



## Strengthening the cardiovascular service to support left atrial appendage closure (LAAC) therapy growth

At the end of 2018, Sana Kliniken AG and Boston Scientific started a collaboration to identify opportunities of growth, helping the group achieve its vision to become a reference site in the field of interventional cardiology.

### Challenge

As part of their willingness to strengthen their cardiovascular offering, Sana Kliniken AG expressed an interest to expand LAAC within their own clinics. Recognising that the therapy is underpenetrated in the Berlin area, which offers a huge population potential and in alignment with the care team, the cardiology department of Sana Klinikum Lichtenberg was chosen to act as a pilot hospital within the group to develop the therapy beyond the current 15-20 procedures performed per year at this centre. However, they faced several challenges such as:

- Lack of patient information materials and low level of therapy awareness amongst referring physicians
- Misunderstanding and missing data on the actual therapy potential
- No clear pathway and capacities for patient flagging, screening, engagement and treatment

The expected outcome was to grow the number of procedures performed, while reducing the administrative workload as much as possible through a leaner and more efficient approach to the therapy.

### Action

As the global leader in LAAC, capitalizing on its know how of the procedure and of challenges faced by healthcare institutions when delivering the therapy, Boston Scientific designed a personalised programme to assist Sana Klinikum Lichtenberg in:

### Identifying potential patients by:

- co-developing a query with the clinical team and performing a retrospective analysis based on anonymised hospital activity history, to understand in which departments potential patients could be found
- implementing the query with the associated screening tool to flag recurring patients upon readmission into the existing Electronic Medical Records (EMR) system and Emergency Department Information System

### Strengthening awareness among patients and referrers by:

- creating a video about the therapy within the Sana hospital network
- performing an analysis on referring physicians to structure the clinic network
- supporting the creation of hospital branded patient and referral education materials such as flyers or posters

### Rationalising programme organisation by:

- enabling daily screening by streamlining the current processes and defining therapy related standard operating procedures covering the whole patient path
- setting up a dashboard to track project activities and progress against relevant KPIs

### About the hospital



Sana Kliniken AG is the third largest private clinic group in Germany, with 53 acute, specialist or rehabilitation hospitals, and one of the largest GPOs, procuring for about 600 hospitals.

It employs almost 35,000 people, cares for more than 2.2 million patients and values innovative services.

Sana Klinikum Lichtenberg is a multi-specialty centre in Berlin, with 661 beds and more than 1,000 employees. On a yearly basis, the hospital treats nearly 31,000 in-house patients in addition to around 59,000 outpatient visits.



**74%**

eligible for further screening

Growth of LAAC offering by

**80%**

**434**

potential patients within 11 months of activity

## Illustration of the query embedded into an EMR system

### Overview patients with indication for LAAC

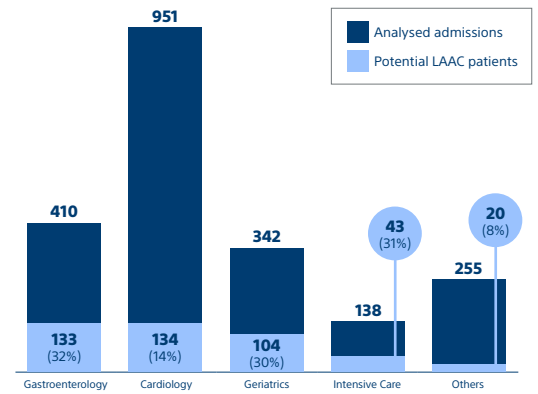
Number of patients in master list: 765

Number of patients thereof currently admitted: 15

**Query details**  
**Query 1B:**  
 +1P Heart failure  
 +2P Stroke  
 +1P Hypertension  
 +1P Vascular disease  
 +1P Age > 75  
**Query 2:**  
 Major bleed documented

Patient	Case ID	Name	Sex	Date of Birth	Admission date	Planned discharge	Current ward	Current department	Score	Status	Current
1306680	1901085758	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		2G	INNG	4	New	
1364453	1901090121	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		2A	INNA	2	New	
1447636	1901089811	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		2A	INNA	5	New	
1499968	1901081249	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		2G	INNG	4	New	
1585657	1901090342	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy	2H	INNK	5	New	
1720680	1901085501	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		RSINN	RST	6	New	
1944186	1901084639	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		2H	INNK	5	New	
1945312	1901088833	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy	1G	INNGT	7	New	
1946725	1901086950	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		3D	INNG	5	New	
1946562	1901087679	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		3D	INNG	6	New	
1934875	1901089549	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		3D	INNG	5	Eligible	
1930317	1901088612	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy	2H	INNK	4	Not eligible	
1832708	1901085265	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		3D	INNG	2	Procedure planned	
1727411	1901090236	xxxxxx.xxxxx	F	dd.mm.yyyy	dd.mm.yyyy		1A	INNA	3	Procedure rejected	
1721943	1901086568	xxxxxx.xxxxx	M	dd.mm.yyyy	dd.mm.yyyy		2A	INNA	5	Procedure performed	

## Illustration of potential patients per department and analysed admissions



### Jean Franke

CEO, Sana Klinikum Lichtenberg, Berlin, Germany



"Working with Boston Scientific has allowed us to expand and professionalize the LAAC programme in the cardiology department. Through the collaboration of the clinical team, the IT department and the ADVANTICS team from Boston Scientific, we were able to develop innovative approaches that are now being implemented across the Sana group."



### Dr. Olaf Göing

Head of Cardiology, Sana Klinikum Lichtenberg, Berlin, Germany



"Boston Scientific has a team that is dedicated to raising awareness, promoting interdisciplinary collaboration, developing tools that help identify patients who are admitted today. With what we are doing and what we have already done, we are able to raise awareness for LAAC as therapeutic option in our daily life. By the end of the year we will have doubled the number of procedures compared to last year."



### Dr. Sven Tessin

LAAC Implanter, Sana Klinikum Lichtenberg, Berlin, Germany



"The daily screening has increased our awareness for LAAC as therapy option significantly. Thanks to the interdisciplinary trainings, we improved collaboration with the other departments and increased the number of internal referrals. LAAC is now part of our daily routine."

## Outcomes from the ADVANTICS™ LAAC Solution with advisory focus\*:

The partnership improved the LAAC programme at Sana Klinikum Lichtenberg in several aspects:

- The retrospective analysis helped understand the actual therapy potential (**434 potential patients** within the analysed 11 months of activity) and gave deeper insights into which departments beyond cardiology needed to be educated on LAAC.
- Manual validation of 136 potential patient files by the care team showed a **74% accuracy** of the query.
- Extension of the LAAC team to three implanters and additional fellows to support the daily screening through the implemented EMR tool significantly increased awareness for the therapeutic option.
- Growth of the LAAC offering at Sana Klinikum Lichtenberg by **80%** in 2019, with monthly screening of 37 patients on average by the care team, resulted in ~7 suitable patients per month to enable future growth of the programme.
- Decision by Sana Kliniken AG to roll out the showcased approach to more sites with 6 additional hospitals enrolled in the first half of 2020.

### Disclaimer

This case study and the associated criteria for potential patient identification were defined by Dr. Tessin and Dr. Göing, Boston Scientific only provides technical support via the algorithm to automate the query. The algorithm does not have a medical purpose and does not provide treatment recommendations.

Integration of the algorithm and associated approaches into Sana Klinikum Lichtenberg IT infrastructure was performed by the clinic staff, in accordance with local rules and organisation.

Identification of a potential patient through this algorithm is not sufficient to definitively determine LAAC eligibility and does not alleviate the physician from performing standard screening activities.

\*Outcomes from a real ADVANTICS™ LAAC advisory programme from October 2018 to April 2020. Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Material not intended for use in France.

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