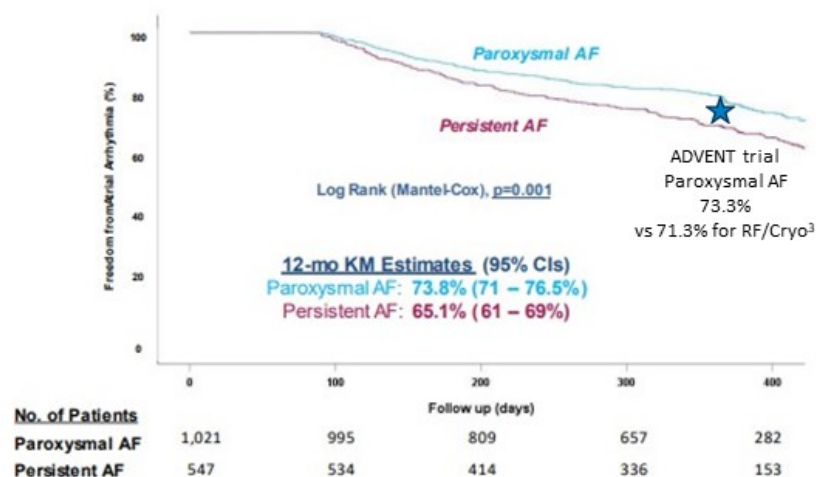
## Incremental Mortality vs AAD

NHS Model %		Mortality – Baseline %
Mortality		Incremental Mortality
AADs	1.2%	Baseline
RF PP ablation	1.2%	+0%
RF ME ablation	1.2%	+0%
Cryoballoon ablation		+0%
Laser ablation		+0%
Thoracoscopy	1.8%	+0.6%
Hybrid ablation		+0.6%

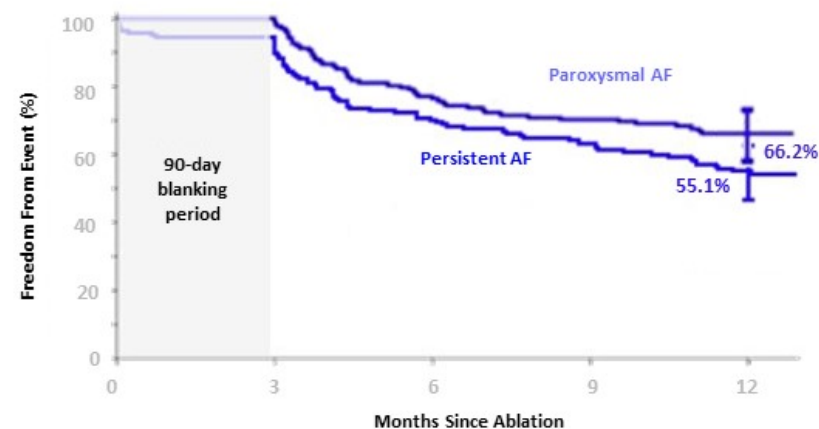
- Conversions of data from source inputs into table:
  - 1-year freedom from AF:  $1 - 1^{\text{st}} \text{ year AF recurrence}$
  - Incremental mortality = Mortality – AAD Mortality
- For PFA values refer directly to quoted sources

# PFA: COMPARISON OF OUTCOMES IN PAF and PsAF PATIENTS

FARAPULSE/BSX: MANIFEST-PF REGISTRY<sup>1</sup>



MDT: PULSED AF TRIAL<sup>2</sup>



- 1) Turagam MK, Nouzil P, Schmidt B, et al. Safety and Effectiveness of Pulsed Field Ablation to Treat Atrial Fibrillation: One Year Outcomes From the MANIFEST PF Registry. *Circulation*. 2023;148:35–46
- 2) Verma A, Haines DE, Boersma LV, et al. Pulsed Field Ablation for the Treatment of Atrial Fibrillation: PULSED AF Pivotal Trial. *Circulation*. 2023;147:00–00.
- 3) Reddy VY, Gerstenfeld EP, Natale A, Whang W, et al. Pulsed Field or Conventional Thermal Ablation for Paroxysmal Atrial Fibrillation. *New England J Medicine* 2023; DOI: 10.1056/NEJMoa2307291



# USING NHS COST-EFFECTIVENESS MODEL FOR TECHNOLOGY COMPARISONS: COMPLICATIONS

SAE, NHS Model %

Serious adverse events first year (decision tree)		
Catheter ablation		
Oesophageal injury (perforation/fistula)	0.5%	ESC 2016 guidelines <sup>37</sup>
Cardiac tamponade (all except cryoballoon)	1%	ESC 2016 guidelines <sup>37</sup>
Cardiac tamponade (cryoballoon only)	0.4%	du Fay de Lavallaz 2020, <sup>18</sup> Fortuni 2020 <sup>21</sup>
Pulmonary vein stenosis	1%	ESC 2016 guidelines <sup>37</sup>
Persistent phrenic nerve palsy (cryoballoon and laser ablation only)	1%	ESC 2016 guidelines <sup>37</sup> Tohoku 2020 <sup>88</sup> and committee expert opinion
Vascular complication	2%	ESC 2016 guidelines <sup>37</sup>
Other severe complication	1%	ESC 2016 guidelines <sup>37</sup> <i>Assume these are groin site complications</i>
Thoracoscopy/hybrid		
Atrial tear requiring sternotomy	10%	Pearman 2019 <sup>67</sup>
Phrenic nerve injury	6.7%	Pearman 2019 <sup>67</sup>

Total per modality

SAE, By Modality, Other Than PFA

AAD	RF point-by-point	RF Multi-electrode	Cryoballoon	Laser Ablation	Mini-thoracotomy	Hybrid Ablation
N/A	0.5%	0.5%	0.5%	0.5%	N/A	N/A
N/A	1%	1%	N/A	1%	N/A	N/A
N/A	N/A	N/A	0.4%	N/A	N/A	N/A
N/A	1%	1%	1%	1%	N/A	N/A
N/A	N/A	N/A	1%	1%	N/A	N/A
N/A	2%	2%	2%	2%	N/A	N/A
N/A	1%	1%	1%	1%	N/A	N/A
N/A	N/A	N/A	N/A	N/A	10%	10%
N/A	N/A	N/A	N/A	N/A	6.7%	6.7%
N/A	5.5%	5.5%	5.9%	6.5%	16.7%	16.7%

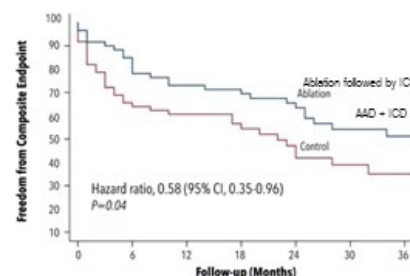
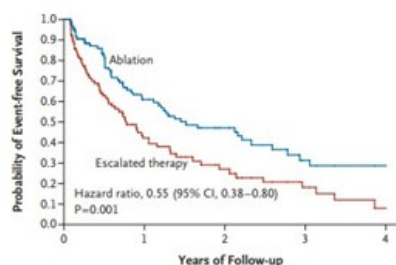
- Conversions of data from source inputs into table: summing types of events per modality
- For PFA values refer directly to quoted sources

(1) National Institute for Health and Care Excellence (NICE). Atrial fibrillation: diagnosis and management, Cost effectiveness analysis (3): Ablation. NICE guideline NG196. April 2021. 1<sup>st</sup> year freedom from AF % = 1 – AF recurrence %

# VT MARKET: CURRENT RISK-BENEFIT CAPS ABLATION THERAPY PENETRATION

## Potential Benefits of VT Ablations

- 1 Acute and sub-acute termination of symptomatic arrhythmias and ICD shocks
- 2 Reduction of symptomatic arrhythmic events (VT storms), ICD therapies, and removal vs escalation of harmful AAD Tx<sup>1,2,3</sup>
- 3 VT prophylaxis prior to ICD implantation<sup>4</sup>



## Procedural Risks and Complications<sup>5</sup>

Death	2.7%
Perforations/tamponade	2.0
Major Bleeding	5.6%
Vascular	1.7%
Stroke	0.4%
Unspecified	1.8%
Any Complication	11.5%

Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer - Management's Estimates on slide 2.

1) Da Silva GL, Nunes Ferreira A, Cortez Diaz N, et al. Radiofrequency catheter ablation of ventricular tachycardia in ischemic heart disease in light of current practice: a systematic review and meta analysis of randomized controlled trials. J Interv Card Electrophysiol. 2020 Dec;59(3):603-616

2) Sapp JL, Wells GA, Parkash R, et al. Ventricular Tachycardia Ablation versus Escalation of Antiarrhythmic Drugs. N Engl J Med 2016;375:111-21

3) Liang JJ, Yang W, Santangeli P, et al. Amiodarone Discontinuation or Dose Reduction Following Catheter Ablation for Ventricular Tachycardia in Structural Heart Disease. J Am Coll Cardiol EP 2017;3:503-11

4) Tung R, Xue Y, Chen M, et al. First Line Catheter Ablation of Monomorphic Ventricular Tachycardia in Cardiomyopathy Concurrent With Defibrillator Implantation: The PAUSE SCD Randomized Trial. Circulation. 2022;145:1839-1849

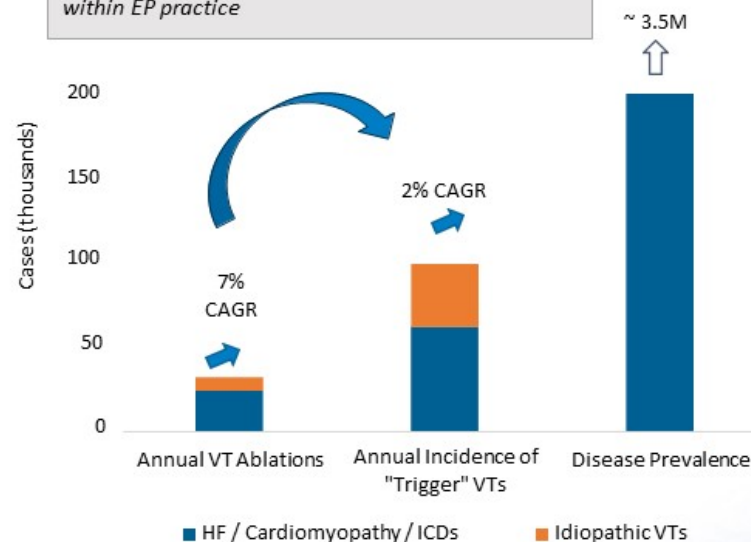
5) Cheung JW, Yeo I, Ip JE, et al. Outcomes, Costs, and 30 Day Readmissions After Catheter Ablation of Myocardial Infarct-Associated Ventricular Tachycardia in the Real World. Circ Arrhythm Electrophysiol. 2018;11:e006754.

6) The annual VT ablations, annual incidence of "trigger" VTs, disease prevalence and market growth are based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 53-60 which are part of Appendix II - Market Sources & Analysis for further details.

7) Refer to slide 60 for more information on market growth opportunity.

## Estimated US Market For VT Ablations<sup>6</sup>

2-3x<sup>7</sup> market growth opportunity with improved ablation effectiveness and reduced risk profile within EP practice

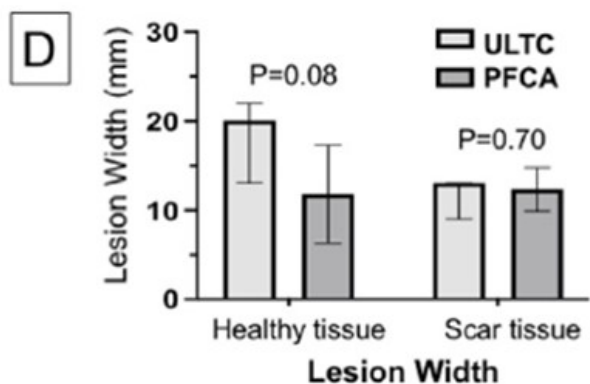
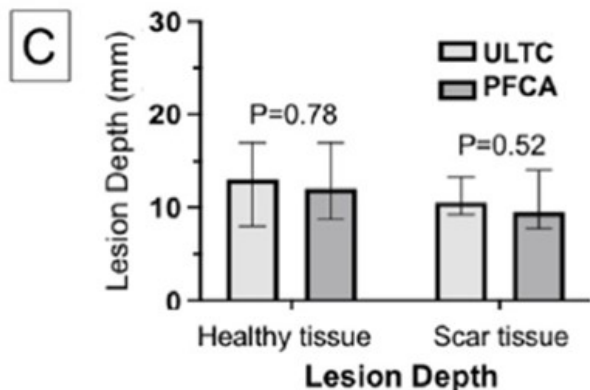


# **Appendix III – TECHNICAL SUPPLEMENT**



# Scaling Graph – Manual Measurements of Reported Data (to ensure accuracy on slide # 13)

GRAPHS FROM THE PUBLICATION



Scale  
30mm = 1.89"



## ULTC Data To Be Entered Into The Graph

	Depth	+ Error	- Error
Healthy	 13mm = 0.81"	 3.8mm = 0.24"	 5.1mm = 0.32"
Scar	 10mm = 0.63"	 3.2mm = 0.2"	 1.3mm = 0.08"

Additional data can be obtained via the online  
access to HRS 2023 recorded sessions

Dewland TA, Higuchi S, Venkateswaran R, Lee C, Gerstenfeld EP. AB-452672-2 Ultra-low Temperature Cryoablation Versus Ultra-low Temperature Cryoablation Combined With Pulsed Field Ablation In A Swine Ventricular Infarct Model. Heart Rhythm 2023;20:S92-S93. doi: doi.org/10.1016/j.hrthm.2023.03.395



## **Appendix IV - OLDER SLIDES**

# AFIB CATHETER ABLATION OUTCOMES: IN NEED OF TECHNOLOGY BREAKTHROUGH

The Outcomes of All Current Catheter Technologies are Similar – even in <u>Paroxysmal</u> AF patients					
Category	Therapy Option	Representative Players	1 <sup>st</sup> year single procedure freedom from AF	Mortality	Serious Adverse Events*
Drugs	AADs <sup>1</sup>	3M, Arbor	27%	Baseline	N/A
	RF point-by-point <sup>1</sup>	JnJ, ABT, BSX, MDT	69%	+0%	5.5%
Catheter	RF multi-electrode <sup>1</sup>	JnJ, MDT	68%	+0%	5.5%
	Cryoballoon <sup>1</sup>	MDT, BSX	68%	+0%	5.9%
	PFA <sup>2-6</sup>	JnJ, MDT, BSX	66%-74%	0 – 0.3%	0 – 1.9-5.9%
	Laser Ablation <sup>1</sup>	CardioFocus	64%	+0%	6.5%
	Mini-thoracotomy <sup>1</sup>	Atricure, MDT, BSX	85%	+0.6%	16.7%
Surgery	Hybrid ablation <sup>1</sup>	Atricure	78%	+0.6%	16.7%

\* mostly from 2016 ESC guidelines, catheter esophageal perforations – 0.5%

Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer - Management's Estimates on slide 2.

1) National Institute for Health and Care Excellence (NICE), Atrial fibrillation: diagnosis and management, Cost-effectiveness analysis 13: Ablation, NICE guideline NG196, April 2021. 1<sup>st</sup> year freedom from AF % = 1 – AF recurrence %

2) Information regarding PFA in this row is based on management's analysis using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 75-76 which are part of Appendix II - Market Sources & Analysis for further details.

3) Turagam MK, Neuzil P, Schmidt B, et al. Safety and Effectiveness of Pulsed Field Ablation to Treat Atrial Fibrillation: One Year Outcomes From the MANIFEST PF Registry. Circulation. 2023;148:35–46

4) Verma A, Haines DE, Boersma LV, et al. Pulsed Field Ablation for the Treatment of Atrial Fibrillation: PULSED AF Pivotal Trial. Circulation. 2023;147:00–00.

5) Duytschaever M, De Potter T, Grimaldi M, et al. Paroxysmal Atrial Fibrillation Ablation Using a Novel Variable Loop Biphasic Pulsed Field Ablation Catheter Integrated With a 3 Dimensional Mapping System: 1 Year Outcomes of the Multicenter inspire Study. Circ Arrhythm Electrophysiol. 2023;16:e011780

6) Reddy VY, Gerstenfeld EP, Natale A, Whang W, et al. Pulsed Field or Conventional Thermal Ablation for Paroxysmal Atrial Fibrillation. New England J Medicine 2023; DOI: 10.1056/NEJMoa2307291



# ACQUISITIONS HAVE DRIVEN CONSOLIDATION AMONG COMPETITORS

## Medtronic

Year	Purchase Price (\$mm)	Target
2008	388	 CRYOCATH
2009	225	 AblationFrontiers <small>EXPANDING YOUR POSSIBILITIES</small>
2019	316	 EPIX THERAPEUTICS
2022	925	 AFFERA

*\$1.8bn+ worth of acquisitions*

## Boston Scientific

Year	Purchase Price (\$mm)	Target
2001	115	 CARDIAK PATHWAYS
2012	265	 RHYTHMIA Medical
2013	275	 IBATROD ELECTROPHYSIOLOGY
2018	202	 Crytenon MEDICAL
2021	450	 FARAPULSE
2022	1,750	 Baylis MEDICAL

*\$3.0bn+ worth of acquisitions*

## Abbott / ST. JUDE MEDICAL

Year	Purchase Price (\$mm)	Target
2004	47	Irvine Biomedical
2005	237	 ENDOCARDIAL SOLUTIONS
2008	92	 EPMedSystems <small>The Leading Edge in Cardiac Rhythm Management</small>
2008	250	 MediGuide
2013	331	ENDOSENSE
2014	250	 Topera

*\$1.2bn+ worth of acquisitions*

## Johnson & Johnson INNOVATION

Year	Purchase Price (\$mm)	Target
1997	400	 Biosense Webster. <small>part of the Johnson &amp; Johnson medical technology portfolio</small>

 Adagio<sup>TM</sup>  
MEDICAL

Source: Press releases

# ADAGIO MEDICAL: OUTCOMES-FOCUSED TECHNOLOGY DIFFERENTIATION

## Vision

### INVITED EDITORIAL

#### A "Scalpel" for interventional electrophysiologists

*without surgical complications*

James L. Cox MD 

Division of Cardiac Surgery,  
Feinberg School of Medicine, Bluhm Cardiovascular Institute,  
Northwestern University, Chicago, Illinois, USA

Durable, contiguous, transmural  
lesions... anywhere in the heart

to drive long-term ablation effectiveness, therapy  
adoption and market growth



## 2023 Portfolio

	ATRIAL ARRHYTHMIAS	VENTRICULAR ARRHYTHMIAS
ULTRA-LOW TEMPERATURE CRYOABLATION	iCLAS™ Catheter and System <i>Favorable outcomes in PsAF patients</i>	vCLAS™ Catheter <i>Catheter designed specifically to safely treat VTs</i>
PULSED FIELD CRYOABLATION	CRYOPULSE™ Catheter and System <i>Combining the outcomes of ULTC with speed of PFA while reducing downsides</i>	Under Development

- Comprehensive technology solution for advanced EP practice
- Compatible with commercial mapping systems
- Addressing drivers and limitations of therapy adoption



# COMPETITIVE TECHNOLOGY LANDSCAPE IN CATHETER ABLATIONS: STABILITY DESPITE DISRUPTION<sup>1</sup>

	Atrial Fibrillation			Ventricular Tachycardia	
	RF	Cryoballoon	PFA	RF	PFA
JNJ	✓		✓*	✓	
MDT	✓	✓	✓*+		
ABT	✓			✓	
BSX	✓	✓	✓	✓	

In the USA, OUS indications may vary.

✓ - original intended use

✓ - label extension (established or in-progress)

\* - internal development

\*+ - internal development + acquisition

Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer Management's Estimates on slide 2.

1) Based on management's analysis using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 68-73 which are part of Appendix II Market Sources & Analysis for further details.



# US iCLAS FOR PERSISTENT AF IDE (NCT # 04061603)

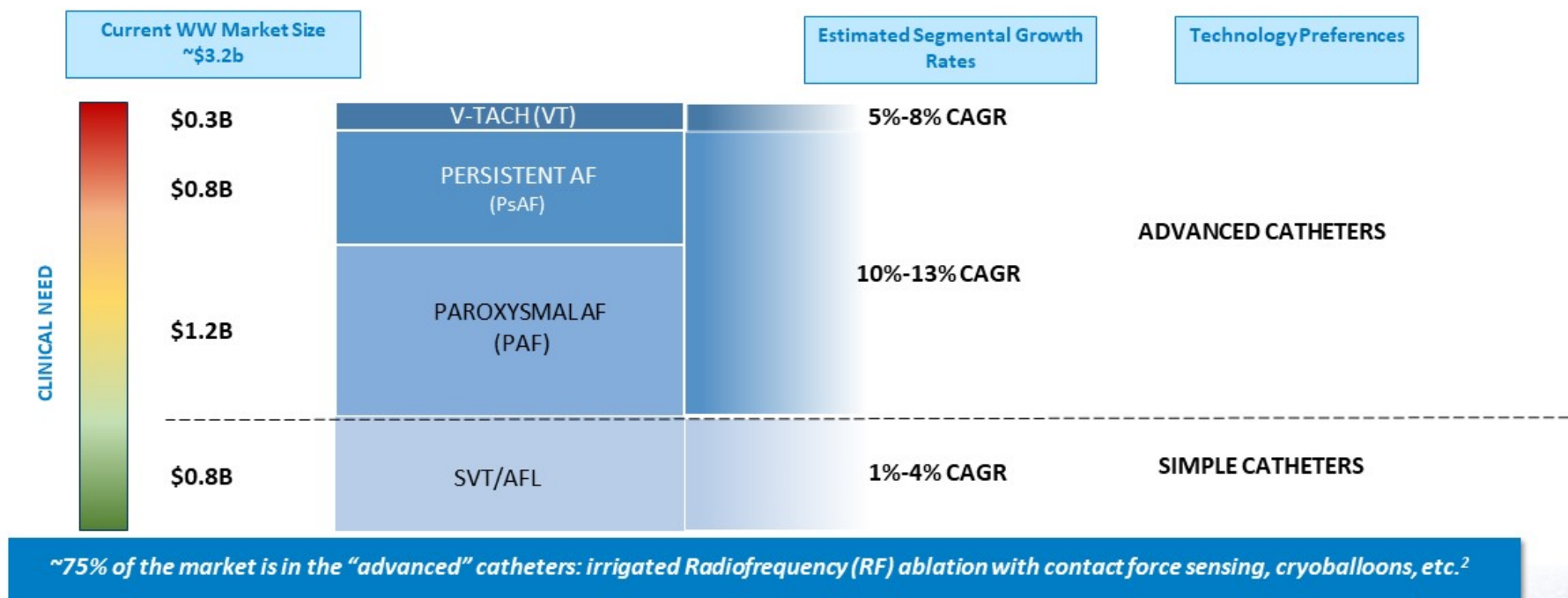
<b>Patients</b>	183 PsAF
<b>Endpoints</b>	Procedural safety and chronic effectiveness
<b>Sites</b>	20 (7 OUS)
<b>Data Readout</b>	Expected in Q2 2024
<b>PMA</b>	Expected in Q1 2025



iCLAS™ Catheter

Note: Expectations are preliminary and subject to change. Please see Disclaimer Forward Looking Statements on slide 2.

# INITIAL FOCUS ON HIGHEST NEEDS AND UPSIDES

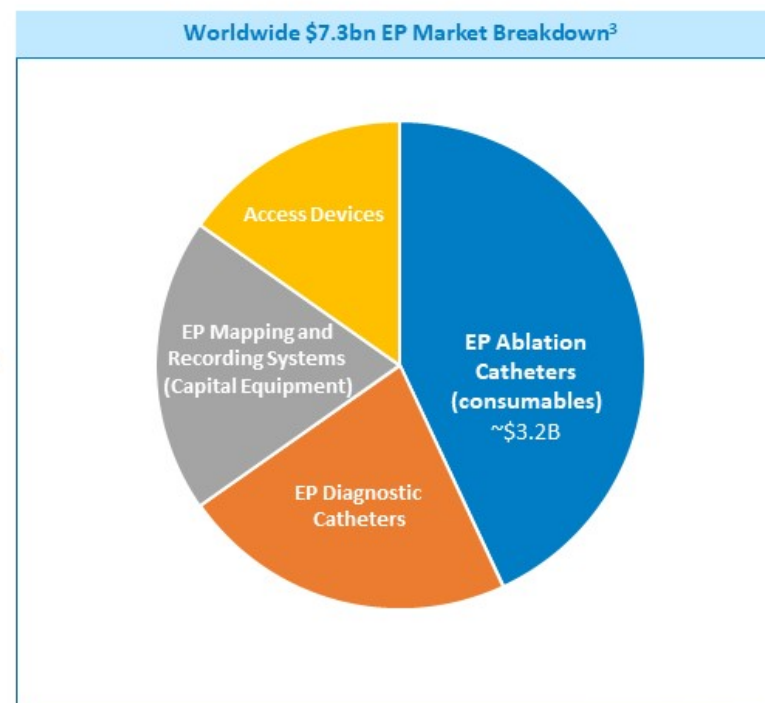
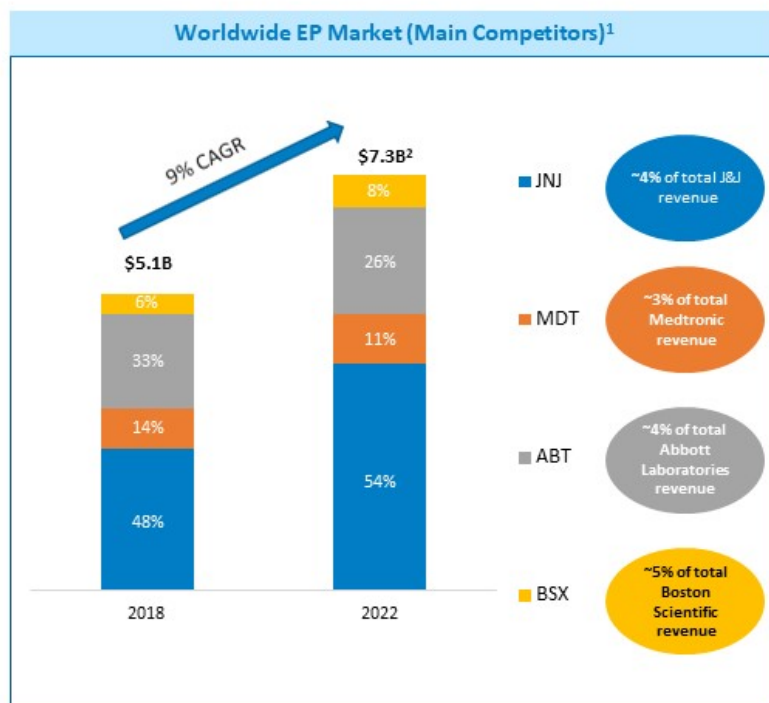


Note: Management's estimates which are subject to significant uncertainty and may prove to be incorrect. Please see Disclaimer. Management's Estimates on slide 2. The current worldwide market size, segment sizes and growth rates are based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 63-66 which are part of Appendix III - Market Sources & Analysis for further details. Segment sizes, growth rates and technology preferences are based on the management analysis of various US and international data sources covering periods of time from 2000 to 2020 and projected to 2022.

- 1) Adagio Medical Analysis of Medicare FFS and Commercial Claims
- 2) Management estimates. Adopted from St. Jude Medical Analyst and Investor Meeting 2016: <http://www.slideshare.net/r-stjude/stj2016-analyst-and-investor-day-presentation-v2>
- 3) UK National Audit of Cardiac Rhythm Management 2021. [https://www.nicor.org.uk/wp-content/uploads/2021/10/NACRM-Domain-Report-2021\\_FINAL.pdf](https://www.nicor.org.uk/wp-content/uploads/2021/10/NACRM-Domain-Report-2021_FINAL.pdf)
- 4) Eckardt L, Doldi F, Busch S, et al. 10-year follow up of interventional electrophysiology: updated German survey during COVID 19 pandemic. Clinical Research in Cardiology 2023;112:784-794
- 5) Quesada A, Cozar R, Anguera I, Registro Espanol de Ablacion con Cateter. XIX Informe Oficial de la Asociacion del Ritmo Cardiac de la Sociedad Espanola de Cardiologia 2019. Rev Esp Cardiol. 2020;73(12):1049-1060
- 6) Molitor N, Yalcinkaya E, Auricchio A, et al. Swiss National Registry on Catheter Ablation Procedures: Changing trends over Last 20 Years. J Clin. Med. 2021, 10:3021
- 7) Anderson R, Lee G, Prabhu M, et al. Ten year trends in catheter ablation for ventricular tachycardia vs other interventional procedures in Australia. J Cardiovasc Electrophysiol. 2019 Nov;30(11):2353-2361.



# EP MARKET: CONTINUING GROWTH, PERENNIAL OPPORTUNITY



- 1) Management estimates based on public company filings for Johnson & Johnson, Abbott Laboratories, Boston Scientific Corporation, and Medtronic plc.  
 2) The figure is based on management's analysis and projections using internal and third party estimates and resources, subject to certain assumptions and limitations. Please see Slides 63-66 which are part of Appendix II - Market Sources & Analysis for further details.  
 3) Management estimates. Adopted from St. Jude Medical Analyst and Investor Meeting 2016: <https://www.slideshare.net/stjude/stjude-sti-2016-analyst-and-investor-day-presentation-v2>