



Ablation of Atrial Fibrillation Followed by Left Atrial Appendage Closure: A Retrospective Analysis of Adverse Events Occurring Between Procedures

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BACKGROUND

- Catheter ablation is a procedure to treat atrial fibrillation (AF)
- Left Atrial Appendage Closure (LAAC) is a procedure indicated to reduce risk of embolic stroke in patients with non-valvular AF as an alternative to long-term oral anticoagulation (OAC)
- LAAC has been performed following catheter ablation (sequentially) or during the same procedure (concomitantly) for selected patients
- During the time between the ablation and LAAC, patients remain at risk of thromboembolic and bleeding events

OBJECTIVES

- To examine number of days between catheter ablation and LAAC procedures
- To examine health care resource utilization and incidence of adverse events (AE) that occur between procedures

METHODS

POPULATION

- 100% Medicare Standard Analytical Files (SAF)
- Timeframe: 1/1/2016 – 12/31/2022
- Inclusion criteria: 1 ablation, 1 LAAC ≤180 days after ablation, 65+ years, continuous enrollment, excluded concomitant procedures

OUTCOME VARIABLES

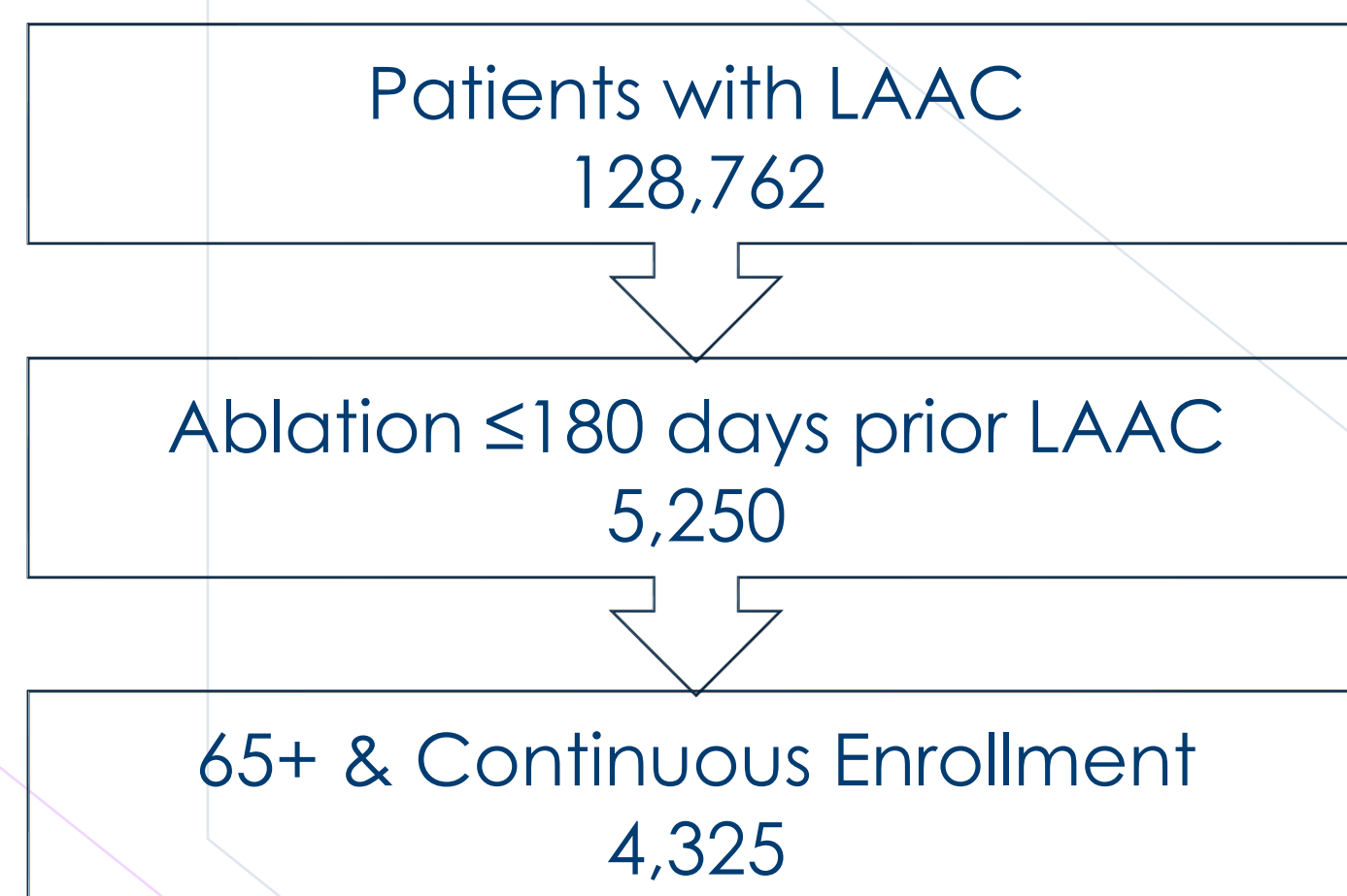
- Days between procedures
- Adverse Events: Ischemic Strokes & Major Bleeds (including gastrointestinal (GI), intracranial, and other)
- Encounters associated with AEs
- Cumulative costs between procedures

STATISTICAL ANALYSIS

- Descriptive statistics, T-tests and Wilcoxon-Mann-Whitney (WMW), were used for AEs, encounters, and differences in costs

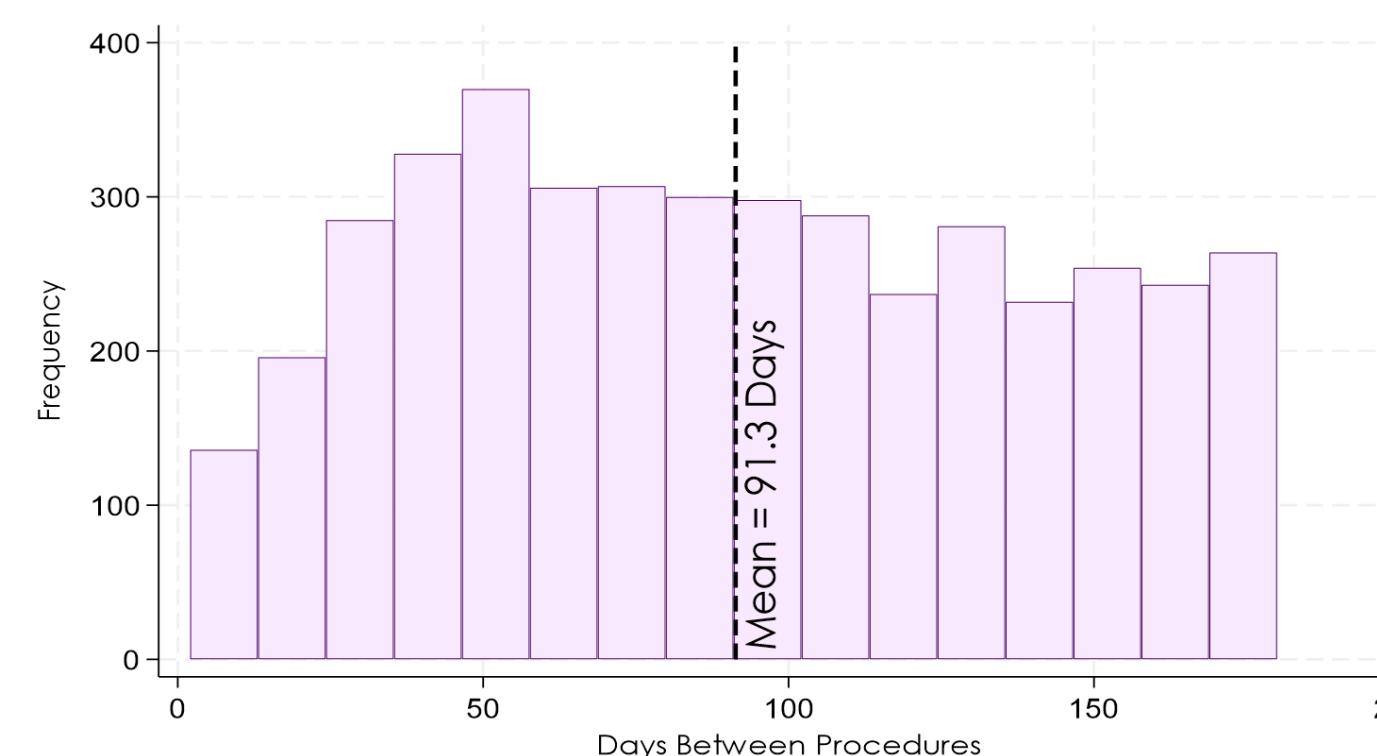
RESULTS

SAMPLE SIZE = 4,325 Beneficiaries



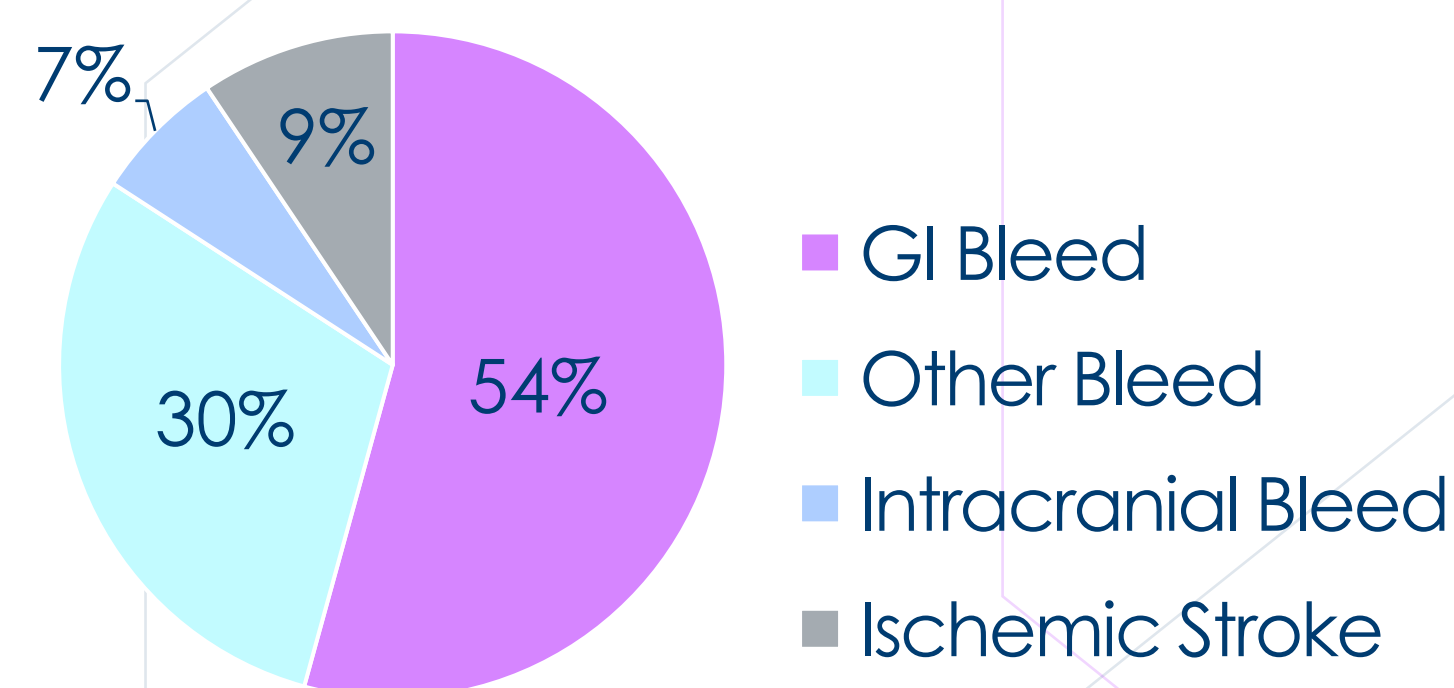
DAYS BETWEEN PROCEDURES

Mean days between procedures was 91 days (SD: 48)



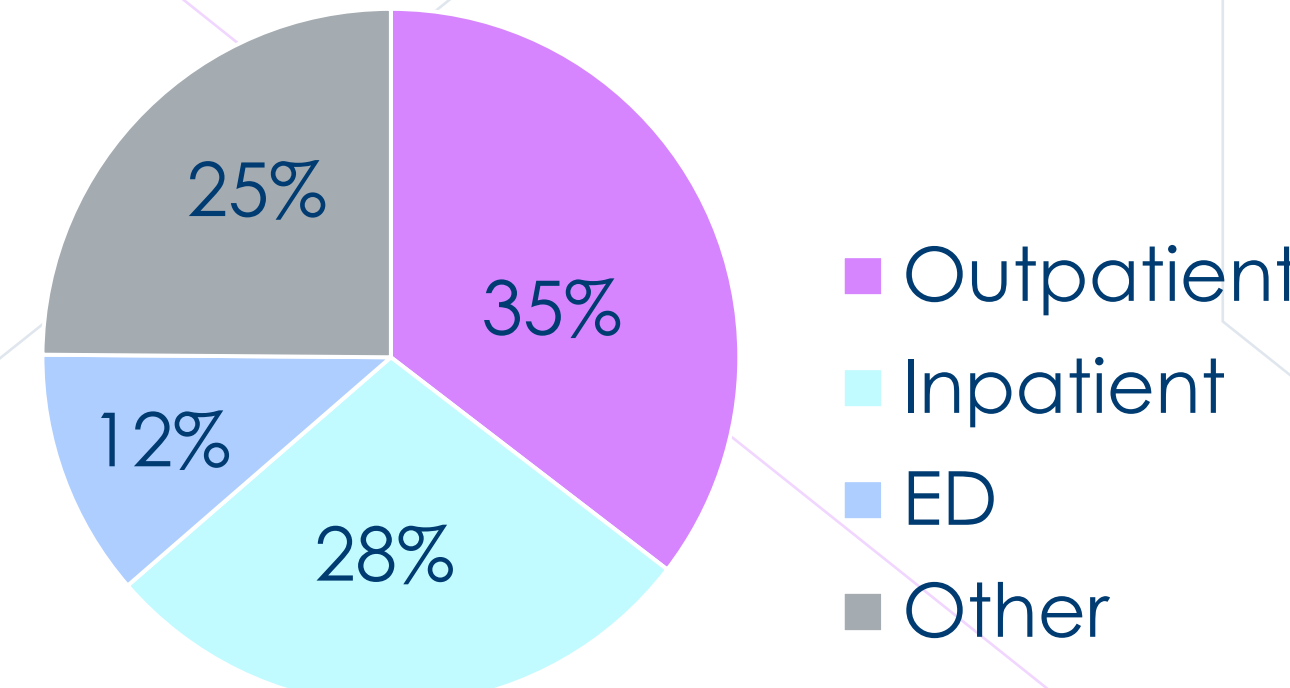
ADVERSE EVENTS BY TYPE

14% of beneficiaries (n=607) had 1+ AEs for a total of 1,881 unique AEs



ENCOUNTERS BY SITE OF SERVICE

These AEs resulted in 1,053 unique encounters



CUMULATIVE COSTS BETWEEN PROCEDURES

All mean costs and both median CMS payments and provider costs were greater (p<0.05) for those with 1+ AEs between procedures

	No AE (n=3,718)	1+ AEs (n=607)
CMS Payments		
Median*	\$256	\$6,513
Mean (SD)†	\$2,308 (6,385)	\$11,308 (15,382)
Provider Costs		
Median*	\$251	\$6,705
Mean (SD)†	\$2,032 (5,343)	\$11,666 (15,446)
Beneficiary Responsibilities		
Median	\$0	\$0
Mean (SD)†	\$99 (511)	\$703 (1,279)

SD: standard deviation, *WMW p<0.05, †t-test p<0.05

SUMMARY OF RESULTS

Time Between	Patients
~3 Months	1 in 7 had 1+ AE
Adverse Events	Encounters
3.1 per patient w/ 1+ AE	1.7 per patient w/ 1+ AE
Costs	
4.9x ↑ Mean CMS payments	5.7x ↑ Mean provider costs
	7.1x ↑ Mean beneficiary responsibilities

LIMITATIONS & FUTURE RESEARCH

- Analysis was limited to the Medicare FFS population
- There was no comparison arm to determine whether AE rates were higher for those with sequential versus concomitant procedures

FUTURE RESEARCH is needed to:

- Understand the safety and efficacy of concomitant procedures compared to sequential procedures
- Explore characteristics of patients selected for concomitant procedures

CODES FOR ANALYSIS

LAAC procedure (ICD-10-PCS: 02L73DK). Ischemic Strokes (ICD-10-CM: I63*, I97.8*). GI bleeds (ICD-10-CM: I85.01, I85.11, K22.11, K22.6, K25*, K26*, K27*, K28*, K29*, K31*, K55.21, K57*, K63.81, K64*, K92.0, K92.1, K92.2). Intracranial bleeds (ICD-10-CM: I60*, I61*, I62*, S06.4X*). Other major bleeds (ICD-10-CM: A98.5, H05.23*, H21.0*, H31.3*, H31.4*, H35.6*, H35.7*, H43.1*, H44.81*, H47.0*, I31.2, K66.1, M25.0*, N42.1, N83.7, N85.7, R04*, R31.0, R31.9, R58, R71.0).

DISCLOSURES

This study was supported by Boston Scientific. All authors are employees of Boston Scientific.