

# 2024 Annual Impella Report

ACTION Learning Network

action  
ADVANCED CARDIAC THERAPIES  
IMPROVING OUTCOMES NETWORK

APRIL 2018 - DECEMBER 2024 ⓘ

## Key Findings

ACTION, the Advanced Cardiac Therapies Improving Outcomes Network, collaborates with over 70 pediatric heart failure programs worldwide.

ACTION collects data in a registry database for all patients with VAD implants at participating sites. It is the largest nationwide effort to improve outcomes for pediatric patients with heart failure and VADs.

During the period of this report, there were 60 sites contributing data to the ACTION registry.

## Patient Population

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

154

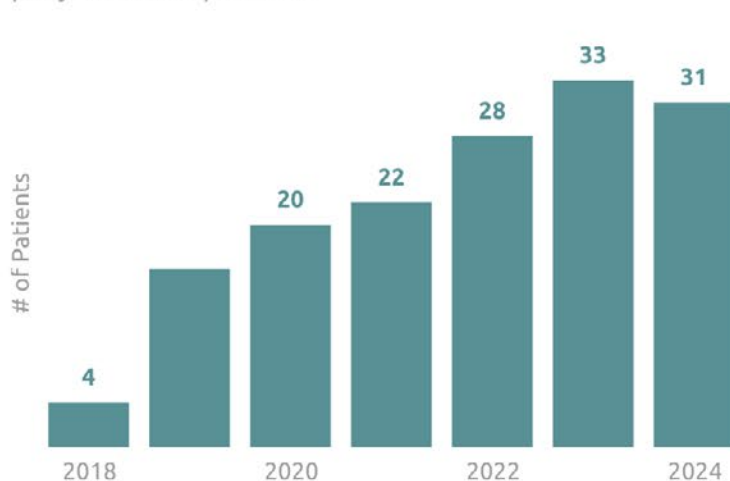
## Total Devices

Number of Impella Devices Implanted Since April 2018

168

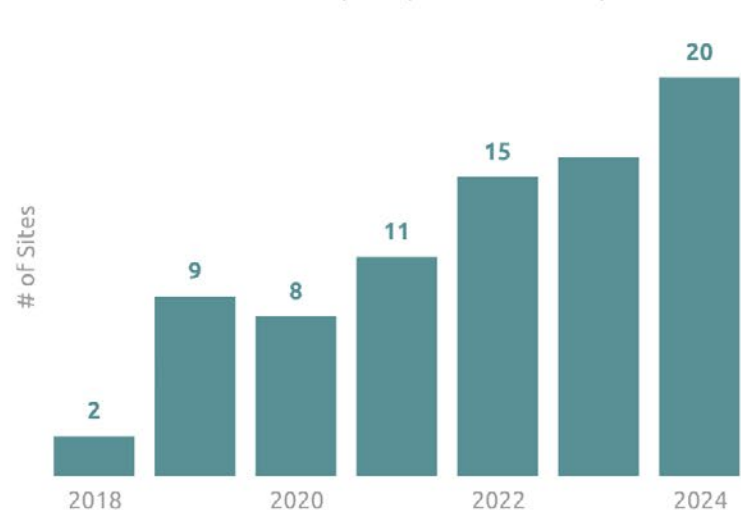
## Patient Population by Year

Number of patients with an Impella in the ACTION registry per year since April 2018



## Centers

Number of centers with Impella patients since April 2018



# Impella Patient Characteristics

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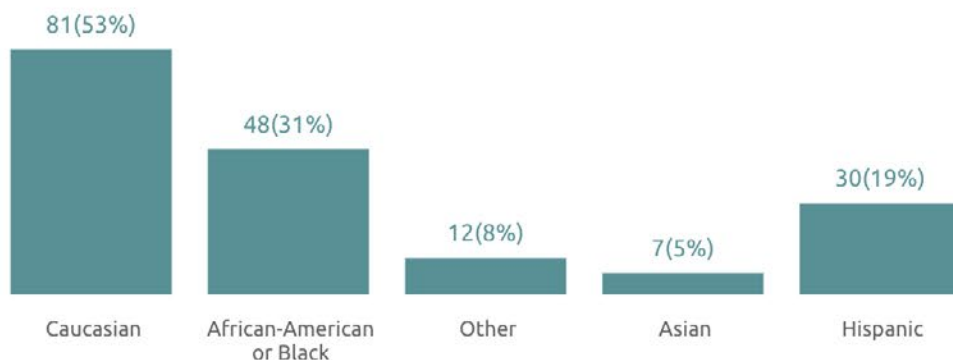
## Demographics

### Age

Median Age in Years

15.0 y

## Race & Ethnicity



### Weight

Median Weight

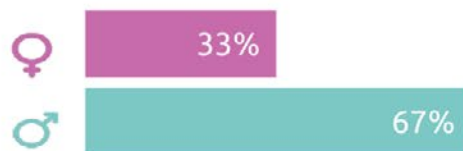
63.0 Kg

## Weight Distribution

# of Patients



## Gender



## Diagnosis

Dilated Cardiomyopathy / Myocarditis

90 (58%)

Congenital Heart Disease

21 (14%)

Transplant Graft Dysfunction

22 (14%)

Others

21 (14%)

## ECMO

Number on ECMO  
at Implant

40

26%

## Dialysis

Dialysis Dependent at  
Implant

10

6%

## Ventilator

Ventilator Support in 7 Days  
Prior to Implant

74

48%

# Impella Clinical Outcomes

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## Postoperative Course

### Device Days

Total number of device days

2,998

### Postoperative Course

Median Post-Implant ICU Days

22

Median Days of First Post-Implant ICU Stay

19

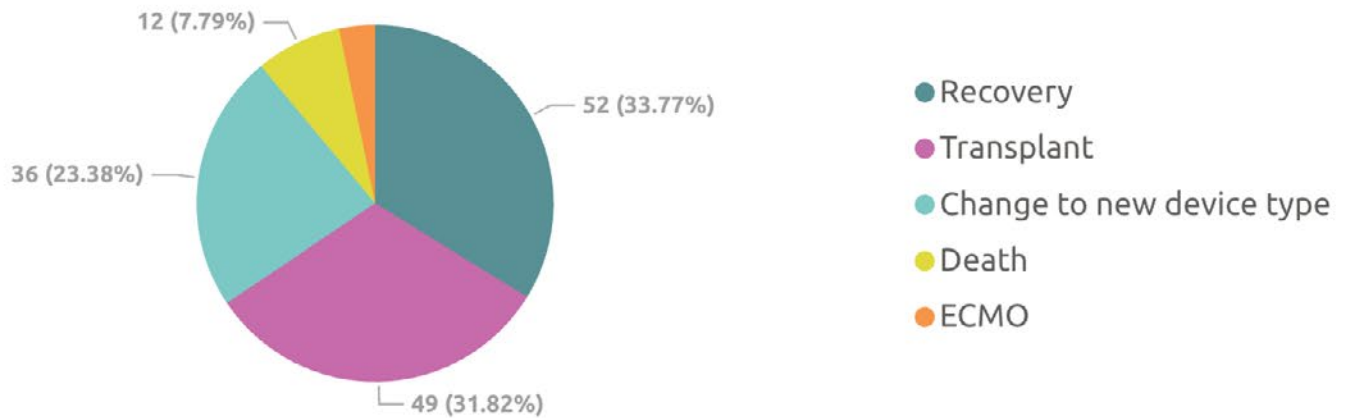
### Hospital Days

Median Length of Hospital Stay in Days

22

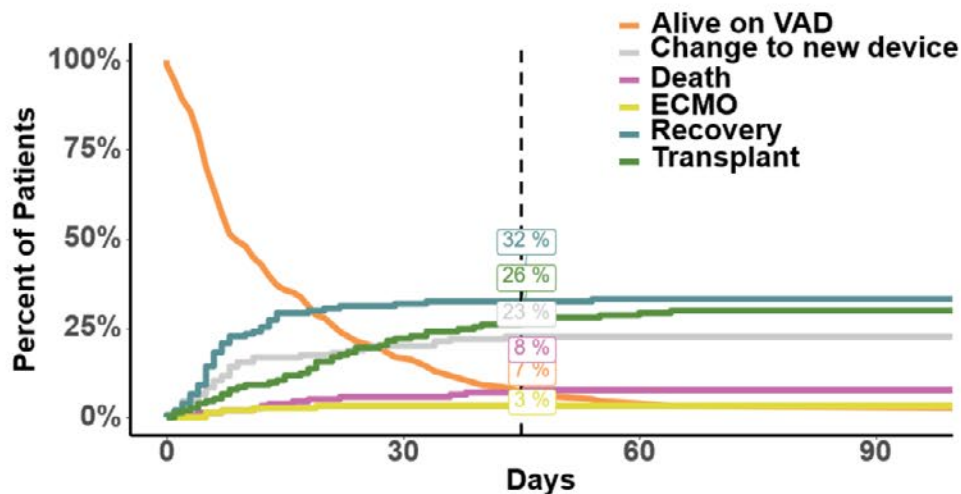
## Clinical Outcomes

Clinical Outcomes for Patients Receiving Implants Between April 2018 and December 2024



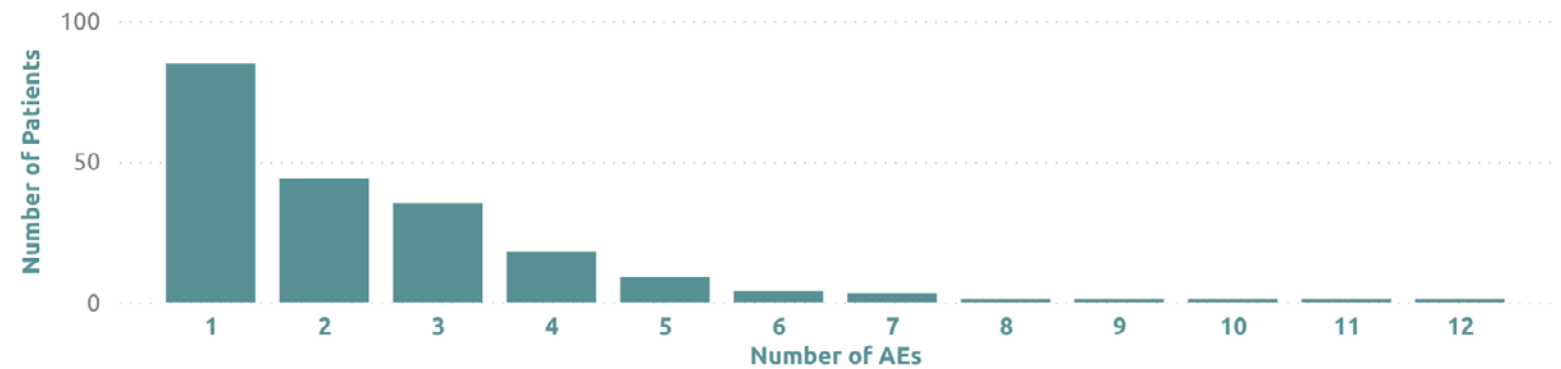
## Competing Risks

Competing Risk Curves Depicting Alive on VAD, Change to New Device, Death, Recovery, and Transplant for Impella Group of 154 Patients Receiving Impella Implants Between April 2018 and December 2024



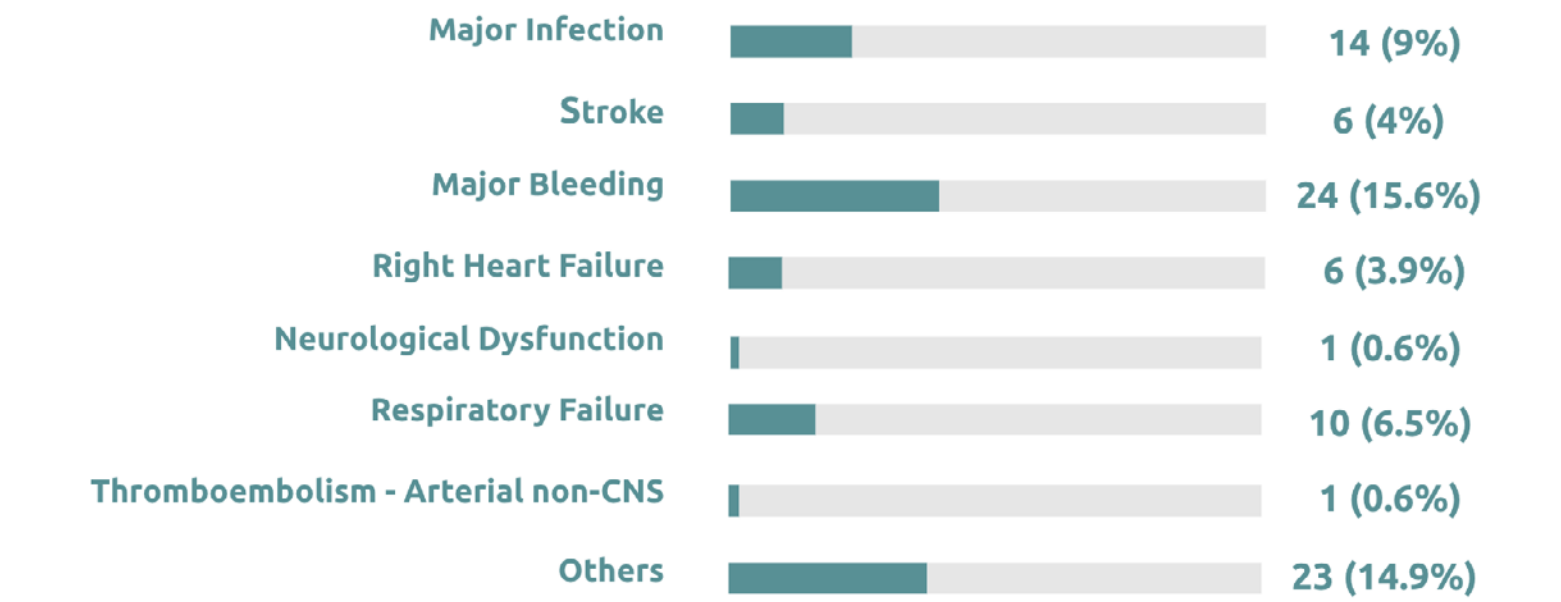
## Distribution of AEs per Patient

Distribution of Number of Patients Versus the Number of AEs that Occurred for the Impella Patients Receiving Implants Between April 2018 and December 2024.



## Adverse Events Types

Adverse events for 154 patients receiving an Impella device between April 2018 and December 2024.



## Clinical Outcomes Comparison

Clinical outcomes following implantation of Impella between April 2018 and December 2024.

OUTCOME	IMPELLA PATIENTS	IMPELLA 5.5 PATIENTS
Change to new device type	23.4%(36)	17.1%(14)
Death	7.8%(12)	8.5%(7)
ECMO	3.2%(5)	0% (0)
Recovery	33.8%(52)	22.0%(18)
Transplant	31.8%(49)	52.4%(43)

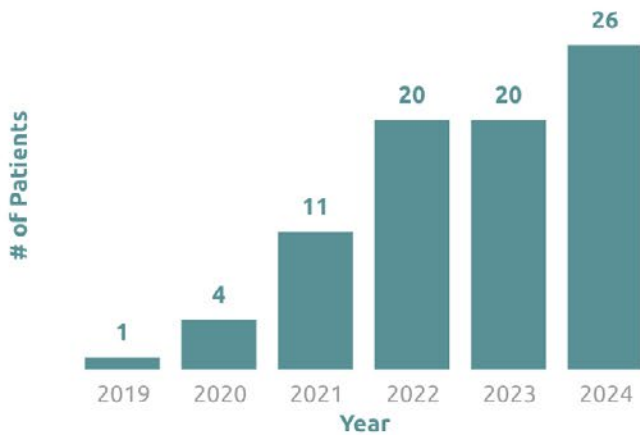


# 2024 Impella Report

## Impella 5.5 Characteristics

### Patient Population by Year

Number of patients with an Impella 5.5 in the ACTION registry per year since April 2018



### Total Devices

Number of Impella Devices Implanted Since April 2018

85

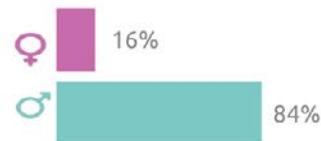
### Demographics

#### Age

Median Age in Years

16.0 y

#### Gender

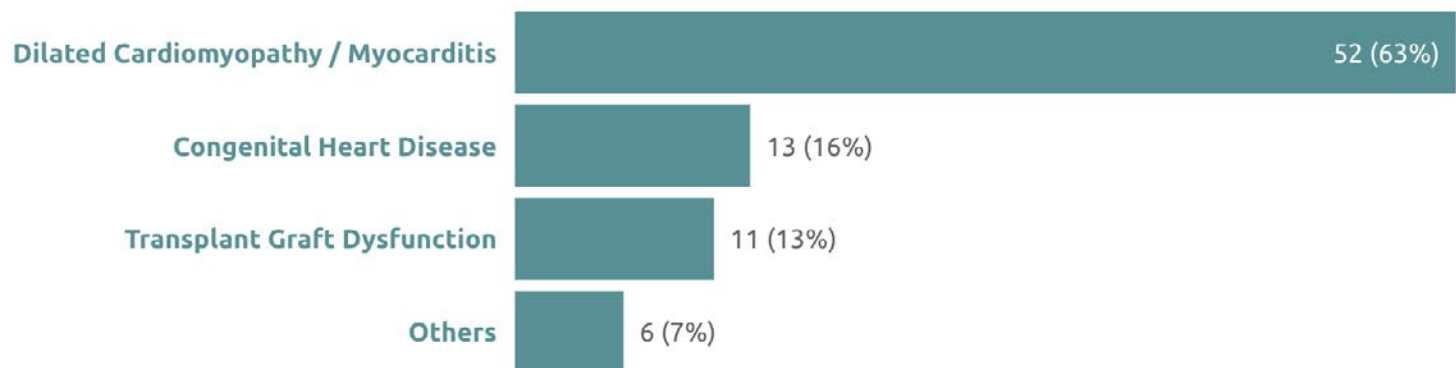


#### Weight

Median Weight

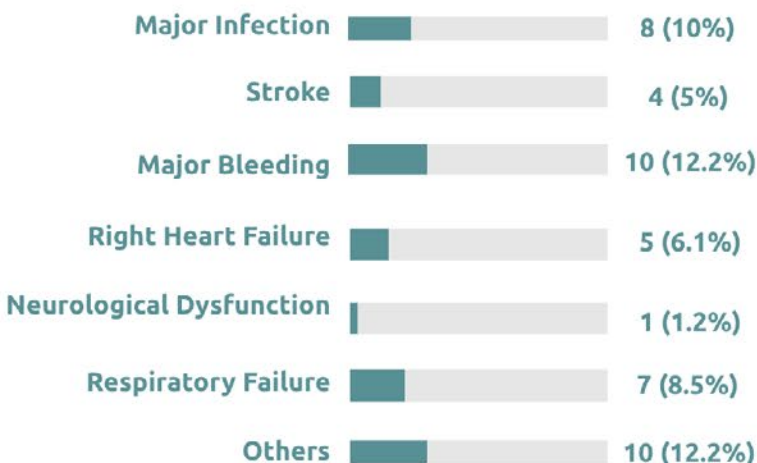
71.7 Kg

### Diagnosis



### Adverse Events

Adverse events for 65 patients receiving an Impella 5.5 device between April 2018 and July 2024.



### Clinical Outcomes

