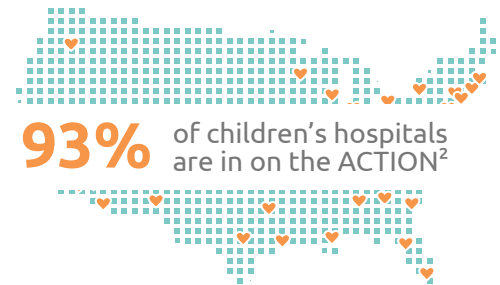


# 2020 Report: Device Support in Pediatric Heart Failure

This baseline report represents data collected from 34 ACTION pediatric heart centers from Jan. 1 through Dec. 31, 2020.<sup>1</sup> This report will be updated annually.

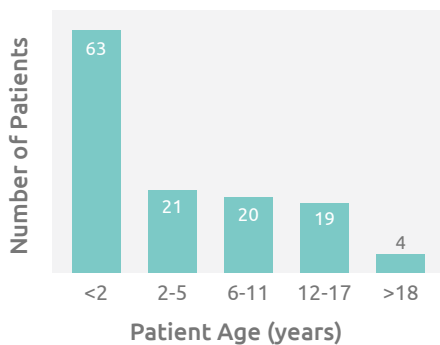
## We're Taking ACTION.

Nearly every pediatric hospital in the U.S. that performs pediatric VADs is a member of ACTION. Together, we comprise the largest nationwide effort to improve outcomes for pediatric heart failure and VAD patients.

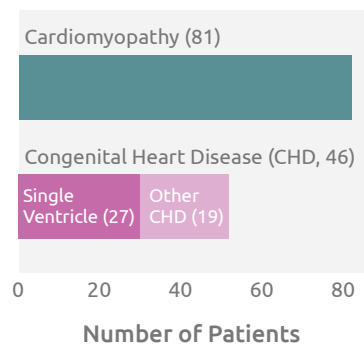


## In 2020...

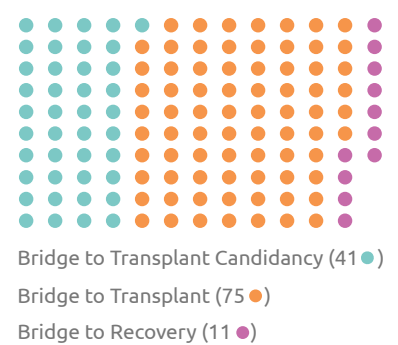
We served 127 new patients...



with these conditions...



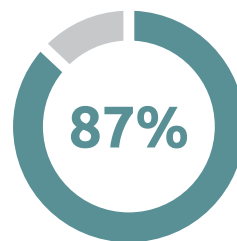
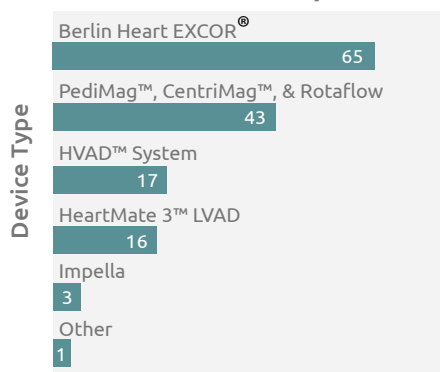
for these goals.



## We're Making an Impact.

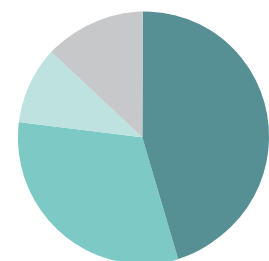
We're improving safety and efficacy of VADs in children with end-stage heart failure.

145 New Devices Implanted<sup>3</sup>



of patients had positive outcomes

Outcomes



Transplant (58 ●)  
 On Device (40 ●)  
 Recovered (13 ●)  
 Death (16 ●)

ACTION's safe and effective use of VADs accelerated the FDA's approval process to expand labeling of Abbott's HeartMate 3™ LVAD to treat children with heart failure.

<sup>1</sup> 34 centers with IRB/DUA approval, >50 centers participating in the network and in progress with regulatory/legal documents

<sup>2</sup> Indicates the percent of children's hospitals who serve patients with advanced heart failure within North America that are official members of ACTION.

<sup>3</sup> Unique device implants across ACTION centers.

## We're Looking Forward.

We aim for better outcomes in all patients with heart failure by both improving patient/provider education and initiating collaborative quality improvement (QI) and research initiatives.

**7**  
ACTION  
Publications

**23**  
QI/Research  
Initiatives

**490,235**  
Social Influence  
Reach<sup>4</sup>

## We're Working to Improve the Outcome.

All outcomes are heavily impacted by patient age, demographics, physiology, and case complexity as well as device safety profiles and treatment pathways.



Median length of stay for  
discharge-eligible<sup>5</sup> devices

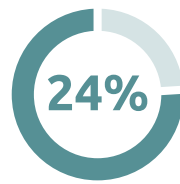


**64.5%**

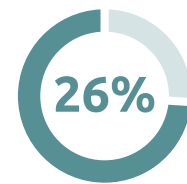
of discharge-eligible<sup>5</sup> patients discharged



of all patients  
had a stroke.

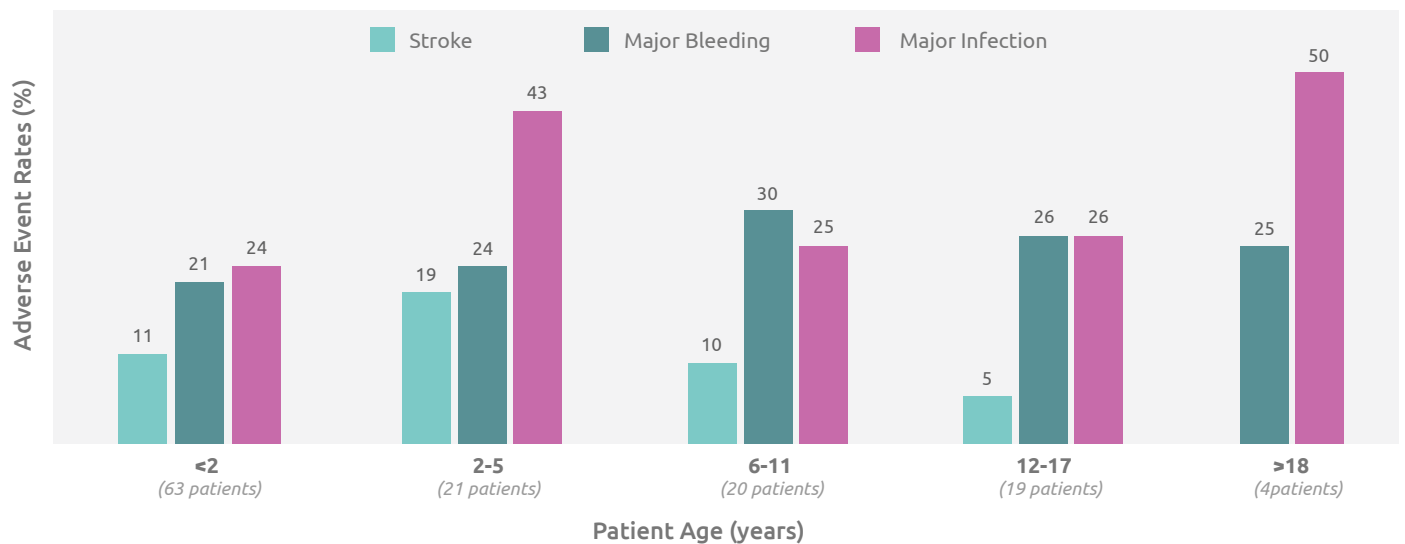


of all patients had a  
bleeding event.



of all patients had an  
infection event.

### Adverse Event Rate by Age



To join the ACTION, visit [actionlearningnetwork.org](http://actionlearningnetwork.org).

<sup>4</sup> The total # of impressions across ACTION's social platforms in 2020.

<sup>5</sup> Patients on intracorporeal continuous flow devices for longer than 30 days of support.

<sup>6</sup> ACTION clinicians interact and engage on our internal platform to collaborate and share best practices.

## **ACTION Publications**

### **1. ABCs of Stroke Prevention: Improving Stroke Outcomes in Children Supported With a Ventricular Assist Device in a Quality Improvement Network**

Villa CR, VanderPluym CJ; ACTION Investigators\*. ABCs of Stroke Prevention: Improving Stroke Outcomes in Children Supported With a Ventricular Assist Device in a Quality Improvement Network. *Circ Cardiovasc Qual Outcomes*. 2020 Dec;13(12):e006663. doi: 10.1161/CIRCOUTCOMES.120.006663. Epub 2020 Dec 15. PMID: 33320692.

### **2. Discharge and Readmissions After Ventricular Assist Device Placement in the US Pediatric Hospitals: A Collaboration in ACTION**

Bearl DW, Feingold B, Lorts A, Rosenthal D, Zafar F, Conway J, Elias B, Tunuguntla H, Thurm C, Amdani S, Jaworski N, Godown J. Discharge and Readmissions After Ventricular Assist Device Placement in the US Pediatric Hospitals: A Collaboration in ACTION. *ASAIO J*. 2020 Nov 12. doi: 10.1097/MAT.0000000000001307. Epub ahead of print. PMID: 33196481.

### **3. Heart failure in children: Priorities and approach of the ACTION collaborative**

Neha Bansal, Danielle S. Burstein, Angela Lorts, Lauren Smyth, David N. Rosenthal, David M. Peng, Heart failure in children: Priorities and approach of the ACTION collaborative, *Progress in Pediatric Cardiology*, Volume 59, 2020, 101313, ISSN 1058-9813, <https://doi.org/10.1016/j.ppedcard.2020.101313>.

### **4. A coordinated approach to improving pediatric heart transplant waitlist outcomes: A SUMMARY OF THE ACTION NOVEMBER 2019 WAITLIST OUTCOMES COMMITTEE MEETING**

Hollander SA, Nandi D, Bansal N, Godown J, Zafar F, Rosenthal DN, Lorts A, Jeewa A; ACTION Network. A coordinated approach to improving pediatric heart transplant waitlist outcomes: A summary of the ACTION November 2019 waitlist outcomes committee meeting. *Pediatr Transplant*. 2020 Sep 28:e13862. doi: 10.1111/petr.13862. Epub ahead of print. PMID: 32985785.

### **5. The Creation of a Pediatric Health Care Learning Network: THE ACTION QUALITY IMPROVEMENT COLLABORATIVE**

Lorts A, Smyth L, Gajarski RJ, et al. The Creation of a Pediatric Health Care Learning Network: The ACTION Quality Improvement Collaborative. *ASAIO J*. 2020;66(4):441-446. doi:10.1097/MAT.0000000000001133

### **6. Early experience with the HeartMate 3 continuous-flow ventricular assist device in pediatric patients and patients with congenital heart disease: A multicenter registry analysis**

O'Connor MJ, Lorts A, Davies RR, et al. Early experience with the HeartMate 3 continuous-flow ventricular assist device in pediatric patients and patients with congenital heart disease: A multicenter registry analysis. *J Heart Lung Transplant*. 2020;39(6):573-579. doi:10.1016/j.healun.2020.02.007

### **7. Collaboration and new data in ACTION: a learning health care system to improve pediatric heart failure and ventricular assist device outcomes**

Peng DM, Rosenthal DN, Zafar F, Smyth L, VanderPluym CJ, Lorts A. Collaboration and new data in ACTION: a learning health care system to improve pediatric heart failure and ventricular assist device outcomes. *Transl Pediatr*. 2019 Oct;8(4):349-355. doi: 10.21037/tp.2019.07.12. PMID: 31728328; PMCID: PMC6825965.