



PRIMARY CHILDREN'S HOSPITAL  
**HEART CENTER**  
2016 OUTCOMES & CARE REPORT

# INTRODUCTION

When you choose the Heart Center at Primary Children's Hospital in Salt Lake City, you are choosing one of the best pediatric heart centers in the nation—a center that combines clinical excellence, cutting-edge innovation, and compassionate care.

Our Heart Center has more than 40 highly-skilled University of Utah School of Medicine physicians working tirelessly to treat all types of heart conditions—from fetal diagnosis to adults with congenital heart disease. Our physicians are supported by more than 300 staff members including physician assistants, nurse practitioners, nurses, cardiac sonographers, perfusionists, respiratory therapists, social workers, genetic counselors, child life specialists, and more.

We look to innovation—through both technology and the development of progressive programs—to better serve patients and continually improve care and outcomes. Our patient-centered approach removes the traditional walls between departments and specialties to focus on the patient as a whole, and improve the experience through all stages of treatment.

We strive to be a center of excellence where ideas are freely shared, outcomes are continually improved, and highly personalized care is delivered to each patient and family.



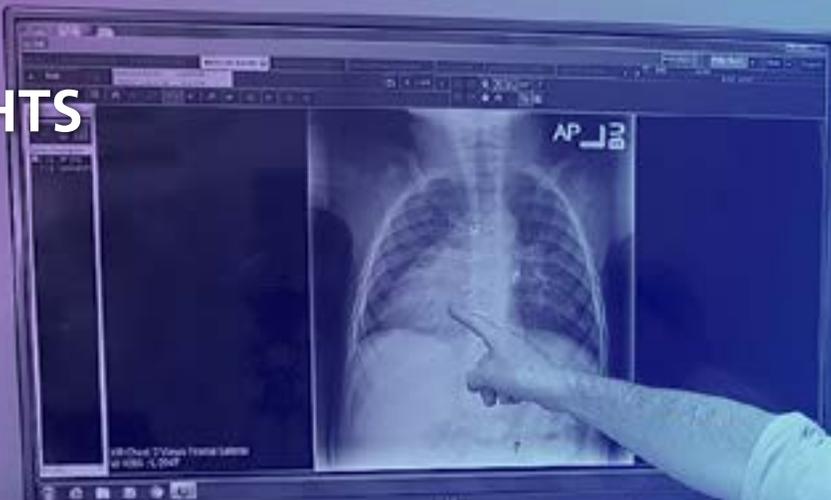
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# 2016 HIGHLIGHTS

## Improving Surgery with 3D Printing

Clinicians in the Heart Center are leveraging 3D printing to create models of complex patient hearts before surgery. This technology is used when other imaging modalities can't provide enough detail for complex anatomy. This innovative approach allows cardiologists and surgeons to get an in depth look before making the first incision.



# 13,000+

Outpatient Clinic  
Appointments

# 1 of 2

## Institutions Nationwide

that participates in all three major  
research consortia of the National Heart,  
Lung, and Blood Institute of the NIH

# 700+

Fetal  
Echocardiograms

# 16<sup>th</sup> in Cardiology & Heart Surgery

by *U.S. News & World Report Best  
Children's Hospital* 2016-17

# 9<sup>th</sup> Best Children's Heart Care

by *Parents Magazine*  
(since 2013)

# 500+

Heart Surgeries

# 13

Heart Transplants

**16** Bed Cardiac Intensive  
Care Unit

**2** Dedicated Cardiac  
Operating Rooms

**2** Dedicated Biplane Cardiac  
Catheterization Suites

**26** Board Certified Pediatric  
Cardiologists

**3** Board Certified Pediatric  
Cardiothoracic Surgeons

**9** Pediatric Cardiac  
Anesthesiologists

**7** Cardiac Intensivists

## HIGHLIGHTED SERVICES

Our Heart Center provides comprehensive care for all forms of heart disease in children and for adults with congenital heart disease. Our center's approach unites the five key pillars of care, including cardiology, cardiothoracic surgery, nursing, anesthesia, and cardiac intensive care. Additionally, our center has multiple subspecialty programs and clinics to manage the most complex pediatric heart disease. All of our programs use a multidisciplinary team approach focused on collaboration, safety, and continuous improvement.

### Cardiothoracic Surgery

Our surgeons perform operations for the full range of heart disease, from simple defects to the most complex conditions, as well as Ventricular Assist Device (VAD) placement and heart transplantation.



## Catheterization (Cath Lab) and Electrophysiology

We utilize advanced technology and highly trained experts to perform hundreds of interventional and electrophysiology heart rhythm procedures each year. Our lab is one of the busiest in the country.

## Cardiac Intensive Care

Our CICU is equipped with the most advanced technology and designed to be a comfortable, child-friendly environment, providing a high level of care for patients of all ages with congenital or acquired heart conditions.

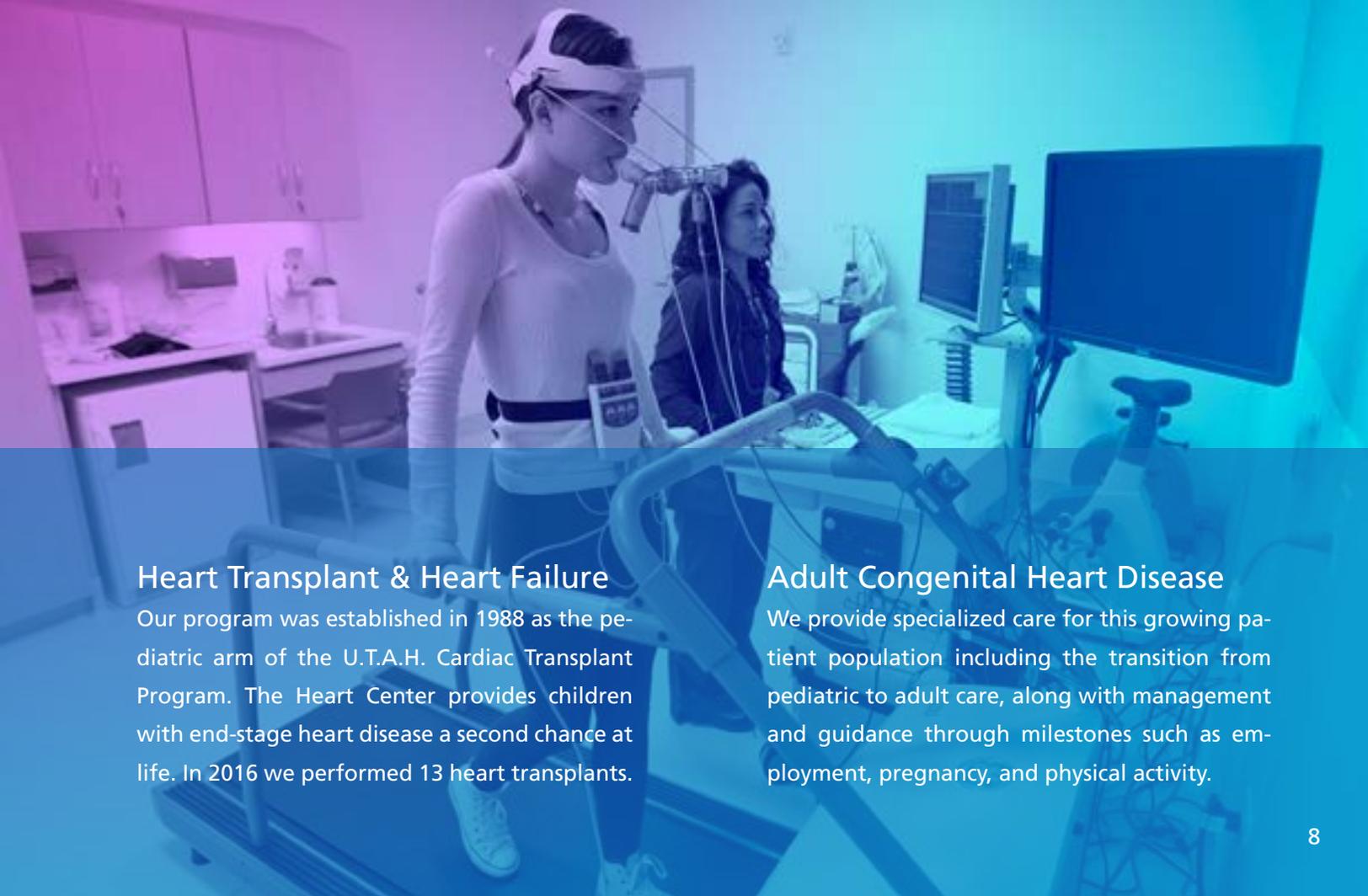
A photograph of a doctor in a white coat looking at a young child sitting on a medical table. The child is smiling and has their hands near their face. The background shows medical equipment and a circular opening in a wall. The entire image has a blue tint.

## Fetal Heart Program

Our team significantly improves the care of infants with congenital heart disease through early fetal detection, prenatal planning, and expedient management after birth.

## High Risk Program

Clinicians provide closer, more consistent care and follow-up for single ventricle patients during the period between Stage I and Stage II surgeries.



## Heart Transplant & Heart Failure

Our program was established in 1988 as the pediatric arm of the U.T.A.H. Cardiac Transplant Program. The Heart Center provides children with end-stage heart disease a second chance at life. In 2016 we performed 13 heart transplants.

## Adult Congenital Heart Disease

We provide specialized care for this growing patient population including the transition from pediatric to adult care, along with management and guidance through milestones such as employment, pregnancy, and physical activity.



## Pulmonary Vascular Disease

We provide every available option for treatment to improve patients' quality and length of life while accurately and safely identifying the cause and severity of pulmonary vascular disease and pulmonary hypertension.

## Cardiac Genetics

Our team specializes in the management of patients who have been diagnosed with, or who are at risk to develop, a heritable cardiovascular condition.



**BEST**  
CHILDREN'S  
HOSPITALS

**U.S. News** & WORLD REPORT

CARDIOLOGY &  
HEART SURGERY  
2016-17

For detailed information about all of our services, please visit  
[primarychildrens.org/heartcenter](http://primarychildrens.org/heartcenter)

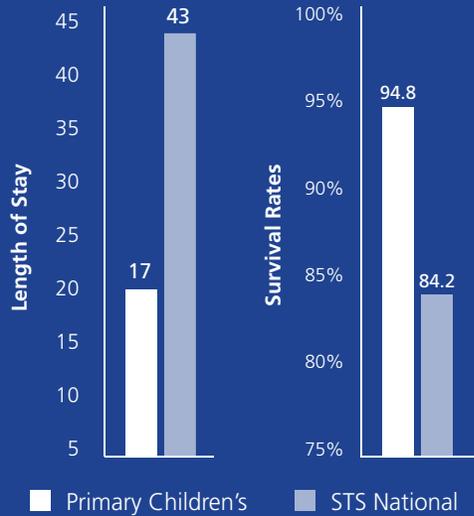
# OUTCOMES

## Length of Stay by Procedure

July 2012- June 2016



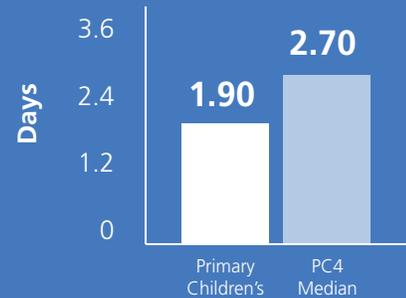
## Norwood Procedure



Norwood is one of the most complex and difficult heart surgeries in children. We have some of the best survival outcomes in the country and get families out of the hospital sooner. This puts less stress on the family, improves care, and lowers costs.

## Cardiac Intensive Care Unit

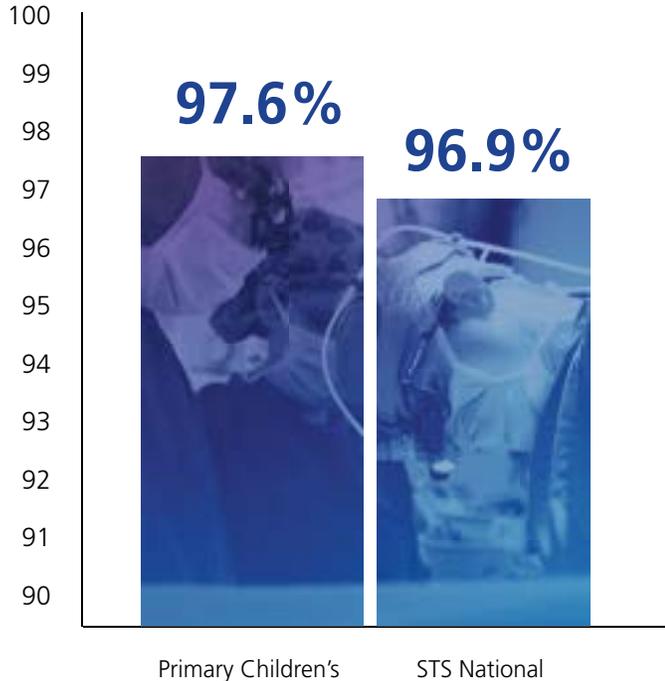
### Length of Stay



We participate in the Pediatric Cardiac Critical Care Consortium (PC4). This collaboration works to improve the quality of care and outcomes for congenital heart disease. Data represents outcomes from 25 Children's hospitals across the country.

## Overall Cardiac Surgery Survival Rate

July 2012- June 2016



**The Heart Center continues to exceed STS national benchmarks for most heart surgeries, including the most complex procedures such as Truncus and Norwood**

The Society of Thoracic Surgeons (STS) is a non-profit organization that compiles data and outcomes to create national benchmarks for heart surgeries from participating children's hospitals. Primary Children's Hospital participates in STS reporting. More information can be found at [STS.org](http://STS.org)

# Cardiac Surgery Survival Rate by Procedure

July 2012- June 2016

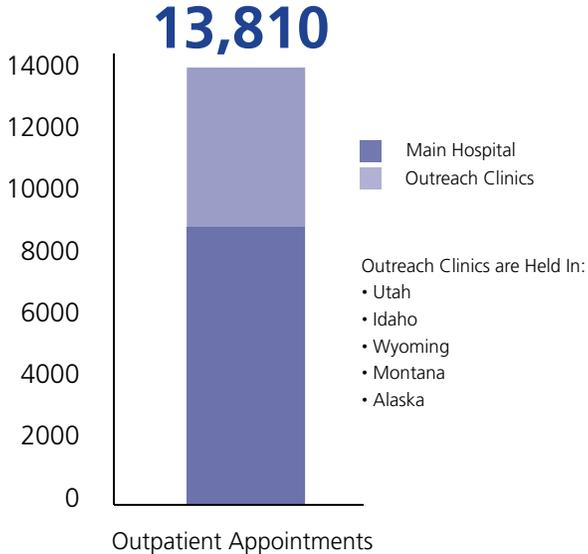


Benchmark Procedure

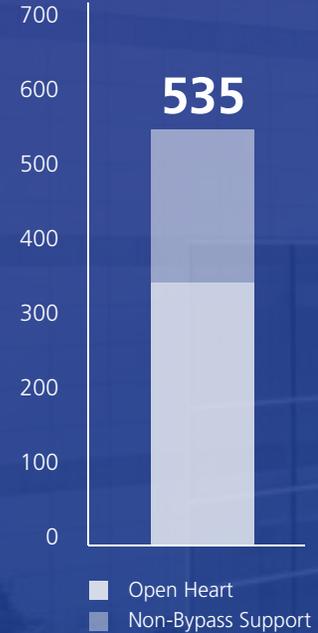
- Primary Children's
- STS National

# VOLUMES

With more than 13,000 outpatient appointments in 2016, our physicians have the experience to identify and manage the entire range of heart conditions.



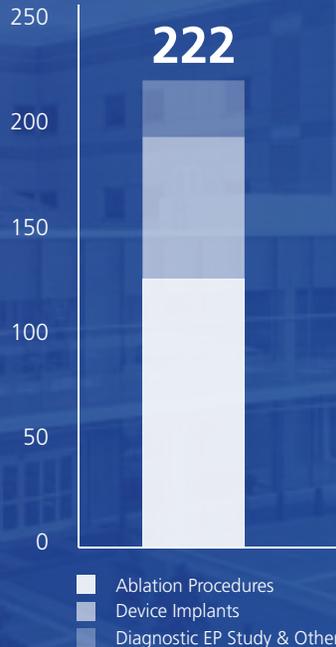
## Cardiothoracic Surgery Cases



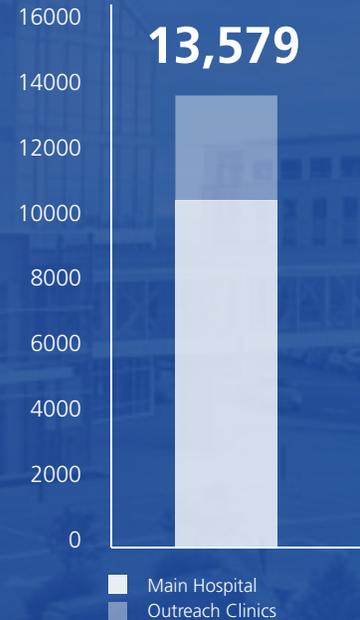
### Cath Lab Procedures



### Electrophysiology Procedures



### Echocardiograms



For a complete report of outcomes and volumes visit  
[primarychildrens.org/heartoutcomes](http://primarychildrens.org/heartoutcomes)

## RESEARCH & EVIDENCE-BASED CARE

Research plays a vital role in offering innovative care for complex conditions. In 2016, more than 50 research papers were published by our clinicians. Our scope of services give us the unique ability to participate in nearly any kind of study on heart disease. In addition, our research efforts are enhanced by our unique ability to utilize the Utah Population Database (UPD) – the only database of its kind in the United States. This database provides in-depth demographic information to support research on genetics, epidemiology, demography, and public health. Our center participates in basic science, translational, and clinical research.



1 of 2

institutions nationwide that participates in all three major research consortia of the *Bench to Bassinet* research effort of the National Institutes of Health NHLBI

1 of 4

Cardiac Development Consortium sites

1 of 5

participants in the Pediatric Cardiac Genomics Consortium

1 of 9

facilities chosen as a core site of the Pediatric Heart Network

## We participate in these national quality initiatives:

- American College of Cardiology's Adult Congenital & Pediatric Cardiology Quality Network
- National Pediatric Cardiology Quality Improvement Collaborative (NPC-QIC)
- National Cardiovascular Data Registry (NCDR) – IMPACT
- STS National Database
- Pediatric Cardiac Critical Care Consortium (PC-4)
- Cardiac Neurodevelopmental Outcomes Collaborative
- Central Line Associated Blood Stream Prevention Initiative
- Children's Hospitals' Solutions for Patient Safety

# QUALITY IMPROVEMENT

We continually strive to provide high-quality care with proven results. Our culture of quality comes from our integration with Intermountain Healthcare, led by Chief Quality Officer, Dr. Brent James. Intermountain has a sterling reputation for quality improvement and is recognized nationally for best practices.



For information visit [intermountainhealthcare.org](http://intermountainhealthcare.org)



# ACCREDITATION & RECOGNITION

Our Heart Center is accredited and recognized by a number of national organizations and accrediting bodies. Our achievements include:

**16<sup>th</sup>** in Cardiology & Heart Surgery  
by *U.S. News & World Report*  
*Best Children's Hospital 2016-17*

**9<sup>th</sup>** Best Children's Heart Care  
by *Parents Magazine*  
(since 2013)

- **Echo Lab Accreditation**  
Intersocietal Accreditation of Echocardiography Laboratories (accredited in: transthoracic, transeophageal, and fetal echocardiographic testing)
- **National Pediatric Cardiology Quality Improvement Collaborative**
- **National Cardiovascular Data Registry Participant in IMPACT (Improving Pediatric and Adult Congenital Treatment) and ICD Registry**
- **Congenital Heart Center of Excellence – Optum Health**



# FAMILY-CENTERED CARE

In addition to providing high-quality medical care, the Heart Center looks closely at the overall hospital experience from the patient's perspective. We strive to create a healing environment that supports patients and families through the stresses that illness can cause. Primary Children's Hospital utilizes medical social workers, child life specialists, therapists, spiritual advisors, and more than 900 volunteers to engage patients and family members with therapeutic activities, positive distractions, and social support. Our family-centered approach promotes physical, emotional, and spiritual healing.



## Ronald McDonald Family Room®

This spacious, hospitality-based area on the west side of the hospital offers family members of patients all the comforts of home with the added bonus of stunning views of the Salt Lake Valley. The Ronald McDonald Family Room has washers and dryers, private bedrooms for overnight sleeping or napping, bathrooms with showers, a business center with computers, internet access, and a fully-stocked kitchen.

## Animal-Assisted Therapy

23 different therapy animals—from a tiny, 3-pound pooch to a 120-pound dog—visit the Heart Center on a regular basis comforting patients and bringing smiles.



## Music Therapy - Sophie's Place®

Music therapy can take place individually in patient rooms or in the dedicated music therapy room, Sophie's Place®. The space was designed to inspire creativity and looks like the world's coolest jam space—it even has a fully functioning recording studio.

## Playroom - Forever Young Zone®

Our large playroom features toys, books, games, and other activities for children of all ages. This colorful play area includes an arts and crafts room, a sensory therapy room, medical toys to help children understand procedures, an outdoor patio brimming with plants and fresh air, and a teenage lounge with WiFi, computers, and video games.



## Spiritual Care

Chaplains are available to individuals, families, and staff members of all religions and faiths, and to those with no faith tradition, but who are looking for spiritual strength. Team members come from a variety of faith backgrounds.



## Children's School Services

With strong connections to school districts in a five-state region, our team ensures that each patient receives proper school instruction while in the hospital. Even after the patient is discharged, we assist with the transition back to school. We make sure all the necessary accommodations are put in place to meet the recovering student's needs.



## Interpretation and Language Services

Medical interpretation is always available and can be conducted in 41 different languages, including Spanish, Nepalese, Mandarin, Arabic, and Portuguese.



For more information or to refer a patient:

**801.583.HEART (4327)**  
**[primarychildrens.org/heartcenter](http://primarychildrens.org/heartcenter)**

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