

# 2023 Annual ACT-VAD Report

ACTION Learning Network

action  
ADVANCED CARDIAC THERAPIES  
IMPROVING OUTCOMES NETWORK

APRIL 2018 - DECEMBER 2023

## Key Findings

Over 1000 devices with over 200,000 device days in the database

Continued shift of patient diagnosis with now 38% of patients with congenital heart disease

Stroke incidence of 13% shows sustained improvement compared to historical reports

## Patient Population

Number of patients in the ACT-VAD registry  
(Since April 2018)

1,322

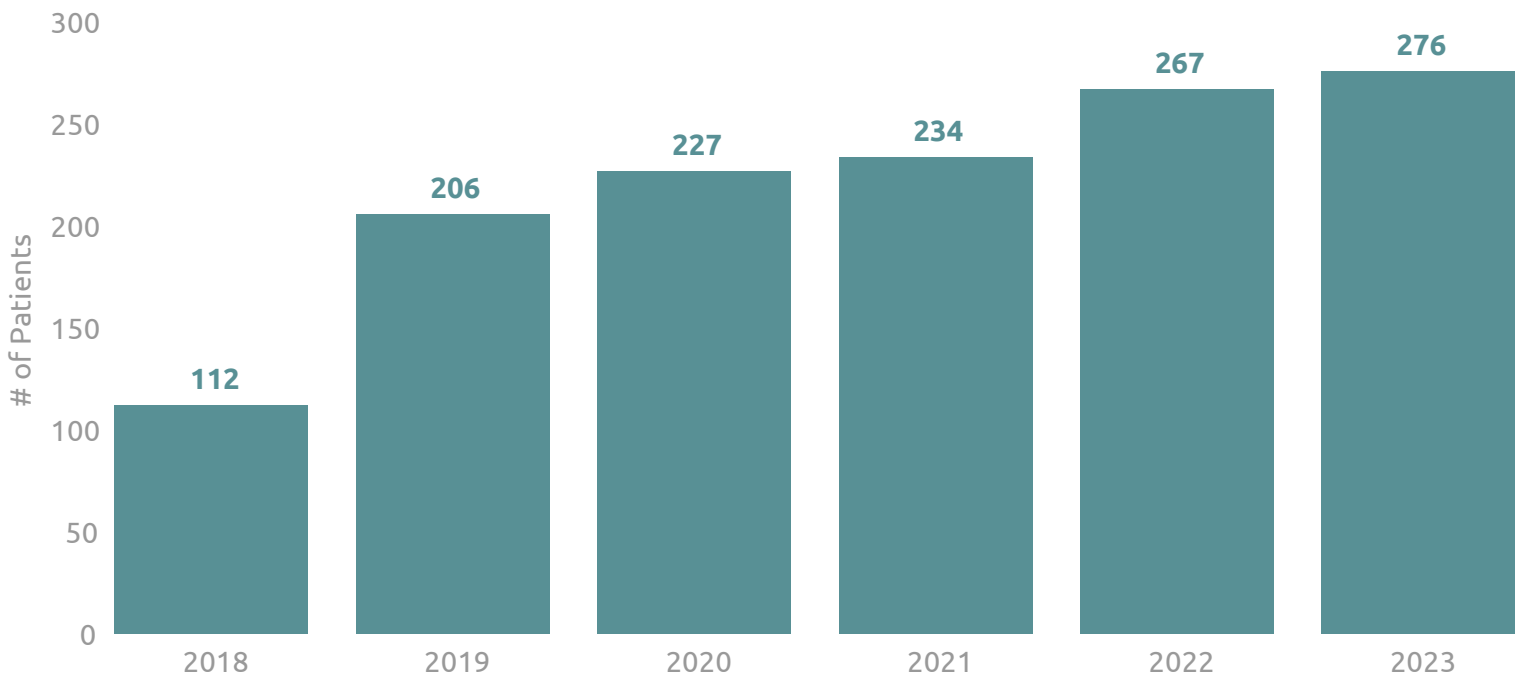
## Devices Implanted

Number of Devices Implanted  
(Since April 2018)

1,677

## Patient Population by Year

Number of patients in the ACT VAD registry per year  
(Since April 2018)



# ACT-VAD Patient Characteristics

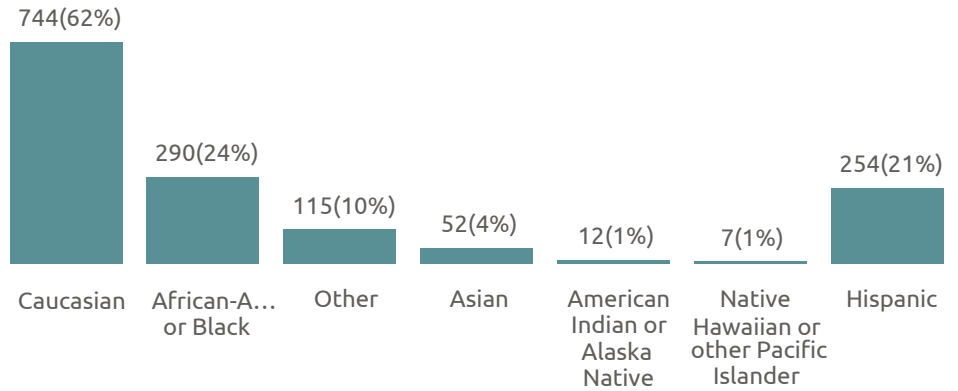
## Demographics

### Age

Median Age in Years

4.4 y

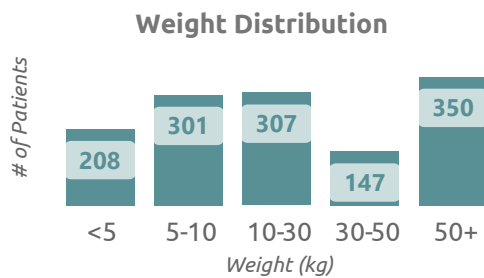
## Race & Ethnicity



## Weight

Median Weight

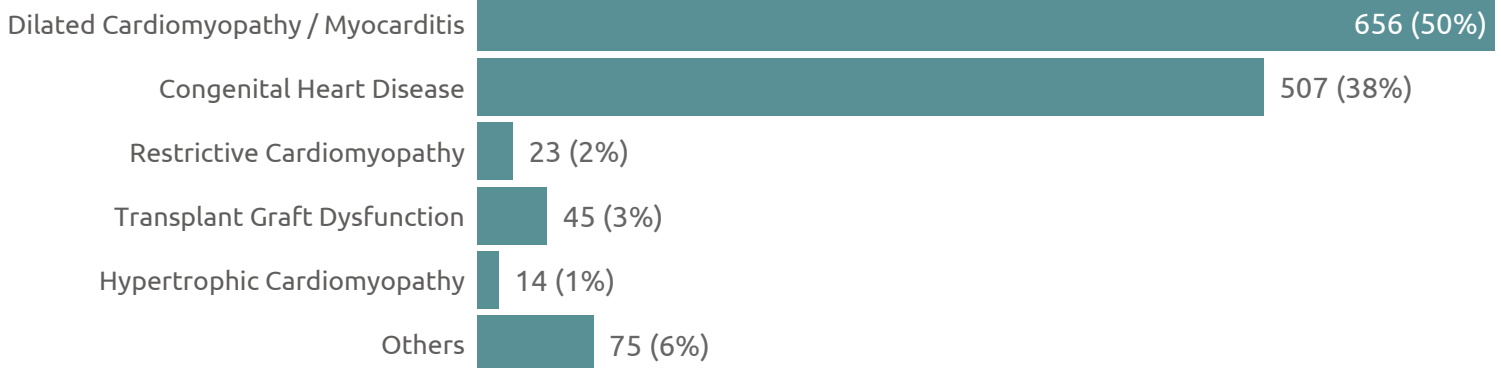
15.3 kg



## Sex

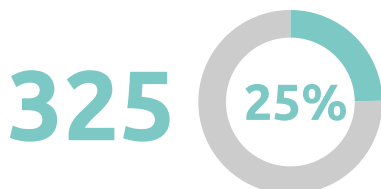


## Diagnosis



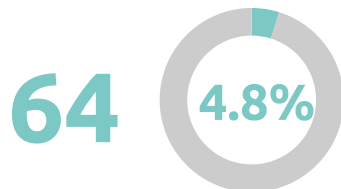
## ECMO

Number on ECMO at Implant



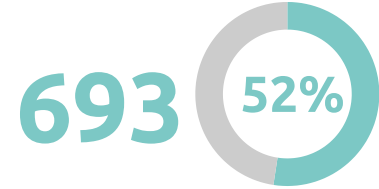
## Dialysis

Dialysis Dependent at Implant



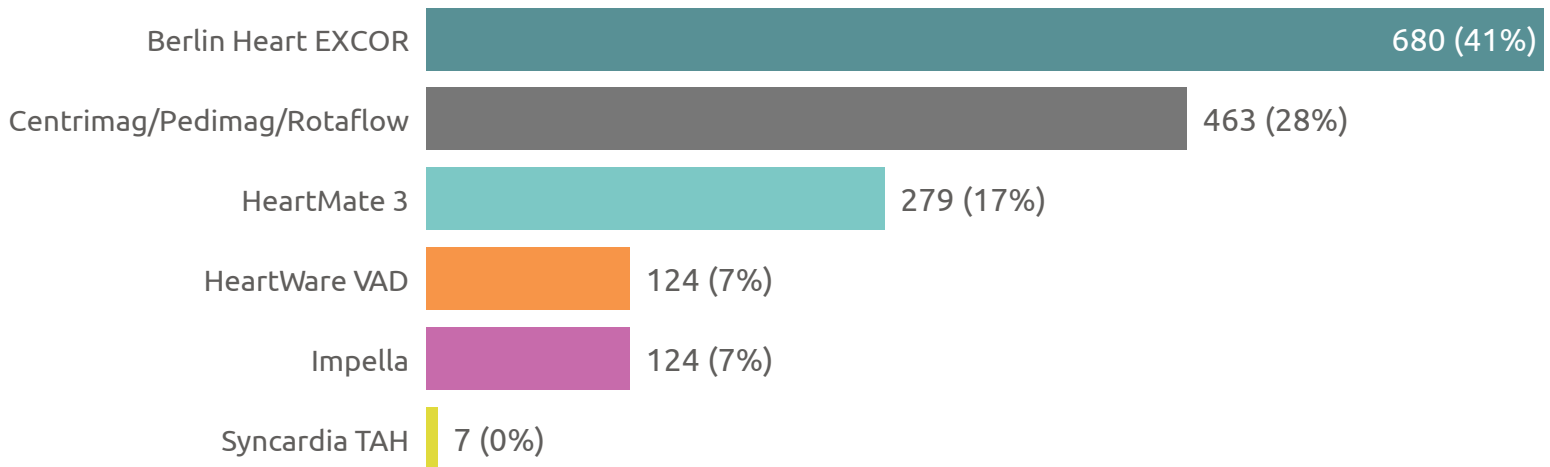
## Ventilator

Ventilator Support in 7 Days Prior to Implant



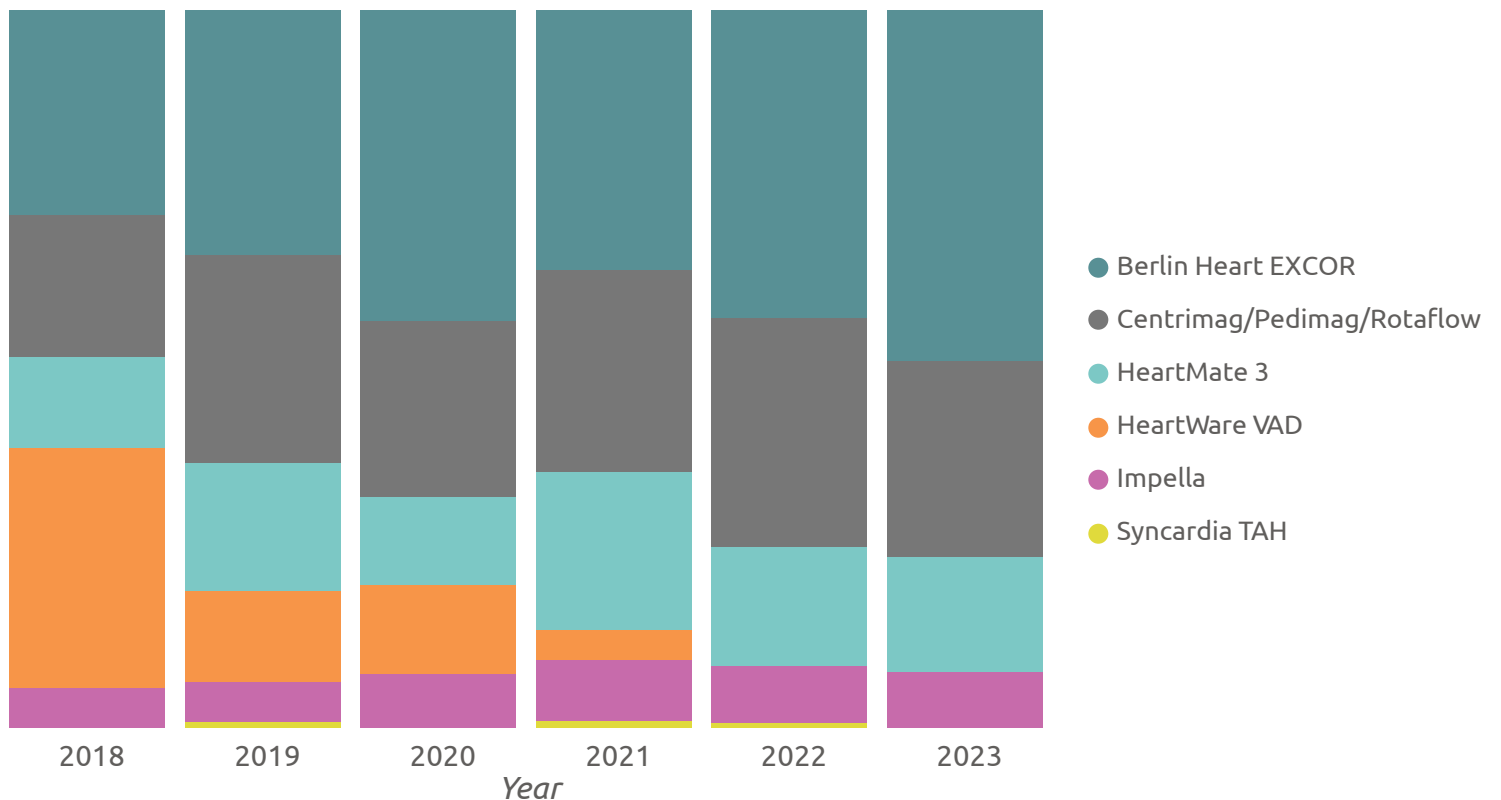
## Types of Devices Implanted

Type of Devices Implanted Between April 2018 and December 2023



## Devices Implanted by Year

Devices Implanted Each Year Between April 2018 and December 2023



# ACT-VAD Clinical Outcomes

## Postoperative Course

### Device Days

Total Number of Device Days

320,178

### Post-Implant ICU Days

Median Days for First Post-Implant ICU Stay

24

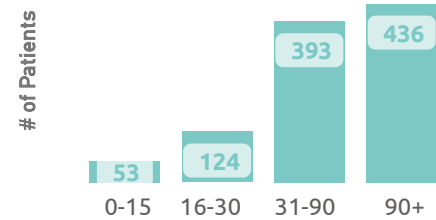
## Hospital Days

Total Number of Hospital Days After Initial Implant (Does Not Include Readmission)

Cumulative  
111,842

Median  
74

### Distribution



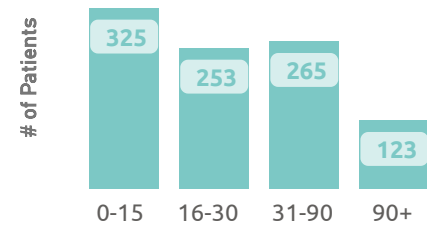
## ICU Days

Post-Implant ICU Days

Cumulative  
41,969

Median  
24

### Distribution



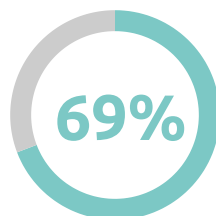
## Clinical Outcomes

Clinical Outcomes for Patients Receiving Implants Between April 2018 and December 2023

Outcome	Count	% of Total
Transplant	836	63.2%
Transferred	19	1.4%
Recovery	85	6.4%
Dead	171	12.9%
Alive on device	211	16.0%

## Patients Discharged

Percent of Patients with a HM3 or HVAD discharged before Transplant



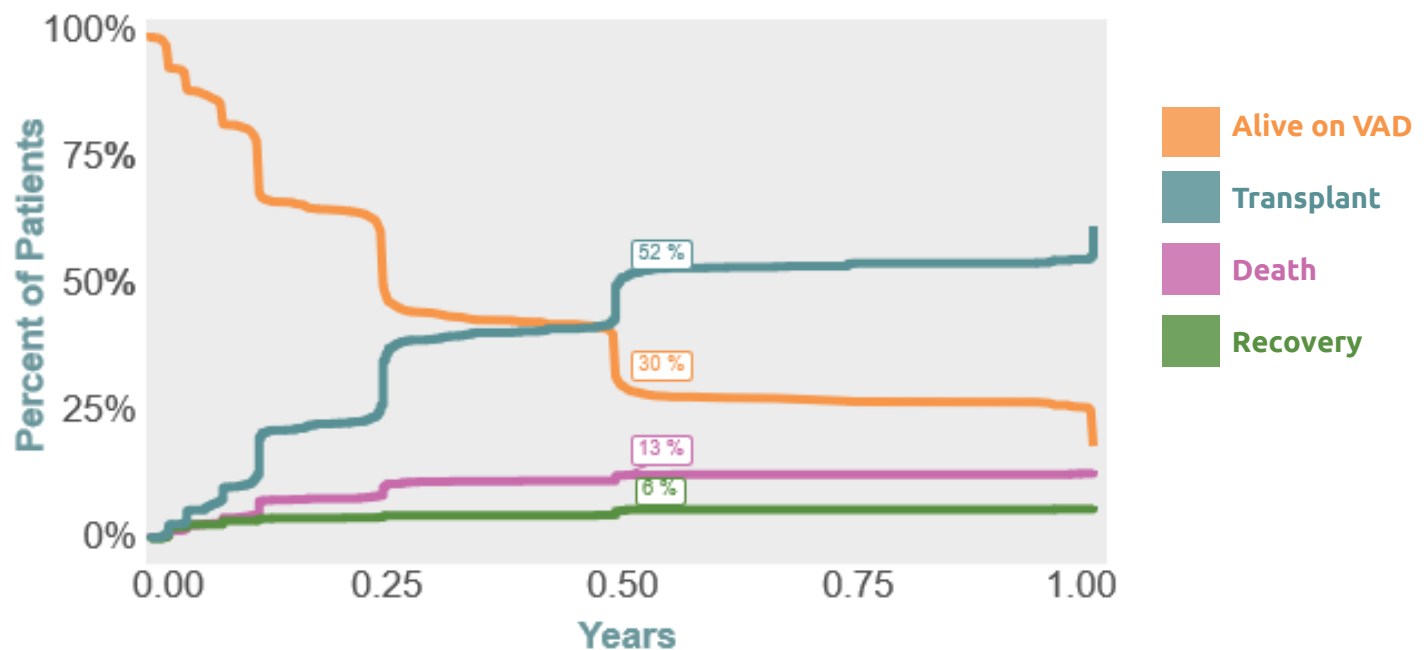
Number of Patients with a HM3 or HVAD discharged before Transplant

173

## Competing Outcomes

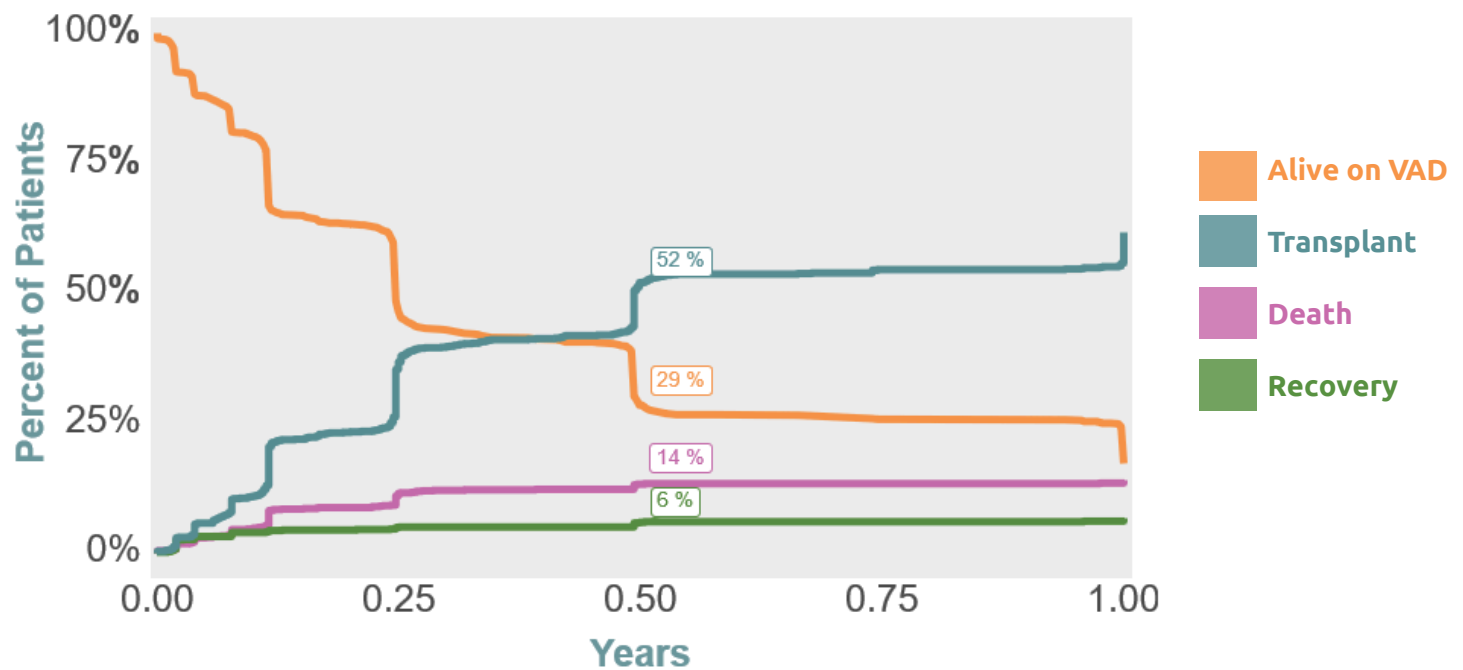
### All ACTION Patients

Competing Risk Curves Depicting Alive on VAD, Death, Recovery, and Transplant for 1,322 ACTION Patients Receiving Implants between April 2018 and December 2023.



### Patients with Durable Devices

Competing Risk Curves Depicting Alive on VAD, Death, Recovery, and Transplant for ACTION Patients Receiving Berlin Heart, HVAD, or Syncardia Implants between April 2018 and December 2023.



## Adverse Events

### Patients Without Major Adverse Events

Percent of Patients That Have Not Had Major Infection, Stroke, or Major Bleeding (Clots)

**54%**

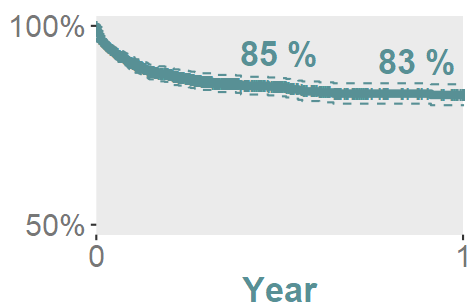
### Adverse Event Types

Major Infection	■	401 (30%)
Stroke	■	174 (13%)
Major Bleeding <i>(requiring surgery)</i>	■	104 (8%)

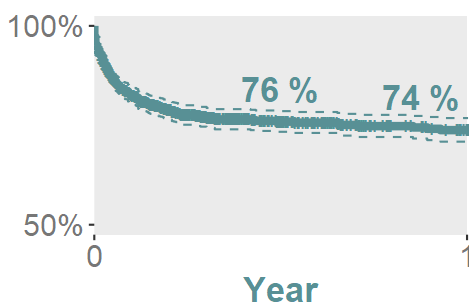
## Freedom from Adverse Events at One Year

Percent of Patients Free from Stroke, Bleeding, and Infection

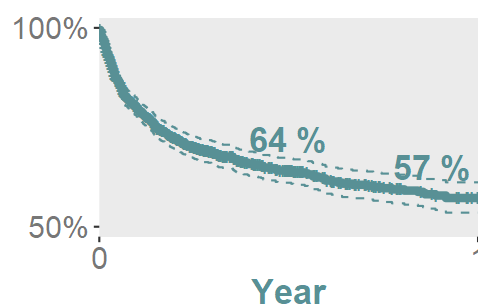
### Stroke



### Major Bleeding



### Major Infection



## Survival at One Year

Survival Rate of 1,322 ACTION patients receiving implants between April 2018 and December 2023

