RTI INTERNATIONAL | *turning knowledge into practice*

Methodology:
U.S. News & World Report
Best Children's Hospitals 2023-24

Murrey G. Olmsted
Sarah Lessem
Rebecca Powell
Joe Murphy
Denise Bell
Katherine Blackburn
Marshica Stanley
Rebekah Torcasso Sanchez
Rachael Allen

June 15, 2023

To Whom It May Concern:

Executive Summary

Pediatrics has been an element of Best Hospitals ever since 1990, when U.S. News & World Report published the first annual "America's Best Hospitals" rankings, as they were then called. The initial evaluations, in 12 specialties, comprised short lists of centers that were identified through a survey of physician specialists as providing the best care for the most challenging patients.

For the first time, patients and families had a tool to help narrow their search for a hospital particularly skilled in performing difficult procedures, treating serious conditions and otherwise demonstrating an especially high level of care. While that core mission has not changed, U.S. News broadened its scope in 2015 by adding ratings of some 4,600 hospitals in relatively commonplace procedures and conditions such as heart bypass surgery, knee and hip joint replacement and COPD.

By 1993 hard data had been incorporated into most Best Hospitals specialty rankings, but until 2007 the pediatric rankings continued to rely entirely on an annual survey of pediatric specialists because hard data comparable to the MedPAR files for Medicare recipients was unavailable. Pediatric-specific data were critical. Benchmarking and data generated from adult patients, to the extent that such information existed at all, could not be applied to children. Structuring coordinated care for congenital conditions such as spina bifida and cystic fibrosis, determining drug dosages and minimizing vulnerability to infection are a few of many factors that make pediatric patients unique.

Lacking robust pediatric data bases, U.S. News elected to collect data directly from children's hospitals through a comprehensive clinical and operational survey. The first rankings to incorporate data from such a survey, developed by RTI International[*], were published in 2007 in the form of the top 30 children's centers in General Pediatrics. Specialty rankings were not included.

In the years that followed, data collection was broadened and deepened. The current methodology continues to include reputational survey results (expert opinion) as well as supplemental information from resources such as the National Cancer Institute. Best Children's Hospitals now ranks the top 50 centers in 10 specialties: Cancer, Cardiology & Heart Surgery, Diabetes & Endocrinology, Gastroenterology & GI Surgery, Neonatology, Nephrology, Neurology & Neurosurgery, Orthopedics, Pulmonology & Lung Surgery and Urology.

To provide parents with information about more centers and demonstrate transparency, pediatric centers below the line – that is, those that are not nationally ranked – are now displayed.

[*] RTI International is the trade name of Research Triangle Institute.

Pediatric centers that provided sufficient data to receive an overall U.S. News Score but fell short of the top 50 are displayed with their calculated metrics but without rank or score.

Each of the 199 facilities surveyed for the 2023-24 Best Children's Hospitals rankings is either a freestanding children's hospital or a "hospital within a hospital" – a large, essentially autonomous multidisciplinary pediatric department within a major medical center. Most are members of the Children's Hospital Association (CHA).†

RTI International‡ collects and analyzes the data for the "Best Children's Hospitals" rankings. The methodology reflects *clinical outcomes*, such as patient survival, infection rates and complications; the level and quality of *hospital resources* directly related to patient care, such as staffing, technology and special services; *delivery of healthcare*, such as programs that prevent infections and adherence to best practices; and *expert opinion* among pediatric specialists.

In the 2023-24 rankings, 89 of the 199 surveyed hospitals were ranked among the top 50 in at least one specialty. The 2023-24 Best Children's Hospitals Honor Roll recognizes the 10 hospitals with the highest rankings across all specialties.

† The National Association for Children's Hospitals and Related Institutions (NACHRI) was renamed the Children's Hospital Association in 2012. See https://www.childrenshospitals.org/ for additional details.

‡ RTI International is the trade name of Research Triangle Institute.

Table of Contents

List of Tables

List of Figures

List of Appendixes

I. Introduction

Rankings in pediatrics were included in the initial "America's Best Hospitals" rankings in 1990. Until 2007, however, the pediatric rankings relied entirely on reputational surveys of board-certified pediatricians and adolescent-medicine specialists.

The reason was that quantitative pediatric measures in barely existed. A large, rich database, comparable to the Centers for Medicare & Medicaid Services MedPAR (Medicare Provider Analysis and Review) files that determine mortality in 12 adult specialties, was unavailable[**]. Reliable structural measures also were absent. Available data sources generally reported volume, advanced technologies and patient services for the hospital as a whole and did not break out pediatric-specific information.

Continuing to rank children's hospitals solely on expert opinion for an indeterminate period while performance data were codified and the means of collecting and verifying them settled was felt to be unacceptable. U.S. News asked RTI International, U.S. News contractor for the adult Best Hospitals rankings, to develop a rigorous methodology for ranking hospitals in pediatrics that would incorporate data obtained directly from the hospitals.

The resulting methodology and initial version of a direct hospital survey (referenced in this report as the Pediatric Hospital Survey) produced General Pediatrics rankings of 30 hospitals, published in the September 3, 2007, issue of U.S. News & World Report as "Best Children's Hospitals." The issue was separate from the issue with the adult rankings, to highlight the change and minimize possible confusion.

The Pediatric Hospital Survey and the reputational Physician Survey were expanded in 2008, permitting pediatric hospitals to be ranked in six pediatric specialties as well as in General Pediatrics.[††] In 2009, General Pediatrics was dropped and the specialties expanded to 10 that still define the specialty universe:

- Cancer
- Cardiology & Heart Surgery
- Diabetes & Endocrinology
- Gastroenterology & GI Surgery
- Neonatology
- Nephrology
- Neurology & Neurosurgery
- Orthopedics
- Pulmonology & Lung Surgery
- Urology

[**] A relatively small number of children do receive care under Medicare under narrow eligibility definitions because of legislatively mandated coverage.

[††] Previous methodology reports are available online at www.rti.org/besthospitals.

Like their adult counterpart, the Best Children's Hospitals rankings reflect the interrelationship between structure, process and outcomes, the three components of the Donabedian paradigm.[1-5] Individual measures, their weights and approach to scoring are quite different in the pediatric rankings, however.

The Donabedian components represent the following healthcare concepts:

- *Structure* refers to hospital resources directly related to patient care. Examples include the ratio of nurses to patients, specialized clinics and programs, and certification by recognized external organizations.
- *Process* encompasses overall rendering of diagnosis, treatment, prevention and patient education. Process is represented in part by an expert opinion score based on the annual survey of board-certified physicians cited above. Starting with the 2012-13 rankings, the pediatric methodology has incorporated compliance with best practices and activities to prevent infections and other patient safety issues.
- *Outcomes* obviously include survival but can also include functional success (as in children with cystic fibrosis) and incidence of adverse events (such as bloodstream infections and transplant-organ failure).

Each major component of the Best Children's Hospitals ranking score—structure, outcomes and process—is worth exactly one-third of the overall score other than in Cardiology & Heart Surgery, in which outcomes weight in the overall score has been increased in the 2017-18 rankings to 38.3 percent and the process weight lowered to 28.3 percent. (Details are provided in Table 15.) The specific measures, their weights and the scoring algorithm all are quite different from their adult counterparts.

Section II of this report outlines the general eligibility requirements for consideration in the pediatric rankings. As in previous years, most structure and outcomes data for the 2023-24 rankings were obtained directly from children's hospitals through the Pediatric Hospital Survey (***Section III***). Data for three measures were supplied by external organizations: Nurse Magnet recognition (American Nurses Credentialing Center), accreditation by FACT for BMT and tissue transplant (Foundation for the Accreditation of Cellular Therapy) and commitment to best practices in treating patients with seizure disorders (National Association of Epilepsy Centers).

The specific mission of the Best Children's Hospitals rankings is to identify hospitals that provide the highest quality of care for children with the most serious or complicated medical conditions, using the most robust and sensitive measures available to represent the three

Donabedian components. ***Sections IV, V, and VI*** describe the data and the construction of each component.

The methodology also incorporates nominations of hospitals from board-certified pediatric specialists in each of the 10 specialties through the Pediatric Physician Survey, as described in ***Section V***.

II. Eligibility

A. General Eligibility

To be considered for the 2023-24 pediatric rankings, hospitals had to provide extensive data about their services and capabilities

Historically, initial eligibility for the rankings has been determined by membership in the Children's Hospital Association (CHA) or by nomination by teams of expert advisers. U.S. News and RTI have supplemented the universe by adding hospitals that have expressed interest in public reporting, after consideration of the size and scope of each hospital's pediatric program.

Of the 199 hospitals in the sample, 119, or 60% submitted sufficient data through the 2023-24 Pediatric Hospital Survey to be considered for ranking. Each facility met the description of one of three groups: a freestanding children's hospital, a "hospital within a hospital" (as described above, a pediatric service that functions autonomously within a larger medical center) or a specialty hospital (such as one that exclusively treats cancer or orthopedic patients).

B. Specialty-Specific Eligibility

To be eligible for ranking within a given specialty, hospitals had to satisfy two additional requirements:

- In specialties other than Neonatology, a hospital had to verify in the Pediatric Hospital Survey that services in the specialty were in fact available. In Neonatology, a hospital also had to have a Level IV neonatal intensive care unit (NICU). Validation of this NICU status could be met based either on state determination of Level IV status or satisfaction of Level IV eligibility requirements as specified by the American Academy of Pediatrics guidelines.[#]
- A full-time equivalent (FTE) of at least 1.0 attending physicians in certain specialty-related medical fields was required. The physician categories are shown in ***Table 1***.

[#] AAP guidelines, Pediatrics, 2012, 130:587-597.

Text and table references (e.g. "B2a") indicate the related section and question in the Pediatric Hospital Survey.

Table 1. Specialty-Specific Eligibility Requirements

Specialty	Must have at least 1.0 FTE attending staff in the following categories:
Cancer	Pediatric hematologist/oncologist (B2a)*
Cardiology & Heart Surgery	Pediatric cardiothoracic surgeon (E2a) **and** Pediatric cardiac intensivist (from training in cardiology, pediatric critical care or anesthesiology) **or** Other pediatric cardiac specialist (pediatric cardiac interventionalist, pediatric cardiac electrophysiologist, pediatric anesthesiologist with specialty cardiac training, or pediatric advanced imaging specialist (cardiologist or radiologist)) (E2b, E2c, E2d, E2e, E2f, E2g, or E2h)
Diabetes & Endocrinology	Pediatric endocrinologist (C2a)
Gastroenterology & GI Surgery	Pediatric gastroenterologist (D2a)
Neonatology	Pediatric neonatologist (F2a)
Nephrology	Pediatric nephrologist (G2a)
Neurology & Neurosurgery	Pediatric neurologist (H2a) **or** Pediatric neurosurgeon (H2b)
Orthopedics	Pediatric orthopedic surgeon (I2a)
Pulmonary	Pediatric pulmonologist (J2a) **or** Pediatric sleep medicine physician (J2b)
Urology	Pediatric urologist (K2a)

* Parenthetical references indicate related survey questions

III. Pediatric Hospital Survey

As part of the process of creating the initial pediatric rankings, RTI convened advisory panels to inform the hospital survey. These working groups have been retained to help the survey evolve by providing new findings and perspectives that can be incorporated before the survey is finalized and sent to hospitals.

Panel members do not serve fixed terms. Members who drop out through normal attrition are replaced by RTI through a request to the pediatric hospital community for candidates with broad expertise in both general and specialty pediatric medical care and familiarity with current research on hospital quality. Our standard advisory panels reconvened fully for the 2023-24 rankings. The names and institutions of all individual working group members for the 2023-24 Pediatric Hospital Survey are provided, with their permission, in ***Appendix A***.

Through conference calls, ad hoc phone discussions and emails during the summer and fall of 2021, working group members proposed, reviewed and discussed revisions to the previous version, including potential new measures. Smaller subgroups of members in each working group were responsible for reviewing the revised codes to ensure that the selected codes were relevant and appropriate. The RTI project team then created a draft set of measures and a survey instrument.

A draft of the survey was provided as a Microsoft Word document to hospitals at the beginning of December 2022 on an FYI basis, to give them as much time as possible to collect and organize data before the official start date. They received the finalized survey in early January 2023 via a dedicated web page. Survey responses were accepted until mid- March.

Some measures were ultimately excluded after data were submitted because the results failed to demonstrate meaningful variability. The remaining items are described in detail below, with references to the corresponding survey question numbers in parentheses.

IV. Structure

The structural component is represented by volume, technology, clinical services and other characteristic features of a high-quality pediatric hospital. In the Best Hospitals adult specialty rankings, most structural measures and their associated data are extracted from the American Hospital Association (AHA) annual survey. Because the AHA survey focuses primarily on overall hospital and system measures, the pediatric data from the survey lack specificity. Structural data were therefore collected through the Pediatric Hospital Survey.

All measures used in the rankings are described in the following sections. The print version of the rankings displays a subset of the online measures.

A. Structural Measures

The structural measures used in the rankings represent fundamental elements of high-quality, hospital-based pediatric care. Descriptions of the measures and the specialties to which they are applied are listed alphabetically. Text and table references such as (A6a) indicate the related section and question in the Pediatric Hospital Survey. Each measure's relative weight within a specialty is provided in ***Section IV.B. Normalization and Weighting***.

Accredited by FACT (Cancer)

Accreditation indicates that as of January 27, 2023, a hospital met standards set by the Foundation for Accreditation of Cellular Therapy for transplanting cells to treat pediatric cancer, an indication of a high degree of care in handling and using cellular tissue. Programs could be certified

as providing adult or pediatric services and as offering two types of transplant services: autologous and allogeneic. For the Cancer specialty, a hospital was awarded 1 point if it was accredited by FACT as a pediatric or adult service provider for either autologous or allogeneic transplants or for providing Immune Effector Cellular Therapy (B19a). Currently accredited facilities are listed at http://accredited.factwebsite.org/.

Active Fellowship Program (All Specialties)

Participation in fellowship training programs represents a commitment by hospitals to provide high-quality care in a specialty area and assure that their programs meet standards of quality. Hospitals that offer fellowship programs accredited by the Accreditation Council for Graduate Medical Education (or other advanced fellowship programs) were awarded 1 point for each fellowship program that had at least one active fellow in the program in the past academic year. Each specialty has one or more programs that are considered flagship programs in their specialty. Hospitals that have at least one active fellow in these programs are awarded 2 points for each program. ***Table 2*** indicates fellowships credited and the number of points for each specialty.

Table 2. Active Fellowship Programs by Specialty

Fellowship Program*	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Child neurology (A6a)					1		2			
Congenital cardiac surgery (A6b)		2			1					
Neonatal-perinatal medicine (A6c)					2					
Pediatric Neurosurgery (A6d)	1						2			
Pediatric cardiology (A6e)		2			1					
Pediatric endocrinology (A6f)			2							
Pediatric gastroenterology (A6g)				2	1					
Pediatric hematology-oncology (A6h)	2									
Pediatric nephrology (A6i)						2				
Pediatric neuroradiology (A6j)	1									

(continued)

Table 2. Active Fellowship Programs by Specialty (continued)

Fellowship Program*	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Pediatric pulmonology (A6k)					1				2	
Pediatric urology (A6l)	1									2
Pediatric surgery (A6m)	1	1			1					
Pediatric infectious diseases (A6n)	1	1	1	1	1	1	1	1	1	1
Pediatric Orthopaedic Surgery (A6o)								2		
Pediatric critical care medicine (A6p)	1	1	1	1		1	1	1	1	1
Pediatric advanced transplant hepatology (A6q)				1						
Pediatric rheumatology (A6r)			1					1		
Physical medicine and rehabilitation (with training in pediatrics) (A6s)		1	1	1		1	1	1	1	1
Pediatric radiology (A6t)	1	1	1	1	1	1	1	1	1	1
Pediatric interventional radiology (A6u)	1					1	1			
Neurodevelopmental disabilities (A6w)		1			1**		1			
Adolescent medicine (A6x)			1	1		1				
Developmental behavioral pediatrics (A6y)					1**		1			
Pediatric neuropsychology (A6aa)	1	1					1			
Pediatric child abuse(A6bb)	1	1	1	1	1	1	1	1	1	1
Pediatric critical care surgery (A6dd)					1					
Pediatric palliative care (A6ee)	1									
Sleep medicine (A6ff)							1		1	
Allergy or immunology (A6gg)									1	

(continued)

Table 2. Active Fellowship Programs by Specialty (continued)

Fellowship Program*	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Advanced motility training program that includes a mentor certified in nutrition (D34)				1						
Advanced nutritional training program (D35)				1						
Advanced hepatology training program (D36)				1						
Pediatric orthopedics (I6.1)								2		
Total Elements	**13**	**12**	**9**	**12**	**13**	**9**	**14**	**10**	**9**	**7**

* Parenthetical references indicate related survey questions
** Hospitals received a point for either Neurodevelopmental disabilities or Developmental behavioral pediatrics in Neonatology

Adoption of Health Information Technology (All Specialties)

In each specialty, hospitals received up to 7 points for incorporating and using electronic medical records (EMRs).

1 point if the EMR identifies and reports potential adverse events for patients (A23), 1 point if they could exchange patient information with organizations that have the same EMR system or 2 points if they could exchange patient information with organizations that have a different EMR system (A23.2). Hospitals that have an EMR with certain patient engagement features received up to 4 points, 1 for each of the following: online access to medical notes or records (A23.3a), ability to request a revision to medical notes or records online (A23.3b), ability to schedule visits online (A23.3c), and ability to send and receive electronic messages with medical providers (A23.3d).

Adult Congenital Heart Program (Cardiology & Heart Surgery)

In Cardiology & Heart Surgery, hospitals received up to 11 points for having an adult congenital heart program. Hospitals received 1 point for providing an organized adult congenital heart program (E16). Hospitals received up to 2 additional points based on the status of accreditation with the Adult Congenital Heart Association to become an Adult Congenital Heart Association Comprehensive Care Center (E20): 2 points if the program is fully accredited, or 1 point if the program has partially completed the accreditation process. These programs are often provided

by pediatric heart centers, which frequently have the most expertise in inherited and congenital heart disorders.

Up to 6 additional points were awarded if the adult congenital heart program provided the following: a formal program to transition patients from the pediatric to adult congenital heart program (E17a); participation by cardiothoracic surgeons (E17b), cardiothoracic interventionalists (E17c) and cardiothoracic electrophysiologists, who have specialty expertise in the care of adults with congenital heart disease (E17d); specialty care for high-risk obstetrics patients with congenital heart disease (E17e) and a cardiologist board certified in cardiology and in the maintenance of certification (MOC) program for Adult Congenital Heart Disease by the American Board of Internal Medicine (E17f).

Hospitals received 1 point for 1 to 49 cardiac surgical encounters[§§] on patients ages 18 and above in the past four calendar years or 2 points for 50 or more surgical encounters in the past four calendar years (E19).

Advanced Clinical Services Offered (All Specialties)

Hospitals frequently offer clinical services and organize teams or programs to address special needs of specific groups of patients. These services or programs may be organized around a particular diagnosis, need or age group. The structure of the services or programs ensures that a range of resources is available. Specialized skills of a multidisciplinary staff improve overall quality of care, and presumably outcomes. The clinical services recognized in each specialty are described in ***Table 3***. Up to eight points were awarded for having a pediatric trauma center in Neurology & Neurosurgery, Orthopedics, and Pulmonology & Lung Surgery. The trauma center measure recognizes the enhanced resources and staff available to hospitals that provide this service, which benefit other inpatient specialty care. One point was awarded for the additional services listed for each specialty.

[§§] Specific adult cardiac surgical operations included are listed in Table 7 of the STS Congenital Heart Surgery Database for the past four reporting years.

Table 3. Advanced Clinical Services Offered by Specialty

Cancer (27 points)		
Service	**Description***	**Points**
ECMO	ECMO program designated as center of excellence by the Extracorporeal Life Support Organization (ELSO) (A9)	1
Sedation services	Has the following sedation services: • Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1) • Provides sedation/anesthesia by pediatric specialists for radiation therapy, lumbar punctures and bone marrow biopsies (B7)	2

Support staff/programs	Offers the following programs and supporting staff (B11, B11.1, and B11.2):
	• Complementary and alternative medicine or holistic health program
	• Pediatric cancer child life specialists
	• Psychosocial support program
	• Social work support
	• School programs for hospitalized patients
	• Neuropsychological evaluation focused on school re-entry issues
	• APHON chemotherapy/biotherapy course and safe handling procedures
	• Adolescent and young adult support program
	• Fertility preservation program
	• Cancer genetics/hereditary program
	• Sibling targeted support services
	• Bereavement services for families
	• Molecular oncology/targeted therapy program On-site inpatient pediatric rehabilitation unit with individualized dedicated cancer rehabilitation programming
	• On-site inpatient pediatric rehabilitation unit with individualized dedicated cancer rehabilitation programming
	• Having direct clinical care RNs with a national oncology certification (certified pediatric hematology-oncology nurse (CPHON) or certified pediatric oncology nurse (CPON)) or certified bone marrow transplant nurse (BMTCN)
	  ○ 1 point for 25% or more of direct clinical care RNs with these certificates
	  ○ 2 points for 50% or more of direct clinical care RNs with these certificates
	• Having 50% or more of chemotherapy patients with a formal initial psychosocial assessment before or within 4 weeks of therapy
		17

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Cancer, continued (27 points)		
Service	**Description***	**Points**
Chemotherapy support services	Offers the following: • Dedicated pediatric chemotherapy pharmacy (B15a) • Pediatric oncology pharmacist with training and experience in pediatric chemotherapy (B15b) • Pharmacists assigned to participate in daily inpatient rounds with the pediatric cancer treatment team (B15c) • The APHON Chemotherapy/Biotherapy Provider training course for nurses administering chemotherapy (B15d) • Formal chemotherapy safety program with standardized procedures and event tracking (including order misses/near-misses) (B15e)	5
Chemotherapy orders	1 point for orders written using word processing or spreadsheet software or using CPOE; 2 points for CPOE with plan-driven orders and formal multiple co-signatures/review required (B16)	2
Cardiology & Heart Surgery (17 points)		
Service	**Description***	**Points**
ECMO	ECMO program designated as center of excellence by the Extracorporeal Life Support Organization (ELSO) (A9)	1
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Echocardiography laboratory	Offers certified echocardiography laboratory certified by Intersocietal Commission for the Accreditation of Echocardiography Laboratories (ICAEL) or the American Institute of Ultrasound in Medicine (AIUM) (E5) in: • Transthoracic echocardiographic testing • Transesophageal echocardiographic testing • Fetal echocardiographic testing Has echocardiographic imagining capacity 24 hours a day that can be interpreted withing 60 mins of test (E5.1)	4
Cardiovascular services	Offers these diagnostic and treatment services (E6a-i, E6k): • Dedicated pediatric cardiac surgical operating room • Cardiac intensive care unit • Remote monitoring capability • Cardiac diagnostic catheterization laboratory • Cardiac interventional catheterization laboratory • Electrophysiology laboratory • Ventricular assist program • 24/7 ECMO • Cardiovascular genetics clinic • Pediatric cardiac anesthesia services	10
Circulatory support	Provided ventricular assist devices (other than ECMO and transcatheter VADs) for one or more patients in the past 4 years (E26)	1

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Diabetes & Endocrinology (20 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Diabetes & Endocrinology support staff	Having at least 1 of the following staff with Certified Diabetes Care and Education Specialist (CDCES) certification provide diabetes education to patients: • Nurses, pharmacists, social workers, psychologists (C5a and C5c) • Dietitians (C5b) • Certified exercise physiologist or Physical therapist (C5d)	3
	Having at least 1.0 FTE of the following staff dedicated to pediatric endocrinology patients: • Social workers (C6a) • Psychologists (C6b) • Community health workers or patient navigators (C6c) • Genetic counselors (C7a) • Psychiatrists (C7b) • Pharmacists (C7c)	6
Diabetes patient services	Provides the following services onsite (C9): • Written educational protocol used to evaluate and prepare patients for use of an insulin pump • Certified pump educators to provide insulin pump training in house to patient families • Written education protocol used to evaluate and prepare patients for use of continuous glucose monitors (CGMs) • Certified CGM trainers to provide CGM training to patient families • Written educational program for families of new-onset diabetes patients • Formal diabetes educational program for school nurses through a yearly school nurse education conference • A specified RN or CDCES who is responsible for advising and supporting schools in setting up safe programs for managing diabetes	7
Support services	Offered the following programs or services in the last calendar year: • Hosted or was actively involved in organizing diabetes-specific support group for parents and families (C12) • Took a leadership role in organizing or supporting family-support groups for special populations other than diabetes (e.g., Turner syndrome) (C60) • A Family Advisory Board that includes families of non-diabetes Endocrinology patients (C61)	3

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Gastroenterology & GI Surgery (10 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Gastro-intestinal (GI) specialists	Has following specialists available for consultation 7 days a week (D8): • Pediatric gastroenterology/liver-specialized pathologists • Interventional radiologists with pediatric gastroenterology experience • Pediatric anesthesiologists for endoscopy sedation/anesthesia	3
GI support groups	Provides access to the following support groups (D12): • Inflammatory bowel disease • Celiac disease • Liver disease or transplant • Eosinophilic esophagitis • Chronic intestinal failure • Congenital colorectal malformation	6
Neonatology (16 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
NICU support staff	NICU-dedicated staff in these units: • NICU-dedicated respiratory therapy team (F7a) • NICU-dedicated registered dietitians (F7b) • NICU-dedicated residency trained pharmacist (F7c) • NICU-dedicated social workers (F7d) • NICU-dedicated nurse educators (F7e)	5
Pediatric Subspecialists	Has following subspecialists on-call and available to be on-site 24/7 (F11.2): • Gastroenterologist • Nephrologist • Pediatric Ophthalmologist • Pulmonologist • Urologist • Pediatric Cardiologist • Metabolic Specialist • Infectious Disease Specialist • Pediatric Neurosurgeon • Ear, Nose, and Throat Surgeon	10

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Nephrology (9 points)		
Service	**Description***	**Points**
Maintenance dialysis staff	Has at least 1 FTE of clinical nurses dedicated to maintenance dialysis (G5a)	1
	Has at least 0.5 FTE of the following staff dedicated to maintenance dialysis: • Social workers (G5b) • Dieticians (G5c) • Psychologists/Psychiatrists (G5d)	3
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Dialysis treatment	Provides following dialysis options for acute kidney insufficiency (G7): • Hemodialysis • Peritoneal dialysis • Continuous renal replacement therapy	3
Kidney transplant	United Network for Organ Sharing (UNOS)-recognized kidney transplant program (G28)	1
Neurology & Neurosurgery (20 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Pediatric trauma center	8 points for Level 1 pediatric trauma center or 4 points for Level 2 pediatric trauma center certified by American College of Surgeons or state licensing board (A19)	8
Neurology & neurosurgery support services and technology	Offers the following onsite: • Ketogenic diet program or modified diet program (including Atkins) and management program (H5c) • A dedicated multidisciplinary neurocritical care team (H24) • Multidisciplinary neonatal neurocritical care (H24.1) • Inpatient pediatric rehabilitation program with pediatric physiatrist (H13) • Inpatient pediatric rehabilitation program certified by Commission on Accreditation of Rehabilitation Facilities (H13.1) • Inpatient pediatric rehabilitation program that participates in and submits data to the Universal Data System for Medical Rehabilitation (UDSMR) (H13.2) • Routine neuropsychological testing by pediatric neuropsychologists (H14)	7

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Neurology & Neurosurgery, continued (20 points)		
Service	**Description***	**Points**
Epilepsy treatment	Offers the following: • Electroencephalography (EEG) lab accredited by ABRET (H7) • In-house EEG technologists available 24/7 on 300 or more days per year to place electrodes (H7.1) • In-house EEG technologists available to review EEG continuously 24/7 on 300 or more days per year (H7.2) • Epilepsy monitoring unit with emergency management of seizures protocols (H30)	4
Orthopedics (17 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Pediatric trauma center	8 points for Level 1 pediatric trauma center or 4 points for Level 2 pediatric trauma center certified by American College of Surgeons or state licensing board (A19)	8
Advanced care services	Comprehensive pediatric orthopedic program with: • Designated inpatient unit for pediatric orthopedic patients (I7) • Dedicated pediatric imaging center located in outpatient clinics (not separate facility) (I8) • Imaging center staffed with pediatric radiologists with certification for added qualification in pediatric radiology by the American Board of Radiology available for real-time consultation (on-site or virtually) (I9) • Multidisciplinary musculoskeletal oncology program (I16) • Gait laboratory accredited by the Commission for Motion Laboratory Accreditation (CMLA) (I19.1) • Providing seating services or wheelchair clinics for at least 1 patient with neuromuscular disorders (I43 & I44)	6
Gait Laboratory	Provides a neuromuscular Advanced Motion Analyses Laboratory to patients (I19): • 2 points if the lab is on-site • 1 point if the lab is available through a formal contractual relationship with another hospital/institution	2

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Pulmonology & Lung Surgery (41 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Pediatric trauma center	8 points for Level 1 pediatric trauma center or 4 points for Level 2 pediatric trauma center certified by American College of Surgeons or state licensing board (A19)	8
Asthma care specialists	Access to each of the following clinical staff (J5): • Respiratory therapists • Social workers • Dieticians • Physical therapists • Psychiatrists or psychologists • Genetic Counselor • Child Life Specialist • Pharmacist • Speech and language pathologists • Occupational therapist	10
Dedicated staff	Following cystic fibrosis center staff who attend clinic or participate in patient care conferences (J17): • Gastroenterologist • Endocrinologist • Psychiatrists or psychologists • Otolaryngologist or ENT specialist Following staff who support patients with bronchopulmonary dysplasia (J28): • Dietitian • Cardiologist • Neurologist or neurodevelopmental specialist • Social worker • Physical therapist or occupational therapist Following staff who support patients with neuromuscular weakness disorders (J32): • Pulmonologist • Physiatrist • Orthopedist • Cardiologist • Neurologist • Physical therapist • Psychiatrist or psychologist • Dietician • Social worker • Pediatric radiologist	19

* Parenthetical references indicate related survey questions (continued)

Table 3. Advanced Clinical Services Offered by Specialty (continued)

Pulmonology & Lung Surgery, continued (40 points)		
Description*	**Description***	**Points**
Support services	Offers following: • Cystic fibrosis center accredited by Cystic Fibrosis Foundation (J16) • Program accredited by the Primary Ciliary Dyskinesia (PCD) foundation (J31) • Sleep center accredited by American Academy of Sleep Medicine (J35)	3
Urology (5 points)		
Service	**Description***	**Points**
Sedation services	Designated as a Center of Excellence in Pediatric Sedation by the Society for Pediatric Sedation (A9.1)	1
Treatment options	Offers the following treatment modalities (K11): • Stone treatment, including shock wave lithotripsy, ureteroscopy, and percutaneous nephrolithotripsy or nephrolithotomy for patients 12 and under • Laparoscopic surgery, including cyst ablation, pyeloplasty, nephrectomy, partial nephrectomy, heminephrectomy, ureteral reimplantation, or ureteroureterostomy performed on patients 21 years or younger	2
Procedures performed	Performed at least 1 of each of the following procedures in past 5 years: • Partial or total cystectomy for child with a bladder or prostate rhabdomyosarcoma (K12.1) • Retroperitoneal lymph node dissection for cancer diagnoses (K12.2)	2

* Parenthetical references indicate related survey questions

Advanced Technologies (All Specialties)

To receive credit, hospitals must provide access to key diagnostic and treatment technologies. For the technologies listed in A10, hospitals had to offer services onsite. For other technologies, hospitals could offer the services onsite or through the hospital's health system, a local community network or indirectly, through a contractual arrangement or joint venture with another community provider. Data are from the Pediatric Hospital Survey. The values for this measure were based on specialty-specific mixes of technology, as listed in ***Table 4***. Definitions can be found in the glossary in ***Appendix B***.

Table 4. Advanced Technologies by Specialty

Specialty	Technologies*
Cancer (19)	• Positron emission tomography (PET)/magnetic resonance imaging (MRI) or PET/computerized tomography (CT) scanning offered onsite (A10a or A10b) • Intraoperative magnetic resonance imaging (ioMRI) offered onsite (A10c) • 3-Tesla magnetic resonance imaging (3T MRI) offered onsite (A10d) • Image-guided radiation therapy offered onsite (A10e) • Intensity-modulated radiation therapy offered onsite (A10f) • 24/7 inhouse ultrasound for emergency cases (A10g) • Fast magnetic resonance imaging protocols (A10h) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine integrated SPECT/CT (A10j) • Contrast-enhanced ultrasound (A10k) • Linear accelerator or other linear particle accelerator, Gamma Knife, CyberKnife, or other shaped-beam stereotactic radiation therapies (A11) • Therapeutic meta-iodo-benzyl-guanidine with I-131 radionuclide (B8a)** • Functional magnetic resonance (B8b)** • Brachytherapy (B8c)** • Stereotactic radiosurgery (B8d)** • Intra-arterial chemotherapy or embolization for solid tumors (B8e)** • Radiofrequency ablation and/or cryoablation (B8f)** • Proton Beam Therapy (B8g)** • Pediatric interventional radiology team, with dedicated procedure space and equipment (B9)
Cardiology & Heart Surgery (8)	• Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j) • Intraoperative transesophageal echocardiographic testing (E6j) • Cardiac CT angiography (E7a) • Cardiac MRI with functional cardiac imaging (E7b) • Stress echo testing (E7c) • Quantitative Pulmonary Perfusion Scan via nuclear medicine method scintigraphy (E7d) • Transcatheter arrhythmia ablation methodologies (three-dimensional mapping, cryoablation or radiofrequency ablation) (E14a-c)

* Parenthetical references indicate related survey questions (continued)

** These technologies in Cancer could be provided at an affiliated center within 25 miles of the hospital.

Table 4. Advanced Technologies, by Specialty (continued)

Specialty	Technologies*
Diabetes & Endocrinology (11)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j) • Diagnostic radioisotope scan (C51a) • Therapeutic radioiodine treatment for Graves' disease (C51b) • Therapeutic radioiodine treatment for thyroid cancer (C51c) • Ultrasound guided fine needle biopsy or aspiration of thyroid nodule (C51d) • Thyroidectomy (C51e) • Intraoperative PTH assay (C51f) • Intravenous bisphosphonate therapy (C51g) • Endocrine testing and infusion studies (with endocrinology providers on site) (C55)
Gastroenterology & GI Surgery (19)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • 24/7 in house availability of ultrasound for emergency cases (A10g) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j) • Contrast-enhanced ultrasound (A10k) • Magnetic resonance cholangiopancreatography (D7a) • Magnetic resonance enterography (D7b) • Ultrasound elastography (USE) (D7c) • Magnetic resonance elastography (MRE) (D7d) • Contrast-enhanced ultrasound for liver lesion characterization (D7e) • Capsule endoscopy (D11a) • Endoscopic band ligation/sclerotherapy (D11b) • Esophageal impedance or resolution esophageal manometry (D11c) • Endoscopic retrograde cholangiopancreatography (D11d) • Antroduodenal and full colonic motility studies (D11e) • Esophageal dilation, either bougie or pneumatic (D11f) • Alternative Hemostasis Therapies (Electrocautery, Hemo-Clip application, and Argon plasma coagulation) (D11g) • Deep enteroscopy-single or double balloon (D11h) • Endoscopic ultrasound (D11i)

* Parenthetical references indicate related survey questions (continued)

Table 4. Advanced Technologies, by Specialty (continued)

Specialty	Technologies*
Neonatology (13)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • Fast magnetic resonance imaging protocols (A10h) • Dedicated interventional radiology team offered onsite (A10i) • Continuous video electroencephalography (EEG) monitoring and reading with telemetry capability and with interpretation and consult by a pediatric neurologist (F12a) • Less than 24-hour turnaround time for HSV PCR for cerebrospinal fluid (F12b) • Formal mechanism to order and send samples for whole genome or whole exome sequencing and then provide interpretation and counseling of the results within 10-days (F12c) • Less than 24-hour turnaround time for comprehensive respiratory viral molecular testing (F12d) • Less than 24-hour turnaround time for amino acid analysis available (F12e) • Less than 24-hour turnaround time for urine organic acid available (F12f) • Rapid (within 6 hours) identification system for positive blood cultures to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (F12g) • Fluoroscopic procedures (upper GI, contrast enema, esophagram, and contrast voiding studies) conducted or supervised on-site by Pediatric Radiologists (F12h) • Rapid identification system (within 24 hours) for bacterial/viral infection in CSF (Meningitis Encephalitis Panel) (F12i) • Less than 24-hour turnaround time for rapid plasma reagin (RPR) (F12j)
Nephrology (1)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b)

* Parenthetical references indicate related survey questions (continued)

Table 4. Advanced Technologies, by Specialty (continued)

Specialty	Technologies*
Neurology & Neurosurgery (20)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • 3T MRI offered onsite (A10d) • Fast magnetic resonance imaging protocols (A10h) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j) • Neurophysiological intraoperative monitoring (H5a) • EEG source localization (H5b) • Functional MRI (H5d) • Availability of countinously (24/7/365) observed 10-12 system EEG monitoring by EEG technicians, with 24/7 availability for review by a neurophysiologist (H5e) • Nuclear medicine brain SPECT or brain PET scanning (H5f) • Functional mapping capability and/or diffusion tensor imaging (DTI) evaluation (H5g) • Stereotactic EEG capabilities (H5h) • Transcranial magnetic stimulation (H5i) • Wada Testing (H5j) • Deep Brain Stimulation(H5k) • Responsive neurostimulation (RNS) for medically intractable epilepsy (H5l) • Gene therapy treatment for spinal muscular atrophy (SMA) (H5m) • Intraventricular Administration of gene therapy treatments for neuronal ceroid lipofuscinosis (NCL) (H5n) • Gene therapy treatments for neurological diseases (H5o) • Access to MEG for EEG source localization (H5p)
Orthopedics (3)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j)
Pulmonology & Lung Surgery (2)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • Dedicated interventional radiology team offered onsite (A10i)
Urology (8)	• PET/MRI or PET/CT scanning offered onsite (A10a or A10b) • Dedicated interventional radiology team offered onsite (A10i) • Nuclear medicine SPECT/CT (A10j) • Contrast-enhanced ultrasound (A10k) • Dedicated laparoscopic skills lab for faculty and trainees (K7a) • Video pediatric urodynamic fluoroscopy (K7b) • Nuclear Medicine functional assessment of upper urinary tract function and scarring (K7c) • Contrast-enhanced voiding urosonography (ceVUS) (K26)

* Parenthetical references indicate related survey questions

Bone Marrow Transplant Services (Cancer)

In Cancer, hospitals could receive up to 15 points for having a stem cell transplant program. Stem cell transplants are critical in treating a variety of cancers:

- Hospitals received 1 point for having a stem cell transplant unit with pediatric nurses and physicians specially trained in transplant (B17).
- Hospitals received up to 4 points for offering various stem cell transplant services: autologous stem cell transplantation (B18a), allogeneic matched (related or unrelated) transplantation (B18b), haploidentical (half-matched) transplantation (B18c), and cellular therapy infusions (B18d).
- Hospitals received up to 8 points based on transplant volume (B18). For each of the four types of transplantation listed above, hospitals received points as follows for all transplant except for haploidentical (half-matched) transplantation: 1 point for conducting from 2 to 10 transplants in the past 3 years and 2 points for conducting 11 or more transplants in the past 3 years. For haploidentical (half-matched) transplantation: 1 point for conducting from 2 to 5 transplants in the past 3 years and 2 points for conducting 6 or more transplants in the past 3 years.
- Hospitals received up to 2 points for transplant center recognition by the National Marrow Donor Program (B19b) and for membership in the Pediatric Transplant and Cellular Therapy Consortium (B19c).

Clinical Support Services Offered (All Specialties)

Many hospitals provide access to medical and surgical clinical support services through the hospital's health system, a local community network or a contractual arrangement or joint venture with another provider in the community. On- and offsite services received equal credit. Up to 11 services are included in the clinical support services, depending on specialty. Data came from the Pediatric Hospital Survey. For eligible hospitals, specialty-specific mixes of medical and surgical services are used in computing the points for this measure. ***Table 5*** presents the complete list of medical and surgical services considered for each specialty in 2023-24. Definitions can be found in the glossary in ***Appendix B***.

Table 5. Clinical Support Services by Specialty

Clinical Support Service*	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Neonatal intensive care unit (A7a)	●	●	●	●		●	●	●	●	●
Pediatric intensive care unit (A7b)	●	●	●	●		●	●	●	●	●
Patient care rooms with protective environment (A7c)	●									
Genetic testing/counseling (A7d)	●		●	●	●					
Palliative care program (A7e)	●	●	●	●	●	●	●	●	●	●
Rehabilitation program and consultation service (A7f)	●	●	●	●		●	●	●	●	●
Maternal fetal medicine or fetal treatment program (A7g)					●		●			
Sport injury prevention program (A7h)								●		
Vascular tumor program (A35)	●	●	●	●	●	●	●	●	●	●
Rapid-response team available onsite 24/7 (A8a)	●	●	●	●		●	●	●	●	●
Pediatric anesthesia program available onsite 24 hours a day (A8b)	●	●	●	●	●	●	●	●	●	●
Pediatric pain management program available onsite 24/7 (A8c)	●	●	●	●	●	●	●	●	●	●
Multidisciplinary pediatric acute pain/sedation service available onsite 24/7 hours a day (A8d)	●	●		●	●	●	●	●	●	●
Recognized Tuberous Sclerosis Complex (TSC) Alliance Clinical Center (H21)							●			
Total Elements	**11**	**9**	**9**	**10**	**7**	**9**	**11**	**10**	**9**	**9**

* Parenthetical references indicate related survey questions

Commitment to Clinical Research (All Specialties)

Networks, clinical trials and other research activities advance the ability of the field to treat pediatric patients and also enhance care by making new or novel treatments available at centers that participate in such research.

Cancer (15 points). Hospitals received up to 15 total points for participating in clinical research activities such as clinical trials or other translational research activities. Hospitals received up to 3 points for participating in cancer research networks such as the Children's Oncology Group (B24a), National Cancer Institute (NCI) Phase 1/Pilot Consortium (B24b), or another cancer-related organized clinical research network (B24d). Hospitals could receive up to an additional 3 points for NCI designation: 3 points if the hospital is an NCI-Designated center (B24c), 2 points if the hospital is an NCI consortium partner (B24.1), or 1 point if the hospital is an affiliate of a NCI designated cancer center (B24.1). Hospitals received 1 point for enrolling at least two patients in a Phase I clinical trial, and 1 point for enrolling at least three patients in a Phase II clinical trial (translational research) during the past two years (B25). Hospitals received up to 5 points for engaging in clinical trials in these specific areas: leukemia/lymphoma only (B26a), solid tumors only (B26b), CNS tumors only (B26c), transplants only (B26d), and trials that are not disease-specific (B26e). Hospitals could receive an additional 1 point by demonstrating the depth of their involvement in any of the clinical trials (B26.1). Hospitals also received 1 point for publishing a peer-reviewed publication (B37).

Cardiology & Heart Surgery (4 points). Hospitals received points for participating in externally audited, national quality-improvement research networks. Hospitals received up to 2 points for participating and contributing data organizations. Hospitals were awarded 1 point for participating in 1, 2 or 3 of the following organizations, or 2 points for participating in 4 or more of the following organizations:

- Society of Thoracic Surgeons (E29a)
- Congenital Heart Surgeons' Society (E29b)
- National Pediatric Cardiology Quality Improvement Collaborative (E29c)
- Congenital Cardiac Anesthesia Society database (E29d)
- ELSO registry (E29e)
- Pediatric Cardiac Critical Care Consortium or Virtual Pediatric ICU System (E29f)
- Pediatric Heart Transplant Study (E29g)
- Cardiac Neurodevelopmental Outcome Collaborative (CNOC) (E29h)

- Pediatric Acute Care Cardiology Collaborative (PAC3) (E29i)
- Pedimacs Registry (FDA Database for Ventricular Assist Devices) "and/or" ACTION Learning Network (E29j)
- ACC QNET program (E29k)
- Other externally audited national quality-improvement initiatives (E29l/E29.1)

Hospitals received up to 2 additional points based on the number of types of investigative studies they participate in (E30). Hospitals were awarded 1 point for participating in 1 or 2 of the following types of studies or 2 points for participating in 3 or more of the following types of studies: single institution retrospective studies, multi-institutional retrospective studies, basic science studies with extramural funding, prospective clinical trials or studies with industry funding, or prospective clinical trials or studies with competitive extramural funding.

Diabetes & Endocrinology (3 points). Hospitals received up to 3 points based on the number of active studies or trials that are either physiologic studies or give patients access to novel, unlabeled medications, diagnostic/monitoring devices or treatment options (C67/C68). Hospitals received 1 point for participating in 1 to 8 studies, 2 points for participating in 9 to 30 studies, or 3 points for participating in 31 or more studies in the past year.

Gastroenterology & GI Surgery (7 points). Hospitals received up to 4 points for participating in externally audited, national quality-improvement research networks. Hospitals received 1 point each for participating in prospective research activities: randomized clinical trials (D15a), observational studies (D15b), clinical databases on patient care (D15c), or non-randomized clinical trials (D15d). Hospitals received up to 3 additional points for having IRB-approved studies being led by the Pediatric Gastroenterology & GI Surgery program (D16): 1 point for 1 to 5 studies, 2 points for 6 to 9 studies, or 3 points for 10 or more studies.

Neonatology (4 points). Hospitals received up to 4 total points for participating in externally audited, national NICU treatment and quality-improvement research networks. Hospitals received up to 3 points for participation in the following organizations:

- Vermont Oxford Network, Children's Hospitals Neonatal Consortium or Child Health Corporation of America database (F24a)
- ELSO data exchange network/registry (F24b)
- Other clinical research or data exchange program (F24c/24.1).

Hospitals received 1 additional point for participating in clinical research activities, registered on clinicaltrials.gov, that allow patients access to novel medications or experimental treatment options (F25).

Nephrology (4 points). Hospitals received points for participating in externally audited national quality-improvement research networks. Hospitals received 1 point for participating in specialty-specific clinical research activities that allow patients access to novel medications or experimental treatment options in the past 2 years (G39). Hospitals received up to 3 additional points for participation in research collaboratives. Hospitals were awarded 1 point for participating in 1-2 of the following collaboratives, 2 points for participating in 3-5 of the following collaboratives, or 3 points for participating in 6 or more of the following collaboratives:

- Midwest Pediatric Nephrology Consortium or Pediatric Nephrology Research Consortium (G40a)
- International Pediatric Dialysis Network (G40b)
- North American Pediatric Renal Trials and Collaborative Studies (G40c)
- Nephrotic Syndrome Study Network (G40d)
- Cure GN (G40e)
- Chronic Kidney Disease in Children cohort study (G40f)
- Standardizing Care to Improve Outcomes in Pediatric Endstage Renal Disease (SCOPE) collaborative (G40g).
- Neonatal Kidney Collaborative (G40h)
- Improving Renal Outcomes Collaborative (IROC) (G40i)

Neurology & Neurosurgery (7 points). Hospitals received 1 point for belonging to the Neurofibromatosis Clinic Network (NFCN) (H21a). Additionally, hospitals received up to 6 points for actively enrolling or studying patients in unique, IRB-approved pediatric clinical studies, trials, registries, or databases (H6). Hospitals receive up to 3 points for each NIH funded and non-NIH funded activities as follows: 1 point for 1-9 studies, 2 points for 10-19 studies, or 3 points for 20 or more studies.

Orthopedics (1 point). Hospitals received 1 point for participating in 1 or more IRB-approved trials, studies or databases, such as prospective randomized clinical trials, prospective observational studies or prospective clinical database on patient care (I38).

Pulmonology & Lung Surgery (3 points). Hospitals received 1 point for participating in 1 or more IRB-approved trials, studies or databases, such as prospective randomized clinical trials, prospective observational studies or prospective clinical database on patient care (J51). Hospitals received 2 points for being a member of all 4 of the following research networks, or 1 point for being a member of at least 1 but less than 4 of the following research networks: Children's Interstitial Lung Disease Foundation (J52a); Therapeutics Development Network of the CF Foundation (J52b); PCD Foundation Clinical and Research Centers Network (J52c); and BPD Collaborative with direct involvement by the Pediatric Pulmonology and Lund Surgery program (J52d).

Urology (4 points). Hospitals received up to 4 total points for participating in the following prospective research activities: randomized clinical trials (K18a), observational studies (K18b), clinical databases on patient care (K18c) or clinical collaboration to track and improve clinical outcomes (K18d).

Commitment to Quality Improvement (All Specialties)

Hospitals received points in all specialties for participation in quality-improvement activities. Such activities promote internal review and improvement programs and procedures that often lead to improvements in care. The number of points varies by specialty from 14 to 18 points. In all specialties, hospitals could receive up to 6 points for participating in the following quality improvement activities:

- 1 point for publicly reporting performance data on one or more quality metrics (A16 and A16.1);
- Hospitals received up to 2 points for sponsoring quality improvement activities that provide credit to physicians for maintenance of certification (MOC) Part IV (A17):
    - 2 points for being approved by the ABMS as a multispecialty portfolio program (MSPP) sponsor , or for being approved by the ABP as a pediatric portfolio sponsor;
    - 1 point for sponsoring one or more projects that are approved by the ABP.
- 1 point for bedside care staff (e.g., nurses, physician assistants, nurse practitioners) participating in quality and safety initiatives (A40);
- Up to 2 points for having a physician or nurse serve as a designated Chief Quality/Safety Officer (A41):
    - 2 points for at least .50 FTE
    - 1 point for at least .25 FTE but less than .50 FTE.

In all specialties, hospitals received up to 8 additional points for implementing specialty-specific quality measures (B23/B23.1, C53/C53.1, D25/D25.1, E28/E28.1, F27/F27.1, G11/G11.1, H23/H23.1, I11/I11.1, J45/J45.1, K5/K5.1). These include 1 point each for developing and implementing a written plan for program review and quality improvement, determining appropriate performance-based metrics for clinical quality, tracking and reporting patient data and other supporting information to leadership at least quarterly, presenting results of clinical quality performance metrics to clinical staff at least quarterly, engaging in one or more quality improvement initiatives specific to each specialty, demonstrating how the improvement initiative improved the quality of care, and reporting quality improvement/performance metrics to hospital leadership at least quarterly. Additionally, hospitals received 1 point for participating in national quality and safety collaboratives such as the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) or Children's Hospital Solutions for Patient Safety learning network (A30a-d, A30.1).

In Cancer, hospitals received an additional 2 points (16 points total): 1 point for participating in the Solutions for Patient Safety or other formal consortia for pediatric cancer-related organized quality improvement (B23.2) and 1 point for having a pediatric cancer quality committee with an identified medical leader/director that meets at least monthly (B23.4)

In Diabetes & Endocrinology, hospitals received an additional 1 point (15 points total) for supporting development of a physician-led innovation to improve health care delivery for Pediatric Endocrinology patients (C66).

In Gastroenterology & GI Surgery, hospitals received an additional 1 point (15 points total) for participating in any formal, multicenter (3 or more institutions) initiatives targeted to GI or liver disorders (D14 and D14.1).

In Neonatology, hospitals received up to 4 additional points (18 points total) if the quality initiatives included having a specified quality-improvement or safety leader and including a parent or family member. Hospitals received 1 point for having a safety leader with less than 0.5 FTE devoted to quality improvement or safety and 2 points for 0.5 FTE or more (F28). Hospitals received 1 point for having a parent/family member of a former NICU patient involved in one or more initiatives as an integral member of the QI/safety team (F28.1). Hospitals received 1 point for offering a structured program for ongoing quality improvement and/or clinical pathway development at referring hospitals within their region.

Congenital Heart Program (Cardiology & Heart Surgery)

In Cardiology & Heart Surgery, hospitals received up to 24 points for having a congenital heart program. Hospitals were rewarded for tracking and reporting data for their congenital heart surgery program and for the volume and type of congenital heart surgeries offered:

- Hospitals received 1 point for having at least one congenital heart surgeon who actively participated in 75 or more congenital heart procedures as primary or first assistant in the past calendar year or 2 points for having two or more surgeons (E39).
- Hospitals could receive up to 8 points based on the mechanism for determining and reporting volume and outcomes measures. For each of the past four reporting years, hospitals received 2 points each year for reporting to the Society of Thoracic Surgeons (STS) Congenital Heart Surgery Database or 1 point for reporting to another organization (E18).
- Hospitals received 1 point for treating 1 to 4 patients with a Berlin Heart or other ventricular assist device or 2 points for treating 5 or more patients (E26).
- Hospitals received up to 8 points based on the number of cardiac surgical procedures performed in the operating room in the four reporting years: 1 point for 1-124 surgeries/year or 2 points for 125 or more surgeries/year (E38).
- Hospitals received up to 3 points based on the number of neonatal cardiac operations: 1 point for 1-44 operations, 2 points for 45-89 operations, or 3 points for 90 or more operations (E20.1).
- Hospitals received 1 point if they conduct Transcatheter Aortic Valve Replacement (TAVR) (E13)

ECMO Availability (Neonatology)

In Neonatology, hospitals received up to 2 points for extracorporeal membrane oxygenation (ECMO) services. ECMO technology involves a pump that circulates blood through an artificial lung back into the bloodstream of a very ill neonate, essentially providing heart-lung bypass support outside the child's body.

Hospitals received 1 point for having an ECMO program designated by ELSO as a Center for Excellence (A9).

Hospitals received 1 point for having a specialized multidisciplinary ECMO team with neonatologists managing or co-managing the patient (F14d).

Enlists Families in Structuring Care (All Specialties)

This measure reflects the extent to which a hospital involves parents and families in care. It includes a core set of measures that applied to all pediatric specialties and was worth up to 7 points in all specialties except Neonatology, in which 8 points were possible. Hospitals received 1 point for having a parent advisory committee that meets one to three times a year or 2 points for having a committee that meets (either in-person or virtually) four or more times a year (A14.1).

Hospitals received up to 4 additional points for meeting the following requirements: At least one parent or family member is an active member of the strategic or facility committee (A15a); at least one parent or family member is an active member of one or more standing committees (e.g., quality improvement, patient safety, ethics) (A15b); parents or family members are regularly involved in clinical decision-making through such ways as family-centered rounds, care conferences or other participatory programs (A15c); and parents or family members can participate in family-centered rounds (A15d).

Hospitals received 1 additional point for describing the impact of patients' family members on advisory committees (A15.1).

In Neonatology, hospitals could receive 1 additional point (for a total of 8 points) for having a NICU-specific parent advisory committee that meets at least quarterly (F9).

Has Fulltime Subspecialists Available (All Specialties)

This measure evaluates the presence of a variety of physician specialists, surgeons and dedicated full-time medical staff who are critical to the delivery of appropriate care by pediatric hospitals. ***Table 6*** identifies the relevant specialists, surgeons and other medical staff for each pediatric specialty. Hospitals received 1 point for each appropriate specialist or surgeon and 1 point for having at least 1.0 FTE of the other medical staff relevant to the specialty.

Table 6. Subspecialists by Specialty

Cancer* (20 points)	Points
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist or rehabilitation specialist (A4g) • Radiologist specializing in pediatric neuroradiology (A4h)	7
Having at least one of each of the following pediatric surgeons: • Pediatric otolaryngology surgeon (A5a) • Pediatric cardiothoracic surgeon (A5b) • Pediatric general surgeon (A5c) • Pediatric neurosurgeon (A5d) • Pediatric ophthalmology surgeon (A5e) • Pediatric orthopedic surgeon (A5f) • Pediatric urology surgeon (A5g) • Pediatric plastic surgeon (A5h) • Vascular surgeon with pediatric experience (A5j) • Pediatric critical care surgeon (A5k)	10
Having at least 1.0 FTE of the following other medical staff: • Pediatric hematologists/oncologists (B2a) • Other attending on-staff physicians with specific involvement in pediatric cancer program (B2b) • Nurse practitioner and/or physician assistant (B3a and B3b)	3
Cardiology & Heart Surgery* (23 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	6
Having at least one of each of the following pediatric surgeons: • Vascular surgeon with pediatric experience (A5j) • Pediatric critical care surgeon (A5k)	2
At least 2.0 FTE of the following staff: • Pediatric cardiothoracic surgeon (E2a) • Pediatric cardiac intensivists (cardiologists, pediatric critical care or anesthesiologists) or pediatric radiologists (E2b, E2c, E2d, or E2h) • Pediatric cardiac interventionalists (E2e)	3

* Parenthetical references indicate related survey questions (continued)

Table 6. Subspecialists by Specialty (continued)

Cardiology & Heart Surgery, continued* (23 points)	Points
At least 1.0 FTE of the following staff: • Pediatric cardiac electrophysiologist (E2f) • Pediatric cardiac intensivist: Anesthesiologist with pediatric cardiac anesthesia and pediatric cardiac intensive care training/experience (E2d) • Cardiologist with subspecialty certification in adults with congenital heart disease (E2i) • Clinical nurse, advanced registered nurse practitioner, advanced practice registered nurse, or physician assistant (E4a, E4b, and E4c)	4
Up to 2 points for 24/7 in-house coverage of the cardiac ICU: • 2 points if staffed with pediatric intensivists; pediatric cardiology, pediatric cardiac intensive care or pediatric cardiac surgery trainees; or non-physician advanced practice providers (APPs)dedicated to cardiac intensive care management (E3.1) • 1 point if staffed with other medical staff (E3.1 and E3.2)	2
Up to 3 points for the type of 24-hour in-house coverage provided every day to the cardiac-specific ICU (E3): • 3 points for having a dedicated Cardiac ICU (CICU) • 2 points for having a dedicated section of a Pediatric ICU (PICU) and/or Neonatal ICU (NICU) • 1 point for having a Pediatric ICU (PICU) and/or Neonatal ICU (NICU) without a dedicated CICU section	3
Having eligible RNs working in the CICU (or dedicated beds in the PICU) meet the following thresholds: • Less than 20% with less than 2 years of cardiac critical care experience (E4d) • At least 80% with a BSN or higher degree (E4e) • At least 10% with CCRN certification for critical care nursing from the AACN (E4f)	3
Diabetes & Endocrinology* (14 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric rheumatologist (A4e) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g) • Pediatric critical care surgeon (A5k)	8
Having at least one of each of the following pediatric surgeons: • Pediatric head and neck surgeon (A5a) • Pediatric general surgeon (A5c) • Pediatric neurosurgeon (A5d)	3

* Parenthetical references indicate related survey questions (continued)

Table 6. Subspecialists by Specialty (continued)

Diabetes & Endocrinology, continued* (14 points)	Points
At least 1.0 FTE of the following staff: • Pediatric endocrinologist (C2a) • Nurse practitioner and/or physician assistant (C3) • Registered nurse (C4a)	3
Gastroenterology & GI Surgery* (13 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	6
Having at least one of each of the following pediatric surgeons: • Pediatric general surgeon (A5c) • Pediatric critical care surgeon (A5k) • Liver transplant surgeon with pediatric experience (A5l)	3
Having at least 1.0 FTE of the following other medical staff: • Pediatric gastroenterologist (D2a) • Pediatric surgeon available 7 days a week (D2.2) • Nurse practitioner and/or physician assistant (D3) • Dedicated social workers (D3.1a), dedicated psychologists (D3.1b), dedicated dieticians (D3.1c), or patient care coordinators (D3.1d)	4
Neonatology* (17 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Radiologist specializing in pediatric neuroradiology (A4h)	6
Having at least one of each of the following pediatric surgeons: • Pediatric head and neck surgeon (A5a) • Pediatric cardiothoracic surgeon (A5b) • Pediatric general surgeon (A5c) • Pediatric neurosurgeon (A5d) • Pediatric ophthalmology surgeon (A5e) • Pediatric orthopedic surgeon (A5f) • Pediatric urology surgeon (A5g) • Pediatric plastic surgeon (A5h)	8

* Parenthetical references indicate related survey questions (continued)

Table 6. Subspecialists by Specialty (continued)

Neonatology, continued* (17 points)	Points
Having at least 1.0 FTE of the following other medical staff: • Pediatric neonatologist (F2a) • Clinical registered nurse (F4a)	2
Having at least 1 advanced practice provider (F3)	1
Nephrology* (9 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	6
Having at least one pediatric general surgeon (A5c)	1
Having at least 1.0 FTE of the following other medical staff: • Pediatric nephrologist (G2a) • Nurse practitioner and/or physician assistant (G3)	2
Neurology & Neurosurgery* (17 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g) • Radiologist specializing in pediatric neuroradiology (A4h)	7
Having at least one of each of the following pediatric surgeons: • Pediatric general surgeon (A5c) • Pediatric neurosurgeon (A5d) • Pediatric vascular surgeon (A5j)	3
Having at least 1.0 FTE of the following other medical staff: • Pediatric neurologist (H2a) • Pediatric neurosurgeon (H2b) • Pediatric epilepsy neurologist (H2c) • Pediatric stroke neurologist (H2d) • Nurse practitioner and/or physician assistant (H3)	5
Having at least 1.0 FTE of nurses with advanced neurologic certification (H4)	1
Having at least 1.0 FTE dietician who supports Ketogenic Diet planning and implementation with patients (H5.1)	1

* Parenthetical references indicate related survey questions

(continued)

Table 6. Subspecialists by Specialty (continued)

Orthopedics* (22 points)	Points
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Pediatric radiologist specializing in interventional radiology (A4d) • Pediatric rheumatologist (A4e) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	7
Having at least one of each of the following pediatric surgeons: • Pediatric general surgeon (A5c) • Pediatric orthopedic surgeon (A5f) • Pediatric plastic surgeon (A5h) • Pediatric hand surgeon (A5i) • Pediatric vascular surgeon (A5j) • Pediatric orthopedic surgery resident (I6.1b)	6
Having at least one of each of the following specialists: • Hand surgery (I6a) • Spinal surgery (I6b) • Musculoskeletal oncologist (I6c) • Orthopaedic sports surgeons (I6d) • Hip preservation specialist (I6e) • Musculoskeletal radiologist (I6f)	6
Having at least 1.0 FTE of the following other medical staff: • Pediatric orthopedic surgeon (I2a) • Nurse practitioner and/or physician assistant (I3) • Dedicated clinical registered nurses or medical assistants (I4)	3

* Parenthetical references indicate related survey questions (continued)

Table 6. Subspecialists by Specialty (continued)

Pulmonology & Lung Surgery* (12 points)	Points
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Radiologist specializing in pediatric interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	6
Having at least one of each of the following pediatric surgeons: • Pediatric general surgeon (A5c) • Pediatric vascular surgeon (A5j)	2
Having at least 1.0 FTE of the following other medical staff: • Pediatric pulmonologist (J2a) • Pediatric sleep medicine physician (J2b) • Nurse practitioner and/or physician assistant (J3) • Clinical registered nurse (J4)	4
Urology* (13 points)	**Points**
Having at least one of each of the following physician specialists: • Pediatric anesthesiologist (A4a) • Pediatric critical care specialist (A4b) • Pediatric radiologist specializing in diagnostic radiology (A4c) • Pediatric radiologist specializing in interventional radiology (A4d) • Pediatric infectious disease specialist (A4f) • Pediatric physiatrist (A4g)	6
Having at least one of each of the following pediatric surgeons: • Pediatric general surgeon (A5c) • Pediatric urology surgeon (A5g) • Pediatric plastic surgeon (A5h)	3
Having at least 1.0 FTE of the following other medical staff: • Pediatric urologist (K2a) • Nurse practitioner and/or physician assistant (K3) • Clinical registered nurse (K4)	3
Having an in-house ultrasound technologist to support prompt imaging and diagnosis of suspected testicular torsion (K20)	1

* Parenthetical references indicate related survey questions

Heart Transplant Program (Cardiology & Heart Surgery)

In Cardiology & Heart Surgery, hospitals received up to 15 points for having a heart transplant program. Hospitals received 1 point for having an onsite heart or heart-lung transplant program recognized by the United Network for Organ Sharing (UNOS) (E21). Hospitals received up to 3 points based on the number of unique patients who received heart transplants in the past 4

years combined (E22): 1 point for 1-7 transplants, 2 points for 8-15 transplants and 3 points for 16 or more transplants. Three additional points were awarded based on the number of patients < 1 year of age who received heart transplants in the past 4 years (E22.1): 1 point for 1-4 patients, 2 points for 5-9 patients, and 3 points for 10 or more patients. Hospitals also received 1 point for having performed cardiac transplantation in a recipient with high (≥ 10%) panel reactive antibody (PRA) (E25a), 1 point for having a written protocol for the management of recipients with high (≥ 10%) PRA (E25b), 1 point for having performed an ABO-incompatible heart transplant (E25c), and 1 point for having a written protocol for the management of ABO incompatible recipients (E25d). Hospitals received up to 4 points for performing combined en block heart and lung or heart and liver transplants on patients with pediatric and/or congenital heart disease who survived hospital discharge between July 2021 and June 2022: at least one combined en block heart and lung transplants onsite, at least one combined en block heart and lung transplants at an affiliated adult cardiac hospital, at least one combined en block heart and liver transplants onsite, at least one combined en block heart and lung transplants at an affiliated adult cardiac hospital (E25e-h).

Help for Families (All Specialties)

The Patient and Family Services measure evaluates access to medical specialists and services. A core set of sub-measures for all specialties is worth up to 8 points, which includes providing direct access to certified child life specialists (A12a), family-support specialists (A12b), pediatric behavioral health support (psychologists, psychiatrists, licensed clinical social workers, other licensed counselors, etc.) (A12c), a family resource center (A13a), sleep rooms for family members or guardians (A13b), a school intervention program (A13c), and a Ronald McDonald House (or other residential facility) (A13d). Hospitals could also receive 1 additional point for having direct access to interpreter services*** either through having access to in-person interpreters, interpreters through electronic means, or both (A12.1).

In Neonatology, hospitals could receive up to 5 additional points (for a total of 13 points). Hospitals received points for offering the following patient and family services: NICU-specific family psychosocial support program (F8a), , dedicated psychologists or psychiatrists available for referrals and consultations with parents (F8d), Child Life support team available to NICU families (F8e), NICU-dedicated multidisciplinary developmental care team (F8f), and complex discharge coordinator (F8g).

In Nephrology, hospitals could receive up to 6 additional points (for a total of 14 points). Hospitals received 1 point for offering summer camp for kidney transplant patients (G33b). Hospitals received up to an additional 5 points for offering the following programs to support

*** For in-person interpreter services having at least 50% certified through the National Board of Certification for Medical Interpreters or the Certification Commission for Healthcare Interpreters.

patients in a pediatric maintenance dialysis program: teachers dedicated to working with patients (G9a), a standard review of school performance and patient's Individualized Education Program (G9b), summer camp (G9c), quality of life assessment (G9d), and Child Life specialists (G9e).

Liver Transplant Program (Gastroenterology & GI Surgery)

In Gastroenterology & GI Surgery, hospitals received up to 5 points for having a liver transplant program. Hospitals received 1 point for having a UNOS-recognized liver transplant program (D20), 1 point for having at least 1 transplant hepatologist (D19.1) and up to 3 points based on the number of unique patients who received a liver transplant in the past 5 years (D21a and D22a): 1 point for 1-9 patients, 2 points for 10-19 patients, or 3 points for 20 or more patients.

Lung Transplant Program (Pulmonology & Lung Surgery)

In Pulmonology & Lung Surgery, hospitals received up to 5 points for having a lung transplant program. Hospitals received 1 point for offering a UNOS-recognized lung transplant program (J46). Hospitals received 1 point for performing one lung transplant between January 2017and June 2019 or 2 points for performing two or more lung transplants between January 2017 and June 2019 (J48a). Hospitals received 1 point for performing one lung transplant between July 2019 and December 2021 or 2 points for performing two or more lung transplants between July 2019 and December 2021 (J47a).

Neonatal Transport (Neonatology)

In neonatology, hospitals received up to 13 points for ensuring the safety of newborns during transport. Hospitals received up to 6 points for providing a neonatal-specific transport team with each of the following:

- A medical director board-certified in Neonatal-Perinatal Medicine and has at least 1 year of NICU level III or IV experience (F13a)
- All transport team RN's and RT's have at least 1 year of NICU level III or IV experience (F13b)
- Neonatal transport team is immediately available 24/7 to respond to emergent neonatal transports (F13c)
- Active servo-controlled cooling on transport for term and near term infants with hypoxic ischemic encephalopathy (F13d)
- Air transport (helicopter or fixed wing airplane) (F13e)
- High frequency ventilation through an endotracheal tube (F13f).

Hospitals received 1 point for tracking temperature at admission for infants cooled during transport by the transport team for the management of hypoxic ischemic encephalopathy (F13.1). Hospitals received an additional 1 point if data on cooling was systematically collected and reported to a benchmarking registry (e.g., CHNC) or for internal process improvement work (F13.3).

Hospitals received 1 point if the NICU has the capability of providing inhaled nitric oxide therapy during transport with high-risk pre-ECMO patients whenever indicated (F13.4).

Hospitals received 1 point for tracking time to vehicular dispatch for neonatal transport (F13.5). Hospitals received 2 additional points for having ≥ 80% of neonatal transports dispatched within 30 minutes of the call being logged as received or 1 point for having ≥ 40 and < 80% dispatched within 30 minutes (F13.6). Hospitals received an additional 1 point if data on emergent neonatal transport was systematically collected and reported to a benchmarking registry (e.g., CHNC) or for internal process improvement work (F13.7).

Nurse Staffing (All Specialties)

This measure is a relative ratio of the number of nurses to the average daily patient census. The numerator is the number of on-staff registered nurses (RNs) hospital-wide who are dedicated to inpatient pediatric clinical care, expressed as FTEs (A2)†††. The denominator is the average daily number of pediatric inpatients in 2022 (A1)‡‡‡. The source was the Pediatric Hospital Survey. In Neonatology, the numerator included only direct clinical care RNs in the NICU (F4) and the denominator was the average daily census of NICU patients (F6). For scoring purposes, nurse-patient values were capped at 4.0 in all specialties to prevent skewness.

Percent of Dialysis Patients Who Had Transplants (Nephrology)

Hospitals received up to 6 points in Nephrology based on the percentage of end-stage renal disease (ESRD) patients with a completed CMS-2728 (Medical Evidence) form receiving hemodialysis or peritoneal dialysis who were over 10 kg (G20.1) who received kidney transplants within the past 2 years (G21). Patients were evaluated separately by age group: children under 5 and children aged > 5 and ≤ 19. For each age group, hospitals received up to 3 points for having a higher percentage of patients receiving transplants as follows: 1 point if ≥ 20% and < 40%, 2 points if ≥ 40% and < 60%, or 3 points if ≥ 60%.

††† Hospitals are directed to calculate FTEs based on total paid hours for the period of review divided by 2080.

‡‡‡ This includes inpatient days divided by the number of days that the hospital was open (e.g. 365); hospitals are directed to include all patients admitted to the hospital, including short stays and observation stays.

Provides Advanced Palliative Care Program (Cancer)

In Cancer, hospitals received up to 8 points for palliative care. Hospitals could receive up to 4 points for offering the following pain control programs: patient-controlled analgesia (B29a), nurse-controlled analgesia (B29b), pediatric pain service consults (B29c), and pediatric outpatient pain management services (B29d).

Hospitals received 1 point for offering a qualified palliative care program onsite (B29.1). A qualified program is defined as one that is organized and staffed for children nearing the end of life or living with conditions that limit lifespan or quality of life. It is intended to minimize pain and discomfort, provide emotional and spiritual support for children and their families, assist with financial guidance and social services and support decision-making. The program must include at least one physician providing direct patient care as well as a nurse coordinator and either a social worker, certified child life specialist or pastoral counselor, and all staff must have training in palliative care.

Hospitals received 1 point for having at least 1 physician board-certified, or board eligible, in Hospice and Palliative Medicine (B29.2).

Hospitals could receive up to 2 points based on the percentage of patients with advanced and refractory cancer who were referred to the palliative care program (B30): 1 point for ≥ 50% or < 75% or 2 points for ≥ 75%.

Recognized as Nurse Magnet Hospital (All Specialties)

The Nurse Magnet status measure is a formal designation by the Magnet Recognition Program®. The program was developed by the American Nurses Credentialing Center (ANCC) to recognize healthcare organizations that meet certain quality indicators on specific standards of nursing excellence. The list of Magnet-recognized facilities is updated throughout the year as organizations apply for designation and re-designation status. Hospitals received credit based on their Magnet Recognition status as of December 2022. The current list of Magnet-recognized organizations is shown at https://www.nursingworld.org/organizational-programs/magnet/find-a-magnet-organization/.

Hospitals received 1 point for being recognized as a Nurse Magnet hospital. For children's hospitals that are part of a special merger[§§§] or a multiplex healthcare system, the primary hospital is required to have Magnet Recognition status for the combination hospital to receive 1 point. If there

§§§ In a special merger, two separate hospitals operate as one and their data are combined for analysis. Boston Children's Hospital and Dana-Farber Cancer Center are an example in pediatric Cancer. Specialty or secondary hospitals that are combined with the primary hospital are noted on the US News website for that hospital.

is no defined primary hospital, then if either hospital in the special merger has Magnet Recognition status then both receive credit.

Specialized Clinics and Programs (Cancer, Diabetes & Endocrinology, Gastroenterology & GI Surgery, Neonatology, Neurology & Neurosurgery, Orthopedics, Urology)

Cancer (5 points). Hospitals received 1 point for each of the following specialized treatment programs: clinical brain tumor program (B10a), solid tumor program that includes limb-sparing surgery for bone tumors (B10b), clinical leukemia/lymphoma program (B10c), comprehensive longer-term survivors program (B10d), and histiocytosis program (B10e).

Diabetes & Endocrinology (22 points). Hospitals received up to 2 points for specialized treatment programs for endocrine patients. Hospitals received one point for having the following onsite programs and an additional point for each program if pediatric endocrinologists regularly attended the program: lipid disorders (C46a), hypertension (C46b), comprehensive weight management (C46c), Turner syndrome (C46d), cystic fibrosis-related diabetes (C46e), gender dysphoria (C46f), disorders of sexual development (C46g), thyroid nodules (C46h), 22q11.2 Deletion Syndrome (C46i), Muscular Dystrophy (C46j), or Prader Willi Syndrome (C46k).

Gastroenterology & GI Surgery (12 points). Hospitals received 1 point for each of the following interdisciplinary treatment programs for gastrointestinal disorders with at least 10 patients in the last calendar year: intestinal rehabilitation (D10a), cystic fibrosis treatment (D10b), total parenteral nutrition (TPN) (D10c), aerodigestive (D10j), pancreatic disease (D10k), and anorectal or colorectal program (D10l). Hospitals received 1 point for each of the following interdisciplinary treatment programs for gastrointestinal disorders with at least 20 patients in the last calendar year: pediatric intensive feeding (D10d), multidisciplinary childhood obesity management (D10e), inflammatory bowel disease (D10f), multidisciplinary allergic gastrointestinal disease (D10g), chronic liver disease (D10h), and neurogastrointestinal (D10i).

Neonatology (19 points). Hospitals received 1 point for having a cardiac ICU to care for newborn infants (<28 days) that need specialized care for heart conditions (F17), and up to 18 additional points for providing specialized treatment teams or clinics to deal with particularly challenging conditions. Hospitals received 1 point for each of the following: craniofacial team (F14a), spina bifida team (F14b), comprehensive retinopathy of prematurity program (F14c), neonatal-neurointensive care program (F14e), palliative care program (F14f), micrognathia team (F14g), chronic lung disease team (F14h), congenital diaphragmatic hernia team (F14i), chronic pulmonary hypertension team (F14j), neonatal dialysis team (F14k), multidisciplinary team for follow-up with congenital diaphragmatic hernia patients after discharge (F14l), intestinal

rehabilitation team regularly rounds with clinical team (F14m), neonatal point of care ultrasound program (F14n), metabolic team (F15a), bowel rehabilitation team (F15b), home ventilator management team (F15c), neurodevelopmental follow-up clinic for premature/high-risk NICU patients (F15d) and neurodevelopmental clinic for high-risk congenital heart neonatal patients (F15e).

Neurology & Neurosurgery (19 points). Hospitals received up to 19 points for access to specialized treatment clinics or programs for pediatric neurological disorders. To receive credit, a hospital had to have an organized program (i.e., physicians in the program regularly attend and participate in the care of these special patient populations). One point was awarded for each of the following multidisciplinary program: cerebral palsy/spasticity (H12a), cerebrovascular/stroke multidisciplinary (H12b), craniofacial surgical (H12c), surgical movement disorders (H12d), neurofibromatosis (H12e), neuromuscular (H12f), neuro-oncology (H12g), spina bifida (H12h), tuberous sclerosis (H12i), brachial plexus (H12j), genetic metabolic (H12k), neonatal neurology (H12l), head trauma/post-concussion (H12m), new-onset seizures (H12n), diagnostic neuro-fetal (H12o), headache (H12p), pain (H12q), demyelinating disorders (H12r), and autism/neurodevelopmental disorders (H12s).

Orthopedics (11 points). Hospitals received up to 11 points for providing specialized treatment clinics or programs to treat significant conditions. To receive credit, the clinic had to be attended regularly by the pediatric orthopedic service and see a minimum of 25 patients in the last calendar year. Hospitals received 1 point for each of the following clinics or programs: spina bifida (I15a), spasticity (I15b), skeletal dysplasia (I15c), brachial plexus (I15d), neurofibromatosis (I15e), muscle disease (I15f), sports concussion program (I15g), arthrogryposis (I15h), limb deficiency/limb reconstruction/prosthetics (I15i), skeletal health/metabolic bone health (I15j), and vascular malformation clinic (I15k).

Urology (7 points). Hospitals received 1 point for each of the following specialized treatment clinics or programs to treat significant urological conditions or issues: spina bifida (K10a), comprehensive stone program (K10b), prenatal program (K10c), and differences in sex development program (K10d). Hospitals also received 1 point for offering a Transitional Care Program for patients transitioning to adult urology with congenital conditions affecting the genitourinary (GU) system (K10.1). Hospitals received an additional 1 point for being an integrated member of the pediatric oncology treatment program (K10.3). Hospitals received an additional 1 point for providing a voiding dysfunction program that treated at least 120 patients in the last calendar year (K17).

Success in Helping Patients Manage Their Asthma (Pulmonology & Lung Surgery)

In Pulmonology & Lung Surgery, hospitals received up to 15 points for management of asthma patients. Hospitals received up to 6 points for their treatment of severe asthma patients: hospitals received 1 point for having a program with dedicated staff (at least 0.5 FTE) to identify and treat patients with severe, high-risk, difficult-to-control or life-threatening asthma (J7), 1 point for having a written protocol for evaluation of patients with severe asthma (J8), 1 point for monitoring medication adherence in severe asthma patients (J8.1), and 1 point for having access to at least 1.0 FTE of Certified Asthma Educators in the last calendar year (J8.2). Hospitals received 1 point for having a multidisciplinary Severe Asthma Clinic and an additional 1 point if this clinic prescribes and administers injectable biologic therapies.

Hospitals received up to 9 additional points based on the percentage of patients with a primary diagnosis of asthma following 3 specific protocols. The protocols evaluated were as follows: providing eligible outpatients in subspecialty care clinics with a documented assessment of asthma control (e.g., ACT, ATAQ) (J10e/J10d), completing an outpatient follow-up visit within 90 days of discharge (J10c/J10b), and successfully managing outpatients so that they were not admitted for care related to their asthma (J10b/J10a[****]). For the first two protocols, up to 3 points were awarded for the percentage of patients following the protocol: 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% and < 90% or 3 points for ≥ 90%. For the last protocol, points were awarded for a *lower* percentage of patients being admitted for care related to their asthma: 3 points for ≤ 10% of patients admitted, 2 points for >10% and ≤ 25% or 1 point for >25% and ≤50%.

Success in Managing Neuromuscular Weakness Disorder (Pulmonology & Lung Surgery)

In Pulmonology & Lung Surgery, hospitals received up to 3 points for the percentage of muscular dystrophy patients who had pulmonary function testing in the past calendar year (J30). Points were based on the percentage of patients as follows: 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% or < 90%, and 3 points for ≥ 90%.

Tracking Growth Metrics for Treated Patients (Neonatology)

Hospitals received up to 7 points in Neonatology for recording growth metrics on infants within 7 days prior to discharge or transfer, including weight (F40a), length (F40b) and head circumference (F40c). For each of the 3 growth metrics, points were awarded as follows: 1 point for recording metrics on ≥ 60% and < 90% of infants; or 2 points for recording metrics on ≥ 90% of

**** This survey item was reverse scored to reward hospitals for having FEWER outpatients admitted for asthma-related care.

infants. Hospitals received an additional 1 point for measuring infant length using a length board (F41).

Volume of Patients (All Specialties)

Unless noted otherwise, volume measures indicate the number of unique patients in the past calendar year who had the specified diagnoses or conditions or who received the specified procedures or treatments. If data were unavailable for the most recent calendar year, hospitals were instructed to use data from the most recent 12 months data were available.

Low-, medium- and high-volume categories were created for most measures, based on the distribution of volume across all hospitals. For other measures, categories were based on conceptual thresholds for the number of patients or procedures needed to indicate a sufficient level of experience. We assigned points based on categories rather than on continuous values to ensure that one or two hospitals with extremely high volumes did not skew scoring. Hospitals that had zero volume or that did not respond received 0 points. For almost all measures, hospitals in the lowest-volume category received 1 point, medium-volume hospitals received 2 points and high-volume hospitals received 3 points. An exception is two of the items in the Number of Patients in Orthopedics which received 2 points, 4 points or 6 points respectively for low, medium or high volume. The increased points reflects these items' increased importance relative to other items in the measure.

In addition, for items with extremely low volume, such as GI and urological surgical procedures, the measure was divided only into low and medium volumes, with a maximum of 2 points. ***Table 7*** identifies the volume measures used by specialty and the points assigned to volume scores within a certain range.

Table 7. Volume Measures by Specialty

Cancer (49 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of new patients, 2 years (B6) (max points = 3)	1-99	100-399	400+
Number of patients (max points = 30)			
• Leukemia (B27a1)	1-149	150-299	300+
• Brain tumors/Central Nervous System (B27b1)	1-99	100-199	200+
• Neuroblastoma (B27c1)	1-24	25-49	50+
• Bone tumors (B27d1)	1-19	20-39	40+
• Soft tissue sarcomas (B27e1)	1-19	20-39	40+
• Wilms' tumor (B27f1)	1-14	15-29	30+
• Liver tumors (B27g1)	1-5	6-11	12+
• Retinoblastoma (B27h1)	1-5	6-11	12+
• Extracranial germ cell tumors (B27i1)	1-7	8-15	16+
• Lymphoma (B27j1)	1-29	30-59	60+
Number of surgeries** ** **(B27), (max points = 16)			
• Brain tumors (B27b2)	1-29	30+	NA
• Neuroblastoma (B27c2)	1-4	5+	NA
• Bone tumors (B27d2)	1-9	10+	NA
• Soft tissue sarcomas (B27e2)	1-9	10+	NA
• Wilms' tumor (B27f2)	1-4	5+	NA
• Liver tumors (B27g2)	1-3	4+	NA
• Retinoblastoma (B27h2)	1-2	3+	NA
• Extracranial germ cell tumors (B27i2)	1-3	4+	NA

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Cardiology & Heart Surgery (51 points) Volume Measures*	Low Volume (1 point)	Medium Volume (2 points)	High Volume (3 points)
Number of catheter procedures (max points = 21)			
• Diagnostic catheterization only (hemodynamic and/or angiographic evaluation) (E11b, E12b)	1-99	100-199	200+
• Endomyocardial biopsy (with or without a diagnostic procedure and without an additional intervention) (E11c, E12c)	1-59	60-119	120+
• Electrophysiology procedures (E11d, E12d)	1-4	5-9	10+
• Interventional procedure (with or without a diagnostic procedure or biopsy) (E11e, E12e)	1-199	200-399	400+
• Transcatheter pulmonary valve replacements (E11f, E12f)	1-4	5-9	10+
• Procedures for implantation, removal, extraction, repair or replacement of a permanent transvenous device used for pacing (E15)	1-19	20-39	40+
• Catheter ablations (cryoablation and radiofrequency) (E14.1)	1-39	40-79	80+
Number of Norwood or hybrid surgeries (max points = 12)			
• Patients with hypoplastic left heart syndrome (HLHS) receiving hybrid or Norwood Stage 1, year 1 (E40b)	1-6	7-13	14+
• Patients with hypoplastic left heart syndrome (HLHS) receiving hybrid or Norwood Stage 1, year 2 (E40c)	1-6	7-13	14+
• Patients with hypoplastic left heart syndrome (HLHS) receiving hybrid or Norwood Stage 1, year 3 (E40d)	1-6	7-13	14+
• Patients with hypoplastic left heart syndrome (HLHS) receiving hybrid or Norwood Stage 1, year 4 (E40e)	1-6	7-13	14+
Number of surgeries* (max points = 18)			
• STAT†††† Level 2: Years 1-4 (E42)	1-299	300-599	600+
• STAT Level 3: Years 1-4 (E42)	1-149	150-299	300+
• STAT Level 4: Years 1-4 (E42)	1-149	150-299	300+
• STAT Level 5: Years 1-4 (E42)	1-59	60-119	120+
• Neonates and infants born at 28 to < 34 weeks gestation with congenital heart disease (STAT levels 3-5) (E37.5)	1-3	4-7	8+
• Neonates and infants born at 34 to < 37 weeks gestation with congenital heart disease (STAT levels 3-5) (E37.6)	1-3	4-7	8+

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients. For the first five metrics (E11a-f, E12a-f), volumes from NCDR report are used if available for all quarters in the most recent year.
*** Volume represents procedures, not patients.

†††† Society of Thoracic Surgery & European Association for Cardio-Thoracic Surgery Congenital Heart Surgery Mortality Categories (STAT)

Table 7. Volume Measures by Specialty (continued)

Diabetes & Endocrinology (48 points) Volume Measures*	Low Volume (1 point)	Medium Volume (2 points)	High Volume (3 points)
Number of patients (max points = 34)			
• Type 1 diabetes outpatient visits (in-person and virtual telehealth visits) (C28.1a)	1-499	500+	NA
• Type 2 diabetes outpatient visits (in-person and virtual telehealth visits) (C28.1b)	1-249	250+	NA
• Diabetes-related care admissions for Type 1 patients (C28.1c)	1+	NA	NA
• Diabetes-related care admissions for Type 2 patients (C28.1d)	1+	NA	NA
• Patients with a genetically confirmed form of genetic diabetes MODY or NDM (C28.2)	1-9	10+	NA
• Congenital adrenal hyperplasia (C47a)	1-39	40+	NA
• CNS and endocrine tumors (C47b)	1-99	100+	NA
• Diabetes insipidus (C47c)	1-24	25+	NA
• Hypopituitarism (C47d)	1-99	100+	NA
• Turner Syndrome (C47e)	1-24	25+	NA
• Noonan Syndrome (C47f)	1-24	25+	NA
• Gender dysphoria (C47g)	1-24	25+	NA
• Disorders of sexual development (C47h)	1-24	25+	NA
• Bone disease (including metabolic and genetic conditions) (C47i)	1-24	25+	NA
• Non-diabetes related hypoglycemia (C47j)	1-99	100+	NA
• Polycystic ovarian syndrome (C47k)	1-79	80+	NA
• Nondiabetes endocrine disorders outpatients (C57a1)	1-1,999	2,000+	NA
• Nondiabetes endocrine disorders inpatients (C57b1)	1-124	125+	NA

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Diabetes & Endocrinology, continued Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of patients undergoing procedures* (max points = 14)			
• Ratio of patients with growth hormone deficiency who received a brain or pituitary MRI (2 years) (C49a/C48)	50%-74.9%	75%+	NA
• Ratio of patients with growth hormone deficiency who received a prescribed growth hormone therapy (C49b/C48)	50%-74.9%	75%+	NA
• Ratio of patients with growth hormone deficiency who received a serum IGF-1 measurement (C49c/C48)	50%-74.9%	75%+	NA
• Thyroidectomy (C51.1a)	1-3	4+	NA
• Parathyroid surgery (C51.1b)	1	2+	NA
• Brain tumor surgery involving hypothalamus or pituitary (C51.1c)	1-3	4+	NA
• Abdominal endocrine surgery (C51.1d)	1	2+	NA
Gastroenterology & GI Surgery (57 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of noninvasive procedures* (max points = 18)			
• Capsule endoscopy (D11a)	1-19	20+	NA
• Endoscopic band ligation/sclerotherapy (D11b)	1-4	5+	NA
• Esophageal impedance or high resolution esophageal manometry (D11c)	1-49	50+	NA
• Endoscopic retrograde cholangiopancreatography (D11d)	1-14	15+	NA
• Antroduodenal and full colonic motility studies (D11e)	1-3	4+	NA
• Esophageal dilation (D11f)	1-29	30+	NA
• Alternative hemostasis therapies (D11g)	1-8	9+	NA
• Deep enteroscopy-single or double balloon (D11h)	1-3	4+	NA
• Endoscopic ultrasound (D11i)	1-3	4+	NA

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Gastroenterology & GI Surgery, continued Volume Measures*	Low Volume (1 point)	Medium Volume (2 points)	High Volume (3 points)
Number of patients (max points = 27)			
• Pseudo-obstruction (D13a)	1-12	13-24	25+
• Chronic intestinal failure patients who require TPN for 2 months or more (D13b)	1-39	40-79	80+
• Chronic liver disease (D13c)	1-99	100-199	200+
• Acute recurring or chronic pancreatitis (D13d)	1-49	50-99	100+
• Biliary atresia (D13e)	1-14	15-29	30+
• Portal hypertension (D13f)	1-19	20-39	40+
• Celiac disease (D13g)	1-99	100-199	200+
• Eosinophilic esophagitis (D13h)	1-99	100-199	200+
• Congenital anorectal or colorectal disorders (such as Hirschsprung disease, Imperforate anus, and Cloaca) (D13i)	1-49	50-99	100+
Number of patients undergoing surgeries (max points = 12)			
• Surgical intervention to improve biliary drainage in a patient with biliary atresia or a choledochal cyst (D17a)	1	2+	NA
• Laparoscopic gastrointestinal, hepatic, and pancreatic surgery (D17b)	1-24	25+	NA
• Bariatric surgery (D17c)	1-4	5+	NA
• Posterior sagittal anorectoplasties (D17d)	1-9	10+	NA
• Open and laparoscopic abdominal surgeries for inflammatory bowel disease (IBD) (D17e and D17f)	1-11	12+	NA
• Congenital esophageal atresia with or without tracheoesophageal fistula and congenital esophageal stenosis or stricture repair (D17g)	1-7	8+	NA

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Neonatology (39 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of patients (max points = 39)			
• Congenital diaphragmatic hernia (F16a)	1-14	15-29	30+
• Hirschsprung's disease (F16b)	1-11	12-23	24+
• Therapeutic hypothermia treatment for hypoxic ischemic encephalopathy (F16c)	1-49	50-99	100+
• Open neural tube defect treatment (F16d)	1-14	15-29	30+
• Gastroschisis (F16e)	1-17	18-35	36+
• Tracheoesophageal fistula (F16f)	1-15	16-31	32+
• Omphalocele (F16g)	1-9	10-19	20+
• Duodenal atresia (F16h)	1-11	12-23	24+
• Anorectal malformation (F16i)	1-19	20-39	40+
• Extracorporeal life support therapy (F16j)	1-14	15-29	30+
• Jejunal atresia or ileal atresia (F16k)	1-9	10-19	20+
• Transcatheter PDA closure (F16l)	1-9	10-19	20+
• Hemodialysis, non-ECMO CRRT, peritoneal dialysis in your NICU (F16m)	1-9	10-19	20+
Nephrology (32 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of dialysis patients (max points = 12)			
• End-stage renal disease (ESRD) patients < 5 years of age on hemodialysis or peritoneal dialysis (G20a)	1-4	5-9	10+
• ESRD patients ≥ 5 and ≤19 years of age on hemodialysis or peritoneal dialysis (G20b)	1-14	15-29	30+
• Dialysis treatment volume in days (previous year) (G8a)	1-249	250-499	500+
• Dialysis treatment volume in days (current year) (G8b)	1-249	250-499	500+
Number of kidney biopsies, 2 years (max points = 6)			
• Native kidney percutaneous biopsies (G14a)	1-25	26-75	76+
• Percutaneous kidney transplant biopsies (G27)	1-39	40-69	70+
Number of kidney transplants (max points = 6)			
• Deceased-donor kidney transplant patients (G32.1a1 and G32.2a1)	1-8	9-17	18+
• Living-donor kidney transplant patients (G32.1a2 and G32.2a2)	1-7	8-16	17+

n/a = not applicable. (continued)

* Parenthetical references indicate related survey questions.

** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Nephrology, continued Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of patients, 2 years (max points = 8)			
• Inpatient admissions and consultations (G18.1)	1-299	300+	NA
• Inpatient admissions and consultations with acute kidney injury (G18.2)	1-9	10-19	20+
• New outpatient evaluations/consultations (G18.3)	1-499	500-999	1,000+
Neurology and Neurosurgery (51 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of patients undergoing epilepsy workups and treatments* (max points = 15)			
• Initial medical evaluations with patients newly diagnosed with epilepsy (H9a)	1-599	600-1,199	1,200+
• Standard EEG evaluations (H9b)	1-999	1,000-1,999	2,000+
• Long-term EEG evaluations for inpatients (H9c)	1-449	450-899	900+
• Long-term EEG evaluations for outpatients (H9d)	1-449	450-899	900+
• Number of first-time surgical procedures for epilepsy (H9e)	1-9	10-19	20+
Number of patients undergoing surgeries (max points = 36)			
• Surgical resection or laser ablation for epilepsy (H8)	1-7	8-15	16+
• Brain tumors (benign/malignant) (H16a)	1-24	25-49	50+
• Craniosynostosis (H16b)	1-19	20-39	40+
• Hydrocephalus shunt procedures (H16c)	1-74	75-149	150+
• Medically intractable epilepsy (H16d)	1-11	12-23	24+
• Spinal dysraphism (H16e)	1-19	20-39	40+
• Chiari I malformation (H16f)	1-29	30-64	65+
• Endoscopic treatment of hydrocephalus (H16g)	1-24	25-49	50+
• Brachial plexus exploration/reconstruction (H16h)	1-2	3-5	6+
• Spasticity (H16i)	1-11	12-23	24+
• Vascular cases excluding angiograms with pediatric anesthesia assisting with the case (H16j)	1-9	10-19	20+
• Craniofacial procedures performed by pediatric neurosurgeons in 2019 (H33)	1-29	30-59	60+

* Parenthetical references indicate related survey questions.
(continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Orthopedics (50 points) **Volume Measures***	**Low Volume (2 points)**	**Medium Volume (4 points)**	**High Volume (6 points)**
Number of patients (max points = 24)			
• Patients transferred from another hospital for inpatient care (I14.1a)	1-149	150-299	300+
• Pediatric trauma patients who received pediatric orthopedic trauma surgery within 72 hours of admission (I14.1b)	1-299	300-599	600+
	Low Volume (1 point)	**Medium Volume (2 points)**	**High Volume (3 points)**
• Inpatients or observation patients with fractures or musculoskeletal injuries (I14a)	1-299	300-599	600+
• Outpatients including those seen in the emergency department with fractures or musculoskeletal injuries (I14b)	1-1,999	2,000-3,999	4,000+
• Scoliosis correction patients (I31a-b)	1-149	150-299	300+
• Single event multi-level surgery (I45)	1-19	20-39	40+
Number of procedures and surgeries* (max points = 26)			
• Motion laboratory diagnostic clinical evaluations of neuromuscular pediatric patients (I20a)	1-24	25-49	50+
• Motion laboratory diagnostic research evaluations of neuromuscular pediatric patients (I20b)	1-24	25-49	50+
• Open reduction developmental dysplasia of the hip (I24a)	1-7	8-15	16+
• Ponsetti treatment for clubfoot in patients ≤ 1 years old (I24b)	1-99	100-199	200+
• Bernese pelvic osteotomy in patients ≤ 18 years old (I24c)	1-6	7-13	14+
• Cast treatment for infantile scoliosis < 5 years old (I24d)	1-7	8-15	16+
• ACL reconstruction (males < 14 years old or females < 12 years old) (I24e)	1-9	10-19	20+
• Femoral and tibial leg lengthening surgery (I24f)	1-3	4-7	8+
• Pollicization hand surgeries (I24g)	1	2+	NA

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Pulmonology & Lung Surgery (29 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of tests and noninvasive procedures* (max points = 12)			
• 12- or 32- channel polysomnographic studies (J36)	1-999	1,000-1,999	2,000+
• Patients receiving home CPAP therapy (J37)	1-89	90-179	180+
• Patients with chronic respiratory failure receiving BiLevel therapy, non-invasive positive pressure ventilation support, or diaphragm pacing (J39)	1-49	50-99	100+
• Bronchoscopy and laryngoscopy (J49)	1-199	200-399	400+
Number of patients (max points = 17)			
• CF patients (J24a)	1-124	125-249	250+
• Neuromuscular weakness disorders (J29)	1-49	50-99	100+
• Ventilator dependent patients, 3 years (J40)	1-69	70-139	140+
• Rare lung disease (J26)	1-39	40-79	80+
• Lung disease of prematurity (J27)	1-59	60-119	120+
• Lung transplants, 3 years (J46.1)	1	2+	NA
Urology (42 points) Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of minimally invasive procedures for patients ≤ 12 (max points = 6)			
• Stone treatment/shock wave lithotripsy, ureteroscopy, and percutaneous nephrolithotripsy or nephrolithotomy (K11a)	1-14	15-29	30+
• Laparoscopic surgery (pure laparoscopic or robotic-assisted laparoscopic) including cyst ablation, pyeloplasty, nephrectomy, partial nephrectomy, heminephrectomy, ureteral reimplantation, or ureteroureterostomy (K11b)	1-13	14-27	28+
Number of patients (max points = 12)			
• Pediatric urology outpatients (2 years), (K8b)	1-4,999	5,000-9,999	10,000+
• Pediatric urology surgical cases** (2 years) (K9)	1-999	1,000-1,999	2,000+
• Spina bifida program (K10a)	1-149	150-299	300+
• Comprehensive stone program (K10b)	1-74	75-149	150+

* Parenthetical references indicate related survey questions. (continued)
** Volume represents procedures, not patients.

Table 7. Volume Measures by Specialty (continued)

Urology, continued Volume Measures*	**Low Volume (1 point)**	**Medium Volume (2 points)**	**High Volume (3 points)**
Number of surgeries (max points = 24)			
• Radical or partial nephrectomy for malignancies (K12a)	1-2	3+	NA
• Nephrectomy or partial nephrectomy for benign disease (K12b)	1-39	40+	NA
• Ureteral reimplantation (K12c)	1-4	5+	NA
• Ureteroureterostomy (K12d)	1-4	5+	NA
• Exstrophy closures (K13a)	1-2	3+	NA
• Reconstructive open procedures for incontinence or hostile bladder (K13b)	1-19	20+	NA
• Posterior urethral valve ablation in infants <3 months old (K13c)	1-5	6+	NA
• Complex urethroplasty for urethral injury or stricture disease (K13d)	1-44	45+	NA
• Complex re-operative hypospadias repair (K13e)	1-24	25+	NA
• Distal hypospadias – primary repairs and not re-operative cases** (K14a)	1-59	60-119	120+
• Pyeloplasty** (K14b)	1-14	15-29	30+

n/a = not applicable.
* Parenthetical references indicate related survey questions.
** Volume represents procedures, not patients.

B. Normalization

As of the 2012-13 rankings, all structural measures have been normalized prior to weighting. Normalization transforms index values into a distribution between 0 and 1 based on the range of possible values for a given measure. The formula for normalization is provided in Equation (1):

Equation (1) $$Normalized\ Value = X_i / (Maximum_i - Minimum_i)$$

where

X_i = the value for measure *i* and

$Maximum_i$ = the highest *possible* value for measure *i*.

$Minimum_i$ = the lowest *possible* value for measure *i*.

For example, the Urology patient volume measure is worth a maximum of 12 points. If a hospital received 8 out of 12 points, its normalized value for Urology patient volume would be 8/(12-0) = 0.66. For nurse staffing, which does not have an absolute maximum, we cap the maximum value at 4.0 to reduce skewness in the data.

C. Weighting

For the 2012-13 rankings, we convened a special panel to provide feedback on the weighting of each measure within the three major rankings components. This evaluation was conducted both across specialties to build in a degree of consistency in weighting, and within specialties to identify keys to quality in a particular specialty. Overall, the weights were determined using input from the project team and working groups based on how important each measure was in defining the Donabedian components of quality of care within hospitals.

Table 8 shows the relative weight, by specialty, for each measure that makes up the structural component of the specialty rankings. The combined structural components comprise 33.3% of the overall score in each specialty. To determine the total structural points for a hospital, multiply the normalized value of each measure by the measure weight. In the example provided under normalization (Section IV.B), a hospital that received 8 out of 12 points for Urology patient volume would have a normalized score of 0.66. The relative weight for patient volume in Urology is 1. Therefore, the hospital would have a total of 0.66 for patient volume. Do this for all measures in a specialty, and then sum the values to determine the total points received. To determine the percent of the overall score for a given measure, divide the individual measure relative weight by the total weight for that specialty and multiply by 33.3 (since the combined structural components comprise 33.3% of the overall score in each specialty).

Table 8. Relative Weights of Individual Structural Measures by Specialty

Measure	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Accredited by FACT	1.5									
Active fellowship program	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.5	1.25
Adoption of health information technology	1	1	1	1	1	1	1	1	1	1
Adult congenital heart program		1.25								
Advanced clinical services offered	1	1	1	1	1	1	1	1	1	1
Advanced technologies available	1	1	1	1	1	1	1	1	1	1
Bone marrow transplant services	1									
Clinical support services offered	1	1	1	1	1	1	1	1	1	1
Commitment to clinical research	1.5	1.25	1.25	1.25	1.25	1	1.25	1.25	1.5	1.5
Commitment to quality improvement	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Congenital heart program		1.25								
ECMO availability					1					
Enlists families in structuring care	1.5	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Has fulltime subspecialists available	1	1	1	1	1	1	1	1	1	1
Help for families	1	1	1	1	1	1	1	1	1	1
Neonatal Transport					1					
Nurse staffing	2	2	2	2	2	2	2	2	2	2
Percent of dialysis patients who had transplants						1.25				
Provides advanced palliative care	1.5									
Recognized as a Nurse Magnet hospital	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Specialized clinics and programs	1.25		1	1	1		1	1		1
Success in helping patients manage their asthma									1.25	

(continued)

Table 8. Relative Weights of Individual Structural Measures by Specialty, Continued

Measure	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Success in managing neuro-muscular weakness disorder									1.25	
Tracking growth metrics for treated patients					1					
Transplant program (heart, liver, lung)		0.33		0.28					0.30	
Volume: Number of catheter procedures		1								
Volume: Number of dialysis patients						0.67				
Volume: Number of epilepsy workups and treatment							1			
Volume: Number of kidney biopsies						0.67				
Volume: Number of kidney transplants						0.27				
Volume: Number of minimally invasive procedures										1
Volume: Number of new patients	1									
Volume: Number of Norwood or hybrid surgeries		1								
Volume: Number of patients	1		1	1	1.5	0.67		1.5	1	1
Volume: Number of procedures			1							
Volume: Number of procedures and surgeries								1.5		
Volume: Number of surgeries	1	1.5		1			1			1
Volume: Number of tests and noninvasive procedures				1					1	
Total	**24.00**	**21.08**	**17.75**	**19.03**	**20.25**	**18.03**	**17.75**	**18.75**	**20.05**	**19.00**

V. Process

The process component in Best Children's Hospitals is represented by three measures—commitment to best practices, ability to prevent infections, enhance equity, diversity, and inclusion for patients, families and staff, and expert opinion of pediatric specialists. The combined process measures are worth 33.3% of the overall score in all specialties except for pediatric cardiology. In pediatric cardiology, the process component is worth 28.3% of the total score.

A. Commitment to Best Practices

This measure evaluates hospitals' commitment to following and implementing best practices. Best practices were identified for all specialties. ***Table 9*** identifies the best practices identified for each specialty and the number of points awarded.

Table 9. Commitment to Best Practices by Specialty

Cancer* (49 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with the American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Cancer, continued* (49 points)	Points
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5
Having at least 0.5 FTE nurse practitioners, physician assistants or clinical nurses devoted to case management for each of the following patient populations (B4): • Hematologic malignancies • Solid tumors • Brain tumors • Stem cell transplants	4
Offering an institutional code team to immediately address emergencies in outpatient cancer treatment clinics (B5)	1
Offering a parent advisory committee that meets at least twice a year (B11.3)	1
Participating in morbidity and mortality conferences at least quarterly (B12)	1
Having multidisciplinary tumor boards that meet at least monthly to discuss the following patient populations in active treatment (B13): • Hematologic malignancy • Solid tumor • Brain tumor • Stem cell transplant	4
Promoting ease of access through the following mechanisms (B14): • Offering on-site direct oncology-specific patient care (not just emergency care) from hematology/oncology providers during nights and weekends • A coordinated outreach program that enables cancer patients to receive community-based follow-up care or treatment • Multidisciplinary clinics allowing patients to see multiple care providers in a single visit	3
Submitting data to the Center for International Blood & Marrow Transplant Research (CIBMTR) or the Stem Cell Therapeutic Outcome Database (SCTOD) (B20)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Cancer, continued* (49 points)	Points
Patients have thyroidectomies performed by a high-volume thyroid surgeon (>25 thyroid resections per year) (B27.1)	1
Percentage of patients receiving radical nephrectomy for Wilms tumor underwent lymph node sampling during the procedure (B27.2): • 1 point for ≥ 50% & < 80% • 2 points for ≥ 80%	2
Percentage of patients who completed cancer treatment in 2016-2018 and received care through a formal long-term survivor program (B28): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75%	2
Percentage of living patients with certain cancer diagnoses, 1-3 years post-treatment, who had documentation of a formal neuropsychological evaluation conducted since the completion of therapy (B28.1): • 1 point for ≥ 25% & < 75% • 2 points for ≥ 75%	2
Percentage of school-age patients with certain cancer diagnoses were formally assessed for school intervention services since diagnosis and before the end of 2021 (B28.2): • 1 point for ≥ 25% & < 75% • 2 points for ≥ 75%	2
≥ 75% of pediatric brain tumor patients (from B27b) were enrolled in a formal, comprehensive neuro-oncology clinic for their care coordination (B28.3)	1
Percentage of patients presenting with febrile neutropenia who receive intravenous antibiotics within one hour of initial triage (B31.1): • 1 point for ≥ 75% & < 85% • 2 points for ≥ 85% & < 95% • 3 points for ≥ 95%	3
Cardiology & Heart Surgery* (61 points)	**Points**
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with the American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Cardiology & Heart Surgery, continued* (61 points)	Points
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5
Number of pediatric cardiothoracic surgeons with subspecialty certification in congenital heart surgery from the American Board of Thoracic Surgery (E2.1) or certification from foreign organizations (e.g., the Fellowship of the Royal Colleges of Surgeons (FRCS)), practice exclusively or primarily (greater than 90%) in congenital heart surgery and are not eligible for Subspecialty-Certification in Congenital Heart Surgery from the ABTS (E2.2): • 1 point for 1 surgeon • 2 points for 2+ surgeons	2
Routinely tracking and submitting to IMPACT every unplanned cardiothoracic procedure, vascular surgical procedure, other surgical procedure or cardiac catheterization due to a catheterization complication (E9)	1
Having IMPACT Registry data available in the NCDR database covering April 1, 2021 through March 31, 2022 (E10)	1
Performing lead extraction for pacemaker or automatic implantable cardioverter defibrillator (ICD/AICD) leads (E15.1): • Onsite at your hospital • Offsite at an affiliated hospital	2
Participating in the STS Public Reporting On-Line Program (E18.3)	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Cardiology & Heart Surgery, continued* (61 points)	Points
Offering the following conferences/programs (E27): • Multidisciplinary morbidity and mortality conferences • Multidisciplinary maternal/fetal medicine conferences • Patient planning conference • Support groups for patients and families with congenital heart conditions	4
Offering the following pediatric cardiology programs with a nursing and/or administrative coordinator (E27.1) • Active home surveillance program • Neurodevelopmental follow up program • Fontan follow up program • Fetal cardiology program • Pulmonary hypertension program • Neuromuscular program • Aortopathy program • Preventive cardiology program • Heart failure/transplant clinic	9
Engaging in the following surgical safety procedures for cardiac surgical procedures (E35): • Conventional pre-procedural "time-out" • Pre-procedural briefings • Post-procedural debriefings • Implementation of a hand-off protocol or briefing	4
Engaging in the following surgical safety procedures for cardiac catheterization procedures (E35.1): • Conventional pre-procedural "time-out" • Pre-procedural briefings • Implementation of a hand-off protocol or briefing	3
Using clinical practice guidelines to manage perioperative and postoperative care for the following patient populations (E36): • Single ventricle/shunt management • Two-ventricle repairs • Infant feeding • Anticoagulation with Coumadin • Sedation and pain management	5
Routinely tracking and reporting every occurrence of the following surgical admission complication codes to the STS database (E37): • Unplanned reoperation or intervention during the same hospital admission • Re-exploration for bleeding • Deep sternal wound infection/mediastinitis • Arrhythmia necessitating temporary and permanent pacemakers	4
Percent of hybrid and Norwood Stage 1 surgery patients alive 1 year after surgery who had a neurodevelopment evaluation prior to 24 months of age (E41): • At least 75% of patients in evaluation (Year 1) • At least 75% of patients in evaluation (Year 2) • At least 75% of patients in evaluation (Year 3) • At least 75% of patients in evaluation (Year 4)	4

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Diabetes & Endocrinology* (131 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with the American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from the American College of Radiology (ACR) • Accreditation in nuclear medicine from the American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from the ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team trainings • Team trainings include clear instructions and demonstration of roles and lines of communication • Team trainings are videotaped to allow review of performance and needs for improvement • Team trainings include critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team trainings end with the development of an action plan to address problems identified during the training or simulation	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Diabetes & Endocrinology, continued* (131 points)	Points
Diabetes staff taking a leadership role in organizing and running a diabetes camp (C10)	1
Having pediatric diabetes staff take a leadership role in a formal advocacy effort supporting the rights of patients (C11)	1
Hosting or actively involved in organizing a diabetes-specific technology education program (C13)	1
Diabetes education program recognized by American Diabetes Association or American Association of Diabetes Educators (C14)	1
Having a formal, written assessment of diabetes management knowledge that is: • Administered after initial education and yearly thereafter (C15) • Recorded in electronic health records (C15.1)	2
Percent of diabetes patients on insulin therapy admitted as inpatients to other services, were seen by providers in the pediatric diabetes program (C16 and C16.1): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75% & < 90% • 3 points for ≥ 90%	3
Having a formal written transition program to prepare pediatric patients for the transition to an adult diabetes program (C17)	1
Steps for transition of patients recorded in electronic health records (C17.1)	1
Having ≥ 90% of diabetes **outpatients** receive a written (or electronic) report of their diagnosis/findings and a treatment plan at the conclusion of their most recent visit (C18a)	1
Having ≥ 90% of diabetes **inpatients** receiving a written (or electronic) report of their diagnosis/findings and a treatment plan at the conclusion of their most recent visit (C18b)	1
Always including the following elements in summaries available to patients after outpatient visits, including telemedicine visits (C19): • Complete insulin dosages • Blood glucose testing and record-keeping recommendations • A1c values from within 2 weeks of visit date and/or percent of time "in range" (70 – 180 mg/dl) or Glucose Management Indicator (GMI) from at least 2 weeks of CGM data • Follow up visit instructions • Information on when and how to contact the Diabetes Center • Referrals made for laboratory, ophthalmological, dental and mental health before next visit • Behavioral goals	7
Having a clinical database of attributes of current, active diabetes patients that is used for quality assessment and improvement (C20)	1
Having a written plan to review inpatient incidents of insulin-related medication errors and adverse drug events requiring IV glucose treatment (C21)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Diabetes & Endocrinology, continued* (131 points)	Points
Having written consensus protocols or guidelines for management of the following patient populations (C22): • Glucagon mini-dose for families • Periodic screening for complications of diabetes in the outpatient clinic • Evaluation of hyperglycemia in critically ill inpatients • Outpatient management of Type 2 diabetes patients • Outpatient management of pre-diabetes patients who typically have obesity and insulin resistance • Inpatient management of Hyperglycemic Hyperosmolar Syndrome • Guidelines for outside physicians and emergency departments for recognition and initial management of diabetes and DKA	7
Performing care review for all patients admitted with a primary diagnosis of diabetes at an interdisciplinary team prior to discharge (C23)	1
Having regularly scheduled interdisciplinary care conferences to discuss diabetes patients with poor control (C25 and C26): • 1 point for 1-11 times/year • 2 points for 12+ times/year	2
Having written protocols for identifying "high risk" patients and enrolling them in special pathways (C27)	1
Interacting with clinical laboratory or pathology service to review lab findings, problems and updates (C28)	1
Testing new-onset patients for islet cell antibodies (GAD65, IAA, ICA512/IA2, and ZnT8) (C28.3)	1
Asking about the number of hospital admissions, emergency visits or urgent care visits since the last diabetes outpatient visit (C29)	1
Tracking the number of hospital admissions, emergency visits or urgent care visits since the last diabetes outpatient visit in EMR (C29.1)	1
Percentage of primary diabetes care patients with face-to-face or telehealth visit with nutritionist or certified diabetes educator for medical nutrition therapy (C30a): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75%	2
Percentage of primary diabetes care patients with face-to-face or telehealth visit with CDCES for diabetes education (C30b): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75%	2
Percentage of primary diabetes care patients with face-to-face or telehealth visit with a social worker or psychologist for an assessment (C30c): • 1 point for ≥ 25% & < 50% • 2 points for ≥ 50%	2
Percentage of Type 1 primary care diabetes patients with a TSH documented in their medical chart in past 2 years (C31a): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75% & < 90% • 3 points for ≥ 90%	3

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Diabetes & Endocrinology, continued* (131 points)	Points
Percentage of Type 1 primary care diabetes patients ≥ 11 and <18 years of age who had a lipid profile within the past 5 years (C31b): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75% & < 90% • 3 points for ≥ 90%	3
Percentage of Type 1 primary care diabetes patients ≥ 11 and <18 years of age (with diabetes for at least 5 years) who received a microalbuminuria screening in the past year (C31c): • 1 point for ≥ 40% & < 65% • 2 points for ≥ 65% & < 80% • 3 points for ≥ 80%	3
Percentage of Type 1 primary care diabetes patients ≥ 11 and <18 years of age (with diabetes for at least 5 years) who received a dilated retinal or non-mydriatic camera examination in the past year (C31d): • 1 point for ≥ 40% & < 65% • 2 points for ≥ 65% & < 80% • 3 points for ≥ 80%	3
Percentage of Type 2 primary care diabetes patients who had a lipid profile performed in the past year (C31e): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75% & < 90% • 3 points for ≥ 90%	3
Percentage of Type 2 primary care diabetes patients who received a microalbuminuria screening in the past year (C31f): • 1 point for ≥ 40% & < 60% • 2 points for ≥ 60% & < 80% • 3 points for ≥ 80%	3
Percentage of Type 2 primary care diabetes patients who received a dilated retinal or non-mydriatic camera examination in the past 2 calendar years (C31g): • 1 point for ≥ 40% & < 60% • 2 points for ≥ 60% & < 80% • 3 points for ≥ 80%	3
Percentage of Type 1 primary care diabetes patients that are < 18 years of age who were treated in the past 12 months or longer, and who have not met the criteria for adequate diabetes management, who scheduled for 4 or more outpatient clinic visits in past 12 months (C32a): • 1 point for ≥ 40% & < 65% • 2 points for ≥ 65% & < 80% • 3 points for ≥ 80%	3

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty, continued

Diabetes & Endocrinology, continued* (131 points)	Points
Percentage of Type 1 primary care diabetes patients treated in the past 12 months or longer, and who have not met the criteria for adequate diabetes management, who attended 4 or more outpatient clinic visits (C32b): • 1 point for ≥ 40% & < 65% • 2 points for ≥ 65% & < 80% • 3 points for ≥ 80%	3
2 or more documented interpretations of continuous glucose monitoring (CGM) readings associated with ambulatory visits for primary Type 1 diabetes care pediatric patients that are < 18 years of age for private and Medicaid insurance in the past year (C32.1, C32.2): Private insurance • 1 point for > 50% and < 75% of patients • 2 points for ≥ 75% of patients Medicaid insurance • 1 point for > 25% and < 75% of patients • 2 points for ≥ 75% of patients	4
Percentage of Type 1 primary care diabetes patients that are < 18 years of age on an insulin pump in the past calendar year for private and Medicaid insurance (C33): Private insurance • 1 point ≥ 30% & < 60% • 2 points ≥ 60% Medicaid insurance • 1 point ≥ 20% & < 40% • 2 points ≥ 40%	4
Percent of Type 1 primary care diabetes patients that are < 18 years of age on an hybrid closed-loop pump in the past calendar year for private and Medicaid insurance (C33.1): Private insurance • 1 point ≥ 20% & < 40% • 2 points ≥ 40% Medicaid insurance • 1 point ≥ 20% & < 40% • 2 points ≥ 40%	4
Percentage of Type 1 and Type 2 primary diabetes care patients aged 13 to < 18 screened for depression in the past calendar year (C34): • 1 point for ≥ 25% & < 50% • 2 points for ≥ 50%	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Diabetes & Endocrinology, continued* (131 points)	Points
Percentage of Type 1 and Type 2 primary diabetes care patients who had an a score indicative of moderate or severe depressive symptoms or endorsed self-harm on their depression screen (see C34) were either referred for assessment by a mental health professional (social worker, licensed counselor, psychologist, or psychiatrist) or are already under the care of a mental health professional (C34.1): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75%	2
Percentage of Type 1 diabetes outpatients with daily glucose blood glucose measurements available for review for the past 2 weeks documented in the EHR as reviewed at their last visit (C36): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75% & < 90% • 3 points for ≥ 90%	3
Having a written curriculum for diabetes self-management education that addresses self-care behaviors (C37)	1
Tracking the number of school days missed for diabetes-related reasons (C38)	1
Providing a program for Type 2 diabetes patients such that they see, at least twice per year, at least four diabetes providers (endocrinologists, diabetes RN educator, dietician, social worker, psychologist, and exercise physiologist or physical therapist) (C40)	1
Distributing patient education materials that address the details of their conditions to patients with the following conditions (C44): • Adrenal insufficiency • Congenital hypothyroidism • Diabetes insipidus • Central precocious puberty	4
Distributing patient education materials to patients that address the potential side effects of taking the following medications (C45): • Anti-thyroid medication • Growth hormone • Cortisol • Oral contraceptive pills	4
Using a clinical database used by the program to evaluate performance (C54 and C54.1)	1
Discussing thyroid cancer patient cases in active treatment at a multidisciplinary conference (including a tumor board or other review processes) (C56)	1
Percentage of patients admitted to the hospital in the past year with an endocrine disorder that have an admission or consultation note written by a physician in the pediatric endocrinology program (C58): • 1 point for <50% • 2 points for ≥50%	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Diabetes & Endocrinology, continued* (131 points)	Points
Having a system in place to alert providers that the following types of patients have not returned for care (C63): • Type 1 and Type 2 diabetes • Congenital hypothyroidism • Congenital adrenal hyperplasia • Growth hormone therapy • Precocious puberty on therapy • Hyperthyroidism on anti-thyroid medication Hospitals received 1 point for 1-3 types and 2 points for 4-6 types.	2
Participating in multidisciplinary evaluation and management of the following types of patients (C64): • Endocrine complications in hematology/oncology patients • Endocrine complications in post-transplant patients • Metabolic bone disease and osteogenesis imperfecta • Inborn errors of metabolism or evaluation of hypoglycemia Hospitals received 1 point for 1-2 types and 2 points for 3-4 types.	2
Hosting or conducting the following conferences or educational programs in the last year (C65): • Joint case conferences with Internal Medicine • Joint case conferences with genetics program • Pediatric endocrinology case conference • Pediatric endocrinology journal club • CME-granting education activity conferences • Morbidity and Mortality or Review of Safety Issues conference Hospitals received 1 point for 1-34 conferences and 2 points for 35 or more conferences.	2
Gastroenterology & GI Surgery* (42 points)	**Points**
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry or use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1

* Parenthetical references indicate related survey questions.

(continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Gastroenterology & GI Surgery, continued* (42 points)	Points
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5
Average "third next available" appointment time for new patients for an outpatient office visit (D6): • 1 point for >7 & ≤ 30 days • 2 points for ≤ 7 days	2
Providing educational programs for the following disease-specific GI conditions (D9): • Inflammatory bowel disease, Crohn's disease or colitis • Celiac disease • Liver disease • Eosinophilic esophagitis • Chronic intestinal failure	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Gastroenterology & GI Surgery, continued* (42 points)	Points
Providing the following diagnostic and therapeutic procedures (D11.1) • Interventional radiology embolization for gastrointestinal bleeding • Interventional radiology for image guided liver biopsies • Interventional radiology performance of transjugular intrahepatic portosystemic shunt (TIPS) • Interventional radiology performance of transjugular (TJ) liver biopsies • Interventional radiology performance of hepatic vein wedge pressure measurement • Interventional radiology placed de novo G or GJ tubes • Endoflip • On-site treatment of advanced esophogeal strictures (interventions other than dilation) • Percutaneous transhepatic cholangiography	9
Having regular, multidisciplinary morbidity and mortality conferences for pediatric GI patients (D26)	1
Having a standard mechanism to determine if complications have occurred in patients who underwent outpatient GI procedures (D27)	1
Having 1 or more IRB-approved protocols that provide GI patients access to drugs, biologics or devices through compassionate use (D28)	1
Having the Pediatric GI program serve as a referral center for inflammatory bowel disease (IBD) patients for second or subsequent evaluations (D33.1)	1
Having nutritional therapy for patients with IBD to avoid the use of steroid therapy (D33.2)	1
Neonatology* (86 points)	**Points**
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neonatology, continued* (86 points)	Points
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5
Having in-house 24x7 coverage provided by board-certified or board-eligible neonatologists (F2.1)	1
Patient load per nurse practitioner or physician assistant (F3): • 1 point for ≥ 9 patients • 2 points for < 9 patients	2
Having at least 50% of direct clinical care RNs who have neonatal intensive care (RNC-NIC, CCRN) or lactation (IBCLC, CLC, or CBC) certification (F4c/F4b)	1
Having at least 50% of lactation program staff in the NICU who currently have IBCLC, CLC, or CBC certification (F4e/F4d)	1
Patient load per neonatologist (F5): • 1 point for ≥ 18 • 2 points for < 18	2
Patient load per Licensed independent contractor (in-house attending, fellow, resident or advanced practice provider) on the night shift (F5.1): • 1 point for ≥ 15 • 2 points for < 15	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neonatology, continued* (86 points)	Points
Providing the following elements of a "Safe Sleep" program (F8.1): • Mandatory Safe Sleep Education for NICU Staff • Policy in place for use of devices (swings, infant seats, etc.) • Safe Sleep policy includes a minimum length of time prior to discharge to implement safe sleep practices if no contraindications exist • Safe Sleep policy indicates that infants greater than 32 weeks post-conceptual gestational age should be placed in supine position if no contraindications exist	4
Engaging in Safe Sleep auditing to ensure that patient sleep environment and position is appropriate for safe sleep practice (F8.2)	1
Monitoring compliance with NICU-based Safe Sleep policy at least weekly or at least bi-weekly (F8.3)	1
Offering a dedicated area within the facility for milk and formula preparation (F10.2)	1
Offering the following for nutrition and breastfeeding (F10.3): • NICU-specific breast milk committee that meets at least 11 times per calendar year • Process to facilitate obtaining a breast pump (within 48 hours of identified need) for home use • Donor breast milk program with written institution-specific criteria for the initiation and discontinuation of donor breast milk	3
Employing the following risk-reduction practices (F10.4): • Bar coding system for correct breast milk identification • Dedicated breast milk technician who prepares milk for proper identification and distribution	2
Tracking breast milk administration error rate (F10.5)	1
Having a mandatory neonatal consult or a neonatologist co-managing care for surgical patients in the NICU (F16.1)	1
Having at least 75% of anesthesiologists with board-certification or are board-eligible in pediatric anesthesia (F16.2)	1
Engaging in the following interaction with hospital's CICU (F18): • All preterm cardiac patients <28 days of age receive a neonatology consult • All newborn cardiac patients <28 days of age (preterm and full term) receiving a neonatology consult	2
Providing a percutaneous intravenous central catheter (PICC) team with specialized training to place and maintain PICC lines in NICU patients (F20)	1
Availability of PICC line placement services (F20.1): • 1 point for day shift • 2 points for 24/7 coverage	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neonatology, continued* (86 points)	Points
Mandating that core NICU staff participate in the following training protocols at least once every 2 years (F22): • Neonatal unplanned code response • Arrhythmia treatment including use of defibrillator • Simulation of emergency evacuation of the NICU • ECMO emergency simulation training • Exchange transfusion simulation or just in time training • Other training (F22.1)	6
Having at least 75% of neonatal fellows and advanced practice providers complete training in the following procedure protocols (F23.1): • Chest tube placement • Intubation	2
Having at least 75% of current attending physicians in the Level IV NICU who have completed simulation training to refresh their skills with each of the following procedures (F23.2): • chest tube placement • pericardiocentesis • abdominal paracentesis • double volume exchange transfusion • cardioversion • Intraosseous line placement	6
Tracking patients' first postoperative temperatures and using it as a quality metric (F31)	1
Tracking unintended extubation of NICU patients (F32)	1
Frequency of quality review process (F32.2): • 1 point for a retrospective multidisciplinary review weekly or monthly • 1 point for a Standardized mini-root cause analysis review within 12 hours	2
Conducting multidisciplinary review of all unplanned readmissions to determine if preventable (F33)	1
Having a formal program for reviewing neonatal transfer cases received from other hospitals that includes a formal feedback mechanism (e.g., an after-action report or conference) to the referring facility (F33.1/F33.2)	1
Providing the following for very-low-birth-weight and low gestational age infants (F34): • Starter protein solution available on day of admission • Very low birth weight feeding protocol • "Kangaroo care" routinely provided for infants receiving mechanical ventilation • Dedicated team of bedside RNs with additional training in the care of preterm infants that care for VLBW infants in your NICU • Respiratory support weaning protocol	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neonatology, continued* (86 points)	Points
Having or being associated with a fetal diagnosis and counselling program either onsite or at another facility (F34.1)	1
Providing mandatory prenatal consultation when the expected postnatal patient management plan will require care in the Level IV NICU (F34.2)	1
Holding multidisciplinary patient management conferences to discuss plans for the delivery and early NICU management of fetuses with congenital abnormalities (F34.3): • 2 points for meeting at least weekly or at least monthly • 1 point for meeting less frequently than monthly	2
Offering family meetings or counseling that includes neonatologists, genetic counselors and relevant specialists when fetuses are expected to require care in the Level IV NICU (F34.4)	1
Offering a fetal MRI program for assessment of fetal anomalies (F34.5)	1
Having a medication error reporting system/database (F35)	1
Offering the following to evaluate and reduce medication errors (F35.1): • NICU-specific multidisciplinary committee, including a residency trained NICU-dedicated clinical pharmacist available for consultation 24 hours a day/7 days a week • Residency trained NICU-dedicated clinical pharmacist who participates in multidisciplinary rounds • Access to an up-to-date electronic version of a neonatal-specific drug information reference which includes the ability to check IV compatibility • Utilize medication administration technology including barcode administration and smart pumps with a dedicated neonatal drug library • Formalized process for discharge medication counseling	5
Nephrology* (66 points)	**Points**
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Nephrology, continued* (66 points)	Points
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5
Percentage of school-age pediatric dialysis patients enrolled in a school or vocational rehabilitation program (G10): • 1 point for ≥ 50% & < 75% • 2 points for ≥ 75%	2
Percentage of native kidney biopsies performed by a pediatric nephrologist, pediatric nephrology fellow, pediatric interventional radiologist, or pediatric interventional radiology fellow using real-time ultrasound or ultrasound guidance (G14.1) • 1 point for ≥ 50% & < 90% • 2 points for ≥ 90%	2
Have access to an interventional radiologist to perform image guided renal biopsies, nephrostomies, and AV fistula/graft management (G16.1)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Nephrology, continued* (66 points)	Points
Participating in regular interdisciplinary clinical conferences to review and coordinate the care of patients in the following specialties (G17): • Urology/uroradiology • Renal pathology • Rheumatology • Fetal health	4
Providing the following services in support of the pediatric dialysis unit (G19): • Designated medical director board-certified in pediatric nephrology with 0.25 or more FTE support for this position • Quality Assurance Performance Improvement activities reviewed independently from the adult dialysis service • Pediatric maintenance dialysis patients receive treatment in a unit independent from adult patients • Dedicated nursing staff with formal training in pediatric dialysis • At-home maintenance hemodialysis program for adolescents (maintained more than 3 months consecutively at home) that is either standalone or conducted in conjunction with an adult program • At-home maintenance peritoneal dialysis program	6
Availability and prescription of therapeutic plasma exchange to patients (G19.1): • Available and prescribed by Pediatric Nephrology (2 points) • Available but NOT prescribed by Pediatric Nephrology (1 point)	2
Availability of ABPM to patients and report generated (G19.2): • Available and report generated by Pediatric Nephrology (2 points) • Available but report NOT generated by Pediatric Nephrology (1 point)	2
Ratio of accesses received in the last 2 years per patient for permanent hemodialysis vascular central venous catheters placed in children < 5 years of age (G22a): • 1 point for > 1.5 & ≤ 4 accesses per patient • 2 points ≥ 1 & ≤ 1.5 accesses per patient	2
Ratio of accesses received in the last 2 years per patient for permanent hemodialysis vascular central venous catheters placed in children, 5-19 years of age (G22b): • 1 point for > 1.5 & ≤ 4 accesses per patient • 2 points ≥ 1 & ≤ 1.5 accesses per patient	2
Ratio of accesses received in the last 2 years per patient for hemodialysis AV fistula/graft access placements in children, 10-19 years of age on maintenance dialysis (G22c): • 1 point for > 1.25 & ≤ 4 accesses per patient • 2 points for ≥ 1 & ≤ 1.25 accesses per patient	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Nephrology, continued* (66 points)	Points
Ratio of accesses received in the last 2 years per patient for peritoneal dialysis catheters placed in children < 5 (G22d): • 1 point for > 1.25 & ≤ 4 accesses per patient • 2 points for ≥ 1 & ≤ 1.25 accesses per patient	2
Ratio of catheters placed in the last 2 years per patient for peritoneal dialysis catheters placed in children and adolescents, 5-19 (G22e): • 1 point for > 1.25 & ≤ 4 catheters per patient • 2 points for ≥ 1 & ≤ 1.25 catheters per patient	2
Offering a formal transition program for kidney transplant patients from pediatric to adult care when needed (G25)	1
Offering a formal transition program for dialysis patients into adult care when needed (G26)	1
Percentage of percutaneous kidney biopsies performed by a pediatric nephrologist, pediatric nephrology fellow, pediatric interventional radiologist, or pediatric interventional radiology fellow using real-time ultrasound or ultrasound guidance in 2021 (G27.1) • 1 point for ≥ 50% & < 90% • 2 points for ≥ 90%	2
Percentage of percutaneous kidney biopsies performed by a pediatric nephrologist pediatric nephrology, pediatric interventional radiologist, or pediatric interventional radiology fellow fellow using real-time ultrasound or ultrasound guidance in 2022 (G27.1) • 1 point for ≥ 50% & < 90% • 2 points for ≥ 90%	2
Percentage of living donor nephrectomies conducted via laparoscopic procedure (G29): • 1 point for 70-79% • 2 points for 80-89% • 3 points for ≥ 90%	3
Percentage of kidney transplant patients <18 years of age that were preemptive (G31): • 1 point for 10-20% • 2 points for 21-30% • 3 points for >30%	3
Offering the following programs to support pediatric patients undergoing kidney transplant (G33): • Quality of life assessment • Child life program for kidney transplant patients • Transplant pharmacist	3
Maintaining a database of current kidney transplant patients with clinical data to allow for quality assessment and improvement of care (G38)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neurology & Neurosurgery* (48 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39/A39.1): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Neurology & Neurosurgery, continued* (48 points)	Points
Having at least 50% of patients receiving a surgical resection or laser ablation for epilepsy have intraoperative electrocorticography and/or extraoperative monitoring (H8 and H8.1)	1
Having ≥ 75% of EEG tests incorporated into the patients' medical chart within designated timeframes (H10): • Standard EEG medical evaluations interpreted and recorded within 24 hours of being conducted • Long-term vEEG evaluations interpreted and recorded within 24 hours from completion of the study	2
Offering neuropsychological evaluations for surgical patients with the following diagnoses (H15): • Benign or malignant brain tumors postoperative • Traumatic brain injury/concussion postoperative • Medically intractable epilepsy postoperative • Craniofacial disorders postoperative • Congenital heart disease postoperative • Stroke • Demyelinating diseases • Headache and pain management	8
Participating in at least one national or international program that include a focus on outcome measures specific to neurology and neurosurgery (H19): • Pediatric Cerebrovascular Disease and Neurocritical Care • Pediatric Epilepsy • Pediatric Neuro-Oncology • Neuromuscular and Movement Disorders • Congenital and Developmental Disorders • Neuroimmunology and Neuroinflammatory Disorders • Narcolepsy and Rare Pediatric Neurological Disorders	7
Participating in community outreach programs to improve health in the community (H20.1)	1
Providing a transition of care program that helps patients prepare for and then move from pediatric to adult care providers (H20.2)	1
Engaging in the following activities (H22): • Maintaining a surgical mortality database • Holding regular mortality and morbidity conferences • Interdisciplinary care conferences held monthly or more often	3
Having an epilepsy program designated Level IV by National Association of Epilepsy Centers (H32)	1
Providing patient care in underserved areas, either on-site or with a Telehealth visit, outside of the main catchment area of your hospital (H35)	1
Having a formal plan to transition patients from pediatric to adult care that is: • Routinely established and communicated (H36) • Tracked for compliance for every patient over age 14 (H37)	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Orthopedics* (82 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering in the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team trainings • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of an action plan to address problems identified during the training or simulation	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Orthopedics, continued* (82 points)	Points
Percentage of nurse practitioners and physician assistants receiving pediatric orthopedic surgery-related continuing education credit or continuing medical credit (I3.1): • 1 point for ≥50% & <75% • 2 points for ≥75%	2
Percentage of RNs receiving pediatric orthopedic surgery-related continuing education credit or continuing medical credit (I4.1a): • 1 point for ≥50% & <75% • 2 points for ≥75%	2
Percentage of medical assistants receiving pediatric orthopedic surgery-related continuing education credit or continuing medical credit (I4.1b): • 1 point for ≥50% & <75% • 2 points for ≥75%	2
Number of pediatric orthopedic surgeons who are active or candidate members of the Pediatric Orthopaedic Society of North America (I5): • 1 point for 1-2 • 2 points for 3+	2
Having at least 75% of patient MRI and CT examinations read by pediatric radiologists with musculoskeletal imaging expertise (I9.1)	1
Providing pediatric imaging center with the following services (I10): • Pediatric protocols to reduce radiation exposure • Digitally stored test results, images, and medical records accessible from locations offsite or away from the hospital • Intraoperative navigation system • Low-dose, three-dimensional upright body imaging for evaluating idiopathic scoliosis • Pediatric anesthesia services to support sedation and general anesthesia for imaging in very young children • MR arthography • Image guided thermal ablation of bone tumors • Interventional radiology image guided bone biopsies • Medical director for musculoskeletal imaging • Fast MRI protocols for obtaining a limited scan that can support shortening exam length or avoiding general anesthesia or sedation to evaluate for musculoskeletal infections • Fast MRI protocols for obtaining a limited scan of cervical, thoracic and lumbar spine that can support shortening exam length or avoiding general anesthesia or sedation to screen for intraspinal abnormalities	11

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Orthopedics, continued* (82 points)	Points
More than 75% of tumor boards attended by a pediatric (medical) oncologist (I17.1a)	1
More than 75% of tumor boards attended by an orthopaedic (surgical) oncologist (I17.1b)	1
Participating in regular multidisciplinary morbidity and mortality conferences (I18)	1
Having a designated inpatient trauma operating room that 100% guarantees orthopedics a "first case of the day start" (I28)	1
Having a policy in place that provides even greater operating room access based on periodic demand (I29)	1
Having a preoperative coordinated care review process led by a nursing coordinator that meets at least monthly to evaluate high-risk patients and prepare them for surgery and hospitalization (I30)	1
Having surgeons who treat sports injuries participate in a multi-center surgical performance programs (I32.1/I32.2) • Sports Cohort Outcomes Registry (SCORE) program • Another surgical performance program	2
Having access to at least 1 of the following types of anesthesiologists (I34): • Pediatric anesthesiologist • Pediatric spine anesthesiologist	1
Having at least 1 surgical correction for scoliosis case that was staffed by either a pediatric anesthesiologist or a pediatric spine anesthesiologist (I35)	1
Having at least 50% of pediatric spine anesthesiologists who were the anesthesiologist of record for 40 or more surgical corrections for scoliosis cases in the past 3 years (I35.1)	1
Percentage of surgical spine patients 8 or older completing a patient reported outcomes questionnaire (I36/I36.1): • 1 point for ≥50% & <75% • 2 points for ≥75%	2
Percentage compliance with written checklists/guidelines for patients with prevention or treatment of neurological injury associated with surgery for idiopathic scoliosis (I37a): • 1 point for ≥70 & <85% • 2 points for ≥ 85%	2
Percentage compliance with written checklists/guidelines for patients with neurovascular injuries associated with supracondylar fractures or dislocation of the knee (I37b): • 1 point for ≥70 & <85% • 2 points for ≥ 85%	2
Percentage compliance with written checklists/guidelines for patients with spinal trauma resulting in acute spinal cord injury (I37c): • 1 point for ≥70 & <85% • 2 points for ≥ 85%	2

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Orthopedics, continued* (82 points)	Points
Having at least 1 in-service presentation or formal lecture to an RN audience (I39)	1
Establishing a professional relationship with one or more prosthetic/orthotics providers such that they attend clinic on a regular basis (I40)	1
Having a fixed surgery support team that are dedicated to working with pediatric orthopedic surgeons (I41)	1
Having exactly the same fixed surgery support team working together during normal working hours (I41.1): • 4 points for > 75% of the time • 1 point for 50-75% of the time	4
Providing afterhours or weekend "on call" service for a fixed surgery support team (I42)	1
Having exactly the same fixed surgery support team working together after hours or on weekends (I42.1): • 4 points for > 75% of the time • 1 point for 50-75% of the time	4
Rate of single event multi-level surgery patients who received a Multimodal pain management (I46a/I45): • 1 point for ≥ 75% & < 90% • 2 points for ≥ 90%	2
Rate of single event multi-level surgery patients who received a postoperative assessment by anesthetic/pain team (I46b/I45): • 1 point for ≥ 75% & < 90% • 2 points for ≥ 90%	2
Hosting or being actively involved in organizing a cerebral palsy support group (I47)	1
Having the following elements of a Narcotic Stewardship program (I48): • A non-narcotic pathway in place for patients being admitted for orthopedic surgery • 'Right Size' opioid prescribing recommendations based on patient age and procedure for orthopedic surgical patients • Narcotic safety education provided to families of orthopedic surgical patients with instructions on how to safely dispose of unused narcotics • Plan to ensure tracking of potential pain medication seeking or opioid addition in orthopedic surgical patients • A system to automatically limit the number of narcotic tablets prescribed to orthopedic surgical patients following treatment for supracondylar fracture of the humerus or isolated femoral shaft fractures	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Pulmonology & Lung Surgery* (51 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology guidelines • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training end with development of an action plan to address problems identified during the training or simulation	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Pulmonology & Lung Surgery, continued* (51 points)	Points
Screening all pulmonology patients for tobacco smoke exposure and/or nicotine use and actively counsel or refer family members who use tobacco products, including e-cigarettes or vaporizers (J6)	1
Having access to a thorough onsite assessment of patients' home environment and offer guidance for reducing exposures that contribute to asthma (J9)	1
Participating in the creation, maintenance, or implementation of care pathways for the following conditions (J6.1): • Asthma exacerbations • Bronchiolitis • Croup • Cystic fibrosis • Uncomplicated pneumonia • Complicated pneumonia • Initiation of tracheostomy of home ventilator support • Tracheostomy or ventilator-dependent patients • Pneumothorax care pathway • Acute chest syndrome • Spinal fusion care pathways, including evaluation and management of potential pulmonary risks • Other care pathways including airway emergencies such as foreign body, epiglottitis/tracheitis, or inhalation injury	12
Having a formal plan to actively transition CF patients from pediatric care to adult care (J25)	1
Provide on-site access to bronchial artery embolization for CF patients provided by pediatric specialists (J25.1)	1
Having a pediatric sleep disorders clinic that addresses the needs of patients with ventilation or other sleep disorders and manages the patient's positive airway pressure (J38)	1
Having multidisciplinary care team to coordinate the care of long-term ventilator-dependent patients with the following members (J42): • ENT or critical care physician • Pulmonologist • Physiatrist • Respiratory therapist • Social worker • Dietician	6
Participating in formal programs for the outpatient management of pediatric patients with the following conditions (J50): • Sickle cell anemia • Aerodigestive disorders • Craniofacial disorders • Pulmonary hypertension • Connective tissue diseases	5
Being accredited by the Pulmonary Hypertension Association (PHA) as a Pediatric Center of Comprehensive Care (CCC) (J50.1)	1
Having a protocol for preparing and assisting in the transition of patients from pediatric to adult pulmonology (J53)	1

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Urology* (45 points)	Points
Having at least 2.0 FTE pediatric interventional radiologists or at least 2 pediatric interventional radiologists that spent ≥ 0.5 FTE doing pediatric interventional radiology (A4.1)	1
Offering the following to reduce radiation exposure to patients and staff (A10.1): • Provide a designated medical director of radiology to oversee quality and safe practices • Iterative reconstruction software on all computed tomography (CT) scanners • MRI safety program compliant with American College of Radiology • Participation in the ACR CT dose index registry OR use of dose monitoring software for tracking pediatric patients undergoing CT scans • Dedicated MRI Safety Officer	5
Using computerized tomography (CT) protocols that adjust milliampere-seconds (mAs) and peak kilovolts (kVp) (A10.2)	1
Maintaining the following certifications (A10.3): • Accreditation in computerized tomography (CT) imaging from American College of Radiology (ACR) • Accreditation in nuclear medicine from American College of Radiology (ACR) or the Intersocietal Accreditation Commission (IAC) • All sonographers have an ultrasound certificate from the American Registry of Diagnostic Medical Sonographers (ARDMS) the American Registry of Radiologic Technologists (ARRT) • One or more pediatric sonographers have a pediatric ultrasound certificate from the American Registry for Diagnostic Medical Sonographers (ARDMS) • Program accreditation in ultrasound from ACR or AIUM • Accreditation in MRI from ACR	6
Having the following specialists (A10.4) • At least one board certified Medical Physicist • At least 75% of Radiologic Technologists are accredited by the American Registry of Radiologic Technologists	2
Having patients undergoing imaging studies (e.g., MRI, CT or voiding cystourethrogram scans) provided access to a certified child life specialist (A10.5)	1
• Engaging in activities designed to ensure high reliability (A39): • All clinical staff are trained in code response using simulations or other team training • Team training includes clear instructions and demonstration of roles and lines of communication • Team training is videotaped to allow review of performance and needs for improvement • Team training includes critical event debriefing or team discussions that focus on identifying what worked well and where improvement is needed • All team training ends with development of action plan to address problems identified during the training or simulation	5

* Parenthetical references indicate related survey questions. (continued)

Table 9. Commitment to Best Practices by Specialty (continued)

Urology, continued* (45 points)	Points
Having regular morbidity and mortality conferences to discuss pediatric urology patients (K6a)	1
Having regular case conferences to discuss surgical management of complex cases (K6b)	1
Having regular multi-specialty case review and/or process review conferences for all surgical services (K6c)	1
Having the following elements of a Narcotic Stewardship program (K10.2): • A non-narcotic pathway in place for patients being admitted for genitourinary (GU) surgery • 'Right Size' opioid prescribing recommendations based on patient age and procedure • Narcotic safety education provided to families with instructions on how to safely dispose of unused narcotics • Plan to ensure tracking of potential pain medication seeking or opioid addition patients	4
Monitoring reconstructive procedure for incontinence or hostile bladder for the following operative complications (K13.1): • Monitor the renal function of patients with reconstructed GU tracts with eGFR at least once during the 12-month reporting period • Hydronephrosis based on ultrasound or nuclear medicine testing • Continence • Stomal complications	4
Offering the following weekend, afterhours, and satellite outpatient clinics for elective care (K21): • Scheduled (non-emergency) weekday evening clinic appointments (after 5pm) • Scheduled (non-emergency) weekend surgical appointments • Scheduled (non-emergency) weekend clinic appointments • Satellite clinics in the community	4
Having the following protocols in place (K22): • Protocol for teaching home intermittent catheterization • Radiation reduction/safety protocols for urology patients (e.g., retrograde pyelogram protocol, ureteroscopy protocol • Standardized clinical pathway for children presenting with acute stone pain to the Emergency Department • Standardized clinical pathway for postoperative patients • Educational materials for patients and families on urological conditions that are updated on a regular basis • Child life specialists for perioperative care in the operating room and for office procedures • Sedation services for VCUG/noxious procedures	7
Making use of a patient portal to enable families to access electronic medical records and communicate with their physicians and medical staff (K23)	1
Following an Enhanced Recovery After Surgery (ERAS) protocol which includes anesthesia and pain management protocols for complex reconstructive procedures (K25)	1

* Parenthetical references indicate related survey questions.

B. Ability to Prevent Infections

Incorporating infection-preventing measures captures the commitment of a hospital to identifying and implementing proven means of reducing the risk of various infections.

All-Specialty Infection-Preventing Measures

A core set of submeasures for all specialties was worth up to 37 points, as shown in ***Table 10***. Specialty-specific measures in all specialties allowed an additional 2-29 points, depending on the specialty.

Table 10. Core Infection-Preventing Measures, All Specialties (37 points)

All Specialties* (37 points)	Points
Percentage of compliant hand hygiene observations for inpatient care areas in the past 12 months: Neonatology (F37.1): • 1 point for ≥ 85% & < 90% • 2 points for ≥ 90% For all other specialties (A25): • 1 point for ≥ 85% & < 90% • 2 points for ≥ 90%	2
Providing at least 0.25 FTE financial support per 100 beds for a pediatric infectious disease specialist to serve as pediatric infectious specialist physicians who serve as dedicated physician leaders of the infection prevention program (A26.1, A1.2)	1
Number of FTE infection preventionists per 100 beds (A27, A1.2): • 2 points for ≥ 1.5 FTE per 100 beds • 1 point for ≥ 0.5 FTE per 100 beds and < 1.5 FTE per 100 beds	2
Having eligible infection preventionists certified by the Certification Board in Infection Control (A27.1): • 2 points for having at least 1 eligible infection preventionist who is certified and at least 50% of eligible infection preventionists certified • 1 point for having at least 1 eligible infection preventionist who is certified	2
Ensuring that healthcare personnel (HCP) received influenza vaccination (A28a): • 2 points for ≥ 95% of healthcare personnel • 1 point for ≥ 90% of healthcare personnel	2
Ensuring that licensed independent practitioners (physicians and advanced practice providers) received influenza vaccination (A28b): • 2 points for ≥ 95% of licensed independent practitioners • 1 point for ≥ 90% of licensed independent practitioners	2
Ensuring Students, trainees, and volunteers received influenza vaccination(A28c): • 2 points for ≥ 95% of students, trainees, and volunteers • 1 point for ≥ 90% of students, trainees, and volunteers	2

* Parenthetical references indicate related survey questions. (continued)

Table 10. Core Infection-Preventing Measures, All Specialties, continued

All Specialties*, continued (37 points)	Points
Ensuring that at least 95% of the following staff received Tdap vaccination (A29): • Employee healthcare personnel (HCP) • Licensed independent practitioners (physicians and advanced practice providers) • Students, trainees, and volunteers	3
Requiring all volunteers to receive or provide documentation of: • Influenza vaccination (A29.1) • Tdap vaccination (A29.2)	2
Offering an influenza vaccination program for families and primary caregivers (A29.3)	1
Offering an adult Tdap booster program for families and caregivers (A29.4)	1
Requiring the following categories of health care providers to receive or provide documentation of a COVID-19 vaccine (A29.5): • Employee healthcare personnel (HCP) • Licensed independent practitioners (physicians and advanced practice providers) • Students, trainees, and volunteers	3
Ensuring that employee healthcare personnel (HCP), licensed independent practitioners (physicians and advanced practice providers), and students, trainees, and volunteers had evidence of being fully vaccinated for COVID-19 (A29.6): • 2 points for ≥ 80% of all healthcare personnel, licensed independent practitioners, student, trainees, and volunteers • 1 point for ≥ 50% of all healthcare personnel, licensed independent practitioners, student, trainees, and volunteers	2
Having the following elements of antimicrobial stewardship program: • Actively monitoring internal days of therapy (DOT) of antibiotic use per 1,000 patients (A31a) • Restriction or pre-authorization of selected antimicrobial agents to prevent potential resistance from overuse (A31b) • Implementing prospective review and real time intervention regarding antimicrobial use or "handshake stewardship" (A31c) • Use of clinical guidelines in prescribing antimicrobials (A31d) • IV to PO conversion program available to ensure correct dosage (A31e) • Dedicated pharmacist to antimicrobial stewardship program (ASP) with at least 1.0 FTE support for hospitals with at least 250 beds or at least 0.5 FTE support for hospitals with less than 250 beds (A31.2a) • At least 0.3 FTE support for the role of medical director of the pediatric ASP program (A31.2b) • At least 0.2 FTE support for a dedicated analyst to support ASP program (A31.2c)	8
Using the following interventions to reduce indwelling urinary catheter utilization in ICU settings (A34.1) • Written indications for insertion and/or removal of indwelling urinary catheters • Routine removal of urinary catheters following surgery • Bladder scanning • Non-indwelling catheter (e.g., in and out or straight catheter) for urinary retention	4

* Parenthetical references indicate related survey questions.

Specialty-Specific Infection-Preventing Measures

Cancer (9 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals receive up to 2 points for having Rapid (within 6 hours) identification systems available for blood culture isolates to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (A32a) and key Gram negative bacterial pathogens by genus and major mechanisms of resistance (A32b). Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for actively tracking seasonal influenza vaccinations in cancer patients on active chemotherapy, meaning currently receiving chemotherapy or having completed chemotherapy within the last 180 days (B32). Up to 3 additional points were awarded according to the percentage vaccinated (B33): 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% or < 90%, and 3 points for ≥ 90%.

Cardiology & Heart Surgery (13 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals receive up to 2 points for having Rapid (within 6 hours) identification systems available for blood culture isolates to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (A32a) and key Gram negative bacterial pathogens by genus and major mechanisms of resistance (A32b). Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for monitoring compliance with preoperative antibiotic prophylaxis for a sample of cases or 2 points for monitoring compliance for all cardiothoracic surgeries (E32). Up to 2 additional points were awarded according to the percentage of compliance (E33): 1 point if ≥ 75% and < 90%, or 2 points if ≥ 90%.

Hospitals received up to 4 additional points for engaging in the following surgical site infection prevention procedures: pre-operative bath (E31a), no use of razor for hair removal (E31b), preparation of skin at surgical site with alcohol containing agent (E31c), and screening for and appropriately decolonizing Staph Aureus utilizing a nasal antiseptic (E31d).

Diabetes & Endocrinology (7 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for actively tracking seasonal influenza vaccinations in diabetes outpatients (C42). Up to 3 additional points were awarded according to the percentage vaccinated (C43): 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% and < 90%, or 3 points for ≥ 90%.

Gastroenterology & GI Surgery (15 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals receive up to 2 points for having Rapid (within 6 hours) identification systems available for blood culture isolates to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (A32a) and key Gram negative bacterial pathogens by genus and major mechanisms of resistance (A32b). Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received up to 2 points for actively tracking seasonal influenza vaccinations for chronic intestinal failure patients (D18) and post-liver transplant patients (D23). Up to 3 points each were awarded based on the percentage of both chronic intestinal failure patients (D19) and liver-transplant patients (D24) vaccinated (6 points total): 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% and < 90%, or 3 points for ≥ 90%. Hospitals received up to 2 additional points for implementing strategies for preventing central-line associated bloodstream infections for total parenteral nutrition patients (D37): 1 point for implementing one or two strategies, or 2 points for implementing 3 or more strategies.

Neonatology (12 additional points). Hospitals receive up to 2 points for having Rapid (within 6 hours) identification systems available for blood culture isolates to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (A32a) and key Gram negative bacterial pathogens by genus and major mechanisms of resistance (A32b). Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for auditing hand hygiene compliance rates via electronic monitoring and/or direct observation (F37). Hospitals received 1 point for having written standardized guidelines and 1 point for monitoring compliance with the guidelines for antibiotic use in each the following situations (up to 8 additional points): surgical NEC repair or drain placement (F38a), small bowel atresia repair (F38b), gastroschisis abdominal closure (F38c), and medical necrotizing enterocolitis (F38d).

Nephrology (29 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals receive up to 2 points for having Rapid (within 6 hours) identification systems available for blood culture isolates to enable differentiation of key Gram positive bacterial pathogens by genus and major mechanisms of resistance (A32a) and key Gram negative bacterial pathogens by genus and major mechanisms of resistance (A32b). Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point each (up to 6 points) for actively tracking seasonal influenza and pneumococcal vaccinations for hemodialysis patients (G12a, G13a), peritoneal dialysis patients (G12b, G13b) and kidney transplant patients (G34, G35).

Up to 3 additional points were awarded for each of the 6 groups (up to 18 points) according to the percentage up to date on their vaccinations (G12a, G12b, G13a, G13b, G34.1, G35.1): 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% and < 90%, or 3 points for ≥ 90%.

Neurology & Neurosurgery (11 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for monitoring compliance with preoperative antibiotic prophylaxis for a sample of cases or 2 points for monitoring compliance for all ventricular surgeries (H25). Up to 2 additional points were awarded based on the percentage of compliance (H26): 1 point if ≥ 75% and < 90%, or 2 points if ≥ 90%. Hospitals received 1 point for actively tracking SSIs for ventricular shunt surgeries (H27). Up to 3 points were awarded for the rate of surgical site infections per 100 ventricular shunt surgeries performed in the prior year (H28). Points were awarded as follows: 1 point if > 6% and ≤ 10%, 2 points if > 3% and ≤ 6%, or 3 points if ≤ 3%.

Orthopedics (8 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point for monitoring compliance with preoperative antibiotic prophylaxis for a sample of cases or 2 points for monitoring compliance for all spinal fusion surgeries (I21). Up to 2 additional points were awarded according to the percentage of compliance (I22): 1 point if ≥ 75% and < 90%, or 2 points if ≥ 90%. Hospitals received 1 point for monitoring SSIs for spinal fusion surgeries using an established standard program (I23 and I23.1).

Pulmonology & Lung Surgery (20 additional points). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring. Hospitals received 1 point for having a formal program to prevent hospital-acquired pressure injuries (A36). Hospitals received 1 point each (up to 4 points) for actively tracking seasonal influenza vaccinations for asthma patients (J14), cystic fibrosis patients (J18), neuromuscular weakness disorder patients (J33) or ventilator-dependent patients (J43). Up to 3 additional points were awarded for each of the 4 groups (up to 12 points) according to the percentage vaccinated (J15, J19, J34, J44): 1 point for ≥ 50% and < 75%, 2 points for ≥ 75% and < 90%, or 3 points for ≥ 90%. Hospitals received 1 additional point for having at least 75% of vaccine-eligible patients treated between October 1 and December 31 receive a seasonal influenza vaccine (J27.1).

Urology (2 additional point). Hospitals receive up to 2 points for auditing hand hygiene compliance rates (A24): 2 points if audit via direct observation or a hybrid of direct observation and electronic monitoring, or 1 point if audit via electronic monitoring.

C. Commitment to Equity, Diversity, and Inclusion (All Specialties)

Hospitals received points in all specialties for engaging in activities related to advancing equity, diversity, and inclusion at varying levels within their system of care. These activities focus on three types of activities: (1) those focused on patients and families to improve the equity of care provided, (2) those focused on physicians and leaders designed to promote diversity and inclusion, and (3) those focused on all staff at children's hospitals designed to promote equity, diversity, and inclusion in the interactions with other staff and delivery of care to patients. Hospitals could receive up to 69 points in each specialty for indicating that they were actively involved in collecting and using data on patients and families, putting programs in place to address longstanding diversity and inclusion issues in medicine, and providing training opportunities to staff to encourage equity, diversity, and inclusion in pediatric healthcare.

Table 11. Equity, Diversity, and Inclusion Measures, All Specialties

All Specialties (69 points)	Points
Collecting data on >75% of patients (2 points each) or 25%-75% of patients (1 point each) for each of the following characteristics (A42): • Race • Ethnicity • Biological sex (assigned at birth) • Gender identity • Sexual orientation • Primary language for health care • Insurance status	14
Collecting data on >75% of parents/caregivers (2 points each) or on 25-75% of parents/caregivers (1 point each) for each of the following characteristics (A43): • Highest level of education of either parent or guardian or health/medical literacy • Household income or financial strain • Employment status of either parent or guardian • Primary language for health care • Household food security • Housing security	12

* Parenthetical references indicate related survey questions. (continued)

Table 11. Equity, Diversity, and Inclusion Measures, continued

All Specialties, continued (69 points)	Points
Review data collected about differences in care with oversight boards for each of the following categories/factors (A44): • Race and ethnicity • Sexual orientation and/or gender identity • Income, education, or other socioeconomic status factors • Primary language for health care • Insurance status (or payer source) • Food and/or housing security	6
Having at least 25% of patients and families/caregivers screened for social determinants of health and have data recorded in the hospital or health system EMR (A45)	1
Implementing quality improvement projects designed to address a specific known health disparity with the patient population or community (A46 and A46.1)	1
Having the following elements of a diversity, equity, and inclusion (DEI) program at the hospital (A47) • Established formal DEI program dedicated to the children's hospital(s) • Designated leader for DEI (such as a Health Equity Officer) in a senior leadership position dedicated to the children's hospital(s) • At least 0.5 FTE support provided for DEI leadership position(s) dedicated to the children's hospital(s) • At least 0.5 FTE administrative support staff provided to the DEI program dedicated to the children's hospital(s)	4
Having current strategic objectives to increase the number and inclusion/participation of individuals from groups historically underrepresented in medicine (URiM) for each of the following (A49) • Race/ethnicity • Gender identity • LGBTQ+ • Language diversity (i.e., providers who speak and are able to deliver care in additional languages other than English) • Age • Ability status	6
Having established strategic objectives to improve diversity of senior leadership team (A50)	1

* Parenthetical references indicate related survey questions. (continued)

Table 11. Equity, Diversity, and Inclusion Measures, continued

All Specialties, continued (69 points)	Points
Requiring trainings on the following topics for providers and other bedside staff to participate in topics (A51) • Diversity, Equity, and Inclusion in leadership • Diversity, Equity, and Inclusion in teamwork • Effective communication, including language diversity • Implicit/unconscious bias and microaggressions • Anti-racism • Gender identity • Gender equity/parity • Sexual orientation • Cultural responsiveness/cultural humility • Human trafficking • Impact of the social determinants of health and principles of trauma-informed care • Child abuse/neglect	12
Requiring nurses and other bedside staff to participate in trainings on each of the following diversity, equity, and inclusion topics (A51) • Diversity, Equity, and Inclusion in leadership • Diversity, Equity, and Inclusion in teamwork • Effective communication, including language diversity • Implicit/unconscious bias and microaggressions • Anti-racism • Gender identity • Gender equity/parity • Sexual orientation • Cultural responsiveness/cultural humility • Human trafficking • Impact of the social determinants of health and principles of trauma-informed care • Child abuse/neglect	12

* Parenthetical references indicate related survey questions.

D. Expert Opinion with Pediatric Specialists

Expert opinion can be viewed as a form of peer review of the hospital's capabilities across a wide variety of processes related to quality of care. For all specialties, expert opinion scores were based on responses to the physician surveys conducted in 2021, 2022 and 2023. Scores were calculated separately in each year, and averaged such that each year's scores are given equal weighting in the final expert opinion score, as shown in ***Table 12***.

Table 12. Expert Opinion Weight by Survey Year

Sample Source	Expert Opinion Weight	Overall Weight
2023 Physician Survey	33.3%	3.3%
2022 Physician Survey	33.3%	3.3%
2021 Physician Survey	33.3%	3.3%
Total	100.0%	10.0%‡‡‡‡

The sections below describe the approach used for the 2023 survey, which was similar to the 2022 and 2021 surveys. The approaches used for the 2021 and 2022 surveys are provided in the corresponding methodology reports for those years, available at www.rti.org/besthospitals.

2023 Survey Approach

Sample Selection

Starting with the 2015-16 rankings, the sample has been drawn from a database of U.S. physicians compiled by Doximity. Similar to the AMA Physician Masterfile, which was used as the sampling frame in previous years, Doximity's comprehensive Physician Database includes every practicing U.S. physician, identified by National Provider Identifier (NPI) number. Its sources include the U.S. Department of Health and Human Services NPI Registry, specialty boards (e.g., the American Board of Medical Specialties, the American Board of Surgery, and the American Osteopathic Association) and state medical boards. Doximity's proprietary database is augmented by more than 750,000 registered and verified physician members who review and update their profiles to provide another set of primary data. U.S. News & World Report holds an equity interest in Doximity.

In the 2021-22 rankings, physicians who were board certified in eligible specialties by the American Osteopathic Association became eligible to participate in the survey. Starting in the 2022-23 rankings, only physicians who were Doximity members were eligible to participate in the surveys. ***Table 13*** lists all eligible board certifications and provides the population counts of Doximity member pediatric specialists in eligible in each specialty.

‡‡‡‡ In Cardiology & Heart Surgery, the overall weight for reputation is 8%.

Table 13. Population Counts by Best Hospitals Specialty, Doximity Members

Best Children's Hospitals Specialty	Subspecialties	Doximity Members
Cancer	Pediatric Hematology-Oncology and Pediatric Surgery (ABMS)	3171
Cardiology & Heart Surgery	Pediatric Cardiology, Pediatric Cardiac Surgery, Pediatric Thoracic Surgery and Pediatric Surgery (ABMS)	3186
Diabetes & Endocrinology	Pediatric Endocrinology (ABMS and AOA) and Pediatric Surgery (ABMS)	1800
Gastroenterology & GI Surgery	Pediatric Gastroenterology, Pediatric Transplant Hepatology and Pediatric Surgery (ABMS)	3671
Neonatology	Neonatal-Perinatal Medicine and Neonatology (ABMS and AOA) and Pediatric Surgery (ABMS)	6411
Nephrology	Pediatric Nephrology (ABMS)	905
Neurology & Neurosurgery	Child Neurology, Child and Adolescent Neurology, and Pediatric Neurological Surgery* (ABMS, ABPNS, and AOA)	3095
Orthopedics	Pediatric Orthopedic Surgery and Pediatric Sports Medicine (ABMS and AOA)	1743
Pulmonology & Lung Surgery	Pediatric Pulmonary and Pediatric Sleep Medicine (ABMS and AOA)	1499
Urology	Pediatric Urology and Pediatric Surgery (ABMS)	440

Data Collection Procedures

The Doximity member survey identified a total of 25,921 physicians eligible in one of the 10 pediatric specialties as of March 24, 2023. In February, physicians received an initial email invitation with a link to the survey. The survey asked for names of up to 10 hospitals in the physician's specialty that provide the best care to patients with serious conditions, without considering location or expense. Nonresponding physicians received up to two follow-up email reminders with a link to the survey. In addition, physicians received alerts upon login to Doximity.com or use of the Doximity app inviting them to participate.

Response Rates

The overall response rate for the 2021, 2022 and 2023 surveys was 26.1%. using the American Association of Public Opinion Research (AAPOR) standard response rate 6[§§§§], which treats undeliverables as ineligibles. Of 25,921 Doximity members, 6,331 completed the web survey by March 24, 2023. The final response rate for the 2023 survey was 24.4% using AAPOR standard response rate 6. ***Table 14*** shows response rates by region and specialty.

Table 14. Member Survey Response Rates (%) by Region and Specialty, 2023

Specialty	Midwest	Northeast	South	West	Total
Cancer	31.7	20.6	30.4	17.6	25.7
Cardiology & Heart Surgery	27.3	23.8	22.9	22.8	24.1
Diabetes & Endocrinology	31.1	24.0	31.4	24.1	27.8
Gastroenterology & GI Surgery	32.1	25.5	32.9	27.1	30.0
Neonatology	17.8	15.6	18.5	14.6	16.9
Nephrology	33.3	24.5	30.3	23.0	28.2
Neurology & Neurosurgery	26.8	25.4	25.7	25.0	25.7
Orthopedics	26.2	26.0	25.2	19.0	24.2
Pulmonology & Lung Surgery	28.5	29.6	27.9	25.1	27.9
Urology	46.9	44.4	40.4	30.1	40.2
Total	**27.0**	**22.7**	**26.0**	**21.0**	**24.4**

Survey Response Weighting

We used post-stratification weights for age by gender (55+ male, <55 male, and female[*****]) as well as census region. Weights were constructed and applied to each physician's survey response to make nominations representative of Doximity members at the national level. Since all Doximity members were surveyed, weights were used only to adjust for differences in nonresponse by region and demographics. Additionally, scores were adjusted based on a physician's current affiliation. Data from multiple sources were used to determine if a physician is currently affiliated with each hospital they nominated. Then certain adjustments were performed that result in nominations from unaffiliated physicians being weighted higher than those from physicians who have a current relationship with the hospital they nominated. The effect of these adjustments is to give higher weight to the opinions of unaffiliated physicians than to those of affiliated physicians, particularly in cases where a hospital received a relatively large proportion of its nominations from affiliated

[§§§§] Definitions available at https://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf

[*****] Age categories were collapsed for females because there were too few female physicians over 55 in the sample.

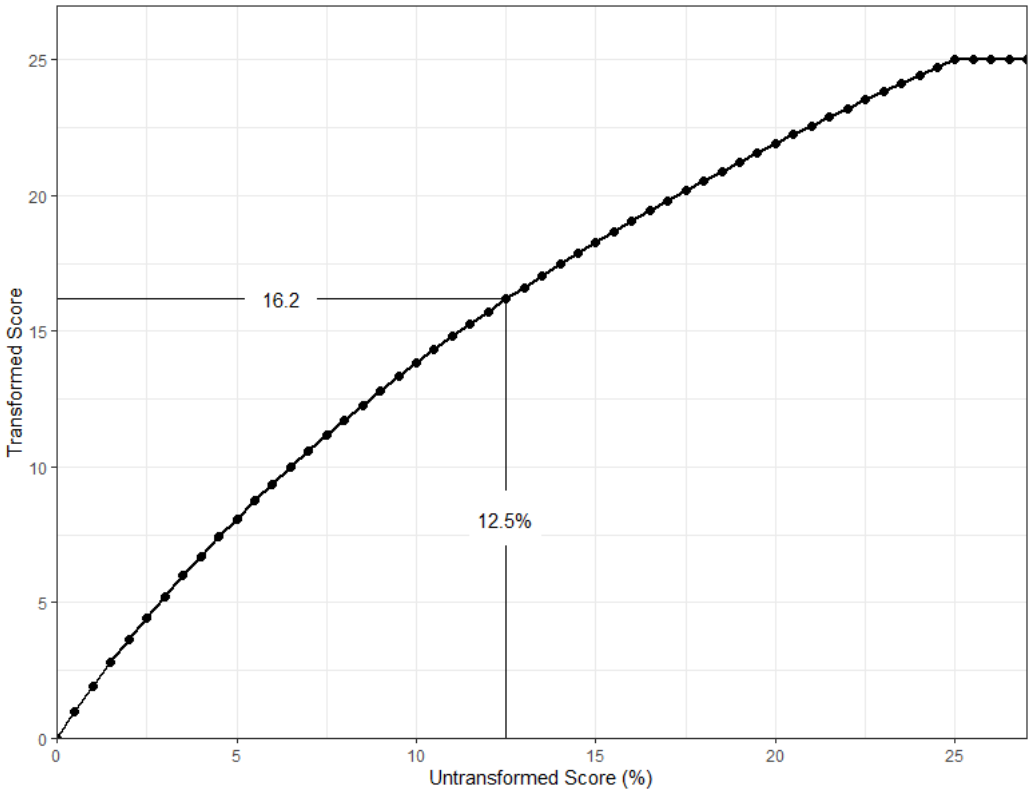
physicians. To ensure the integrity of the physician survey and weighting procedures for the Expert Opinion score, no additional methodological detail about this new adjustment will be made public.

Transformation

Weighted three-year expert opinion values are displayed in the ranking tables. Before the expert opinion data were combined into the Index of Hospital Quality (IHQ), the values were first capped at 25% (i.e., values exceeding 25% were set to 25%) and then log transformation was implemented to adjust for the skewed distribution of values. By its nature, a survey that solicits recommendations for "best hospitals" will result in data that do not follow a normal distribution. Relatively few hospitals will receive even one recommendation, and of the hospitals recommended, even fewer will receive a substantial number of nominations. Since other ranking components such as structural measures and mortality are not similarly skewed, expert opinion would have a greater impact on the final rankings than is warranted if left unadjusted.

Log transformation reshapes the distribution to more closely match expert opinion data to those of other components. The transformation is applied to the weighted expert opinion data. The transformed data are then normalized. ***Figure 1*** demonstrates the effect of the transformation.

Figure 1. Impact of Transformation on Expert Opinion



The transformed expert opinion scores are mostly higher than the untransformed scores, but the relative increases are larger for low scores than for high ones. For example, an untransformed expert opinion value of 1% has a transformed score of 1.9, an untransformed value of 12.5% has a transformed score of 16.2 (as shown in Figure 1), and an untransformed value of 20% has a transformed score of 21.9. Skewness is thus reduced, and the impact of expert opinion on final standing in the rankings is slightly diminished.

E. Normalization and Weighting

The process component, which consists of commitment to best practices, infection-prevention program, enhance equity, diversity, and inclusion for patients, families and staff and expert opinion, is worth one-third (33.3%) of the overall score in each specialty except for pediatric cardiology & heart surgery. The overall measure weight and the process component weight for all other specialties is provided in ***Table 15.***

Table 15. Weight of Individual Process Measures (All Specialties Except Pediatric Cardiology & Heart Surgery)

Process Measure	Overall Weight	Process Component Weight
Commitment to Best Practices	12.0%	36.0%
Ability to Prevent Infections	9.0%	27.0%
Commitment to Equity, Diversity, and Inclusion	2.33%	7.0%
Expert Opinion with Pediatric Specialists	10.0%	30.0%
Total	33.33%	100.0%

In pediatric cardiology and heart surgery only, the overall weight for expert opinion was 5.0% and the other three measures included in process (Commitment to Best Practices, Ability to Prevent Infections Throughout Hospital, and Commitment to Equity, Diversity, and Inclusion) are worth 12.0%, 9.0%, and 2.33% respectively. The total weight given to the process component is 28.3%. The other 5 percentage points were added to the outcomes component (worth 38.3% in this specialty only).

As with the other components, individual process measures were normalized before being combined in the Index of Hospital Quality (IHQ). Normalization, as described in ***Section IV.B***, transforms a measure's index values into a distribution between 0 and 1 based on the range of possible values.

VI. Outcomes

For the Best Hospitals adult specialty rankings, risk-adjusted mortality 30 days after admission is a key outcome measure. Other measures now used by healthcare researchers as quality indicators include readmissions following surgical or hospital discharge, patient functional status (or improvement), infection rates, and medical complications.

Because of the absence of comprehensive national sources of pediatric outcomes data comparable to the Medicare Standard Analytical File (SAF) data used in the adult rankings, outcomes-related data are obtained directly from pediatric hospitals through the Pediatric Hospital Survey. Such data include BSI rates, transplant survival rates, mitigation of adverse events, and surgical outcomes. Other data will be added over time to address the need for relevant outcomes measures and to provide a more complete picture of pediatric hospital care. Measures for the 2023-24 rankings were developed from recommendations by expert advisory panels, as previously described. Details on specific outcomes measures, how they were calculated and how they were scored are provided below.

A. Outcome Measures

Outcome measures are listed below, by specialty. Scoring rules used to assign points to hospitals for these outcomes are also described below. For all outcomes measures, a higher number of points indicates better outcomes (e.g., higher survival, lower mortality, fewer complications).

Cancer

Ability to Prevent Infections in Intensive Care Units (15 points). The rate of infections in intensive care units (ICUs) is considered a good benchmark of patient safety and outcome because such infections in hospital-based care should be minimal. Central line-associated blood-stream infection (CLABSI) rates were calculated as the number of BSIs per 1,000 central-line days during the previous 12 months.

CLABSI (A33) rates were tracked for all pediatric ICUSs and all oncology/stem cell transplant patients (B22). Hospitals were rewarded for lower rates of infections.

For pediatric ICU CLABSI rates, hospitals received up to 5 points. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their pediatric ICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3.0 infections per 1,000 patient days.

For oncology/stem cell transplant patients CLABSI rates, hospitals received up to 10 points per group. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their oncology/stem cell transplant unit and the unadjusted CLABSI rate provided by the hospital as follows: 10 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 8 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 6 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 2.0 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 4.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 4.0 and ≤ 6.0 infections per 1,000 patient days.

Ability to Prevent Pressure Injuries (5 points). Hospitals received up to 3 points for lower rates of Stage III, Stage IV and unstageable hospital-acquired pressure injuries (A38.1 and A38.2). For both Stage III and Stage IV, hospitals received 1 point for a pressure ulcer rate of ≤ 0.1 per 100 patient admissions assessed over the last four quarters. For unstageable pressure ulcers, hospitals received 1 point for a pressure ulcer rate of ≤ 0.2 per 100 patient admissions assessed over the last four quarters. Hospitals also received up to 2 points for assessing a larger percentage of their total inpatients for pressure ulcers: 1 point for ≥ 50% or < 75% and 2 points for ≥ 75%.

Five-Year Cancer Survival (15 points). This measure evaluated the percentage of pediatric patients at least 18 months old with all subtypes and risk levels of acute lymphoblastic leukemia (ALL) (B35a), acute myeloid leukemia (AML) (B35b), Stage L1 neuroblastoma (B35c), NMYC amplified INR L2 or COG stage 3 and INR stage M and COG state 4 neuroblastoma (B35d), and medulloblastoma (B35e) who were alive after 5 years of treatment in the pediatric cancer program. For each of the five measures, hospitals could receive up to 3 points for having a high percentage of 5-year survivors. For ALL, points were awarded as follows: 1 point for ≥ 70% and < 85% survival, 2 points for ≥ 85 and < 95% survival, or 3 points for ≥ 95% survival. For AML and stage L2/M neuroblastoma, points were awarded as follows: 1 point for ≥ 35% and < 50% survival, 2 points for ≥ 50 and < 60% survival, or 3 points for ≥ 60% survival. For Stage L1 neuroblastoma, points were awarded as follows: 1 point for ≥ 60% and < 85% survival, 2 points for ≥ 85 and < 95% survival, or 3 points for ≥ 95% survival. For medulloblastoma, points were awarded as follows: 1 point for ≥ 70% and < 80% survival, 2 points for ≥ 80 and < 90% survival, or 3 points for ≥ 90% survival.

Survival After Bone Marrow Transplant (6 points). This measure assessed the percentage of pediatric patients aged 20 years or younger who received allogeneic bone marrow (including cord blood, bone marrow, peripheral, and stem cell) transplants for malignant disease in the past 5 years who died within 100 days following transplant, of all causes other than disease progression (B20.1). Hospitals could receive up to 3 points for survival rates for sibling-matched (HLA-identical) allogeneic transplants (B20.1a, B20.1b): 1 point if > 10% and ≤ 25% of patients died within 100

days, 2 points if > 5% and ≤ 10% of patients died within 100 days, or 3 points if ≤ 5% of patients died within 100 days. Hospitals could receive up to 3 points for matched unrelated allogeneic transplants (B20.1c, B20.1d): 1 point if > 15% and ≤ 30% of patients died within 100 days, 2 points if > 5% and ≤ 15% of patients died within 100 days, or 3 points if ≤ 5% of patients died within 100 days.

Cardiology & Heart Surgery

Ability to Prevent Infections in Intensive Care Units (5 points). The rate was calculated as the number of CLABSI (A33) infections per 1,000 central-line days in pediatric ICUs during the previous 12 months. Hospitals were rewarded for lower rates of infections. Hospitals received up to 5 points. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their pediatric ICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3 infections per 1,000 patient days.

Ability to Prevent Pressure Injuries (5 points). Hospitals received up to 3 points for lower rates of Stage III, Stage IV and unstageable hospital-acquired pressure injuries (A38.1 and A38.2). For Stage III and IV, hospitals received 1 point for having a pressure ulcer rate of ≤ 0.1 per 100 patient admissions assessed over the last four quarters. For unstageable pressure ulcers, hospitals received 1 point for a pressure ulcer rate of ≤ 0.2 per 100 patient admissions assessed over the last four quarters. Hospitals also received up to 2 points for assessing a larger percentage of their total inpatients for pressure ulcers: 1 point for ≥ 50% and < 75% or 2 points for ≥ 75%.

Median Post-Operative Length of Stay (9 points). Hospitals can receive up to 9 points for success in reducing the time that congenital heart patients spend in the hospital related to their heart condition for simple to moderately complex cases. For STAT Level 1 (E45a), hospitals received 3 points for having a median post-operative length of stay of ≤ 3 days, 2 points for a median post-operative length of stay > 3 and ≤ 5 days, and 1 point for a median post-operative length of stay > 5 and ≤ 8 days. For STAT Level 2 (E45b), hospitals received 3 points for a median post-operative length of stay of ≤ 7 days, 2 points for a median post-operative length of stay > 7 and ≤ 14 days, and 1 point for a median post-operative length of stay > 14 and ≤ 21 days. For STAT Level 3 (E45c), hospitals received 3 points for a median post-operative length of stay of ≤ 7 days, 2 points for a median post-operative length of stay > 7 and ≤ 16 days, and 1 point for a median post-operative length of stay > 16 and ≤ 24 days.

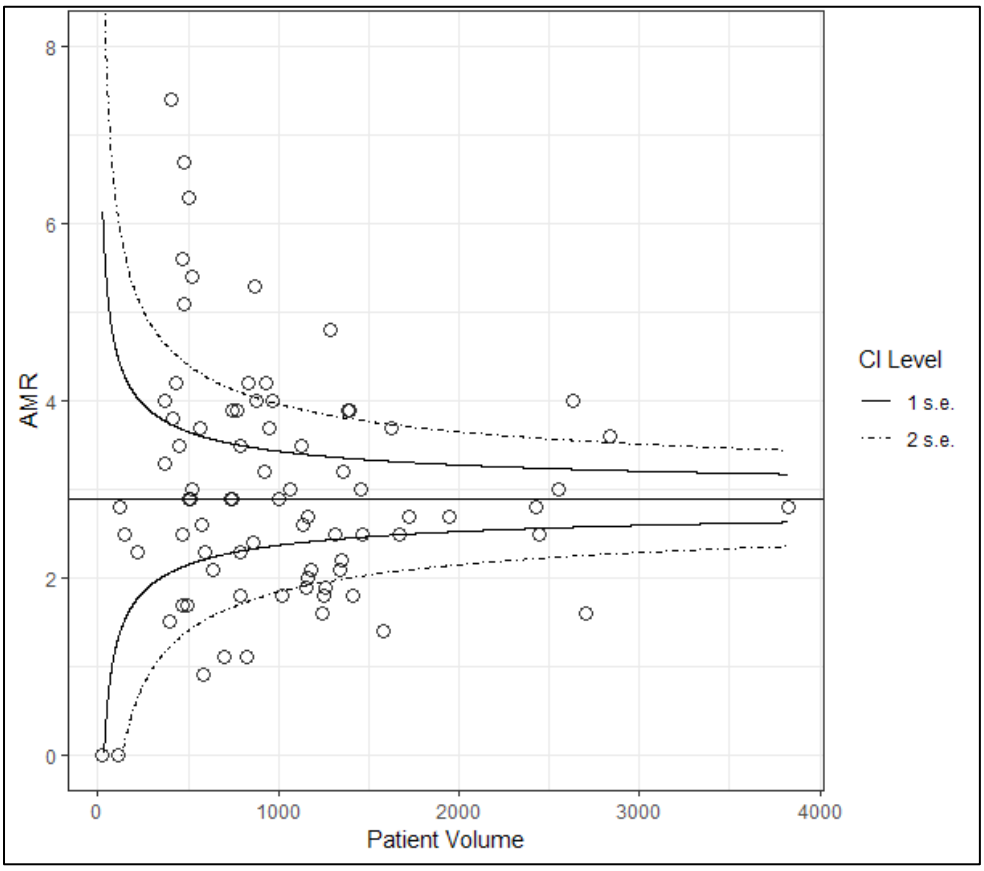
Survival After Congenital Heart Surgery (5 points). Starting with the 2017-18 rankings, hospitals receive points for risk-adjusted survival after heart surgery. The Society of Thoracic Surgeons (STS) Congenital Heart Surgery Database (CHSD) provides an adjusted mortality rate (AMR) using a mortality risk model that incorporates a hospital's patient mix to adjust scores based on known risk factors such as the patient's age, weight, procedure type, prior cardiothoracic operations, non-cardiac congenital anatomic abnormalities, chromosomal abnormalities, syndromes, and preoperative risk factors††††.

The adjusted mortality rate (AMR) produced for each hospital estimates what the hospital's mortality rate would be if that hospital's case mix was the same as the overall case mix (across all hospitals). The AMR is calculated as the observed mortality rate divided by the expected mortality rate for that case mix, multiplied by the overall STS mortality rate for all hospitals. Operative mortality is defined in all STS databases as (a) all deaths occurring during the hospitalization in which the operation was performed, plus (b) all deaths, occurring after discharge from the hospital but before the end of the 30th postoperative day[7,8]. Lower scores indicate lower than expected mortality rates. The STS reports also include confidence intervals surrounding the AMR scores.

In an effort to account for the uncertainty in the AMR measure, starting with the 2019-20 rankings, a new method of handling the data was utilized. To accomplish this, we calculated values of 1 and 2 standard errors from the national average dependent on total patient volume across the 4-years using a funnel plot methodology (see ***Figure 2***). The standard errors were calculated using the standard statistical formula of $\sqrt{\frac{p*(1-p)}{n}}$, where n represents total patient volume, and p represents the national AMR value (2.64%).

†††† For more information, please see: https://publicreporting.sts.org/chsd-risk-model. This measure utilized results from the most recent STS Congenital Heart Surgery Database Feedback Report (released in January, 2023) covering surgeries performed from July 1, 2018 to June 30, 2022. This report includes a significant update to the risk-adjustment related to heart surgery outcomes. Note that the STS Public Reporting website displayed data from an earlier period (July 2017 to June 2021 for most hospitals) as of publication of the Best Children's Hospitals rankings (May 2023).

Figure 2. Example funnel plot of AMR and patient volume with 1 and 2 standard error lines used for point boundaries



After establishing the ranges for scoring of the AMR using the funnel plot methodology, points were awarded based on the comparison of the hospital's 4-year combined AMR and CI bounds (E43) in the following manner:

- 5 points were awarded to hospitals who had a 4-year combined AMR lower than 2 standard errors from the national average, or who had an upper CI bound less than the national average;
- 4 points were awarded to hospitals who had a 4-year combined AMR between 1 and 2 standard errors lower than the national average;
- 3 points were awarded to hospitals who had a 4-year combined AMR within 1 standard error of the national average;
- 2 points were awarded to hospitals who had a 4-year combined AMR between 1 and 2 standard errors higher than the national average, or who had a 4-year combined AMR higher than 2 stand errors from the national average but also had a lower CI bound less than the national average; and
- 1 point was awarded to hospitals who had a 4-year combined AMR higher than 2 standard errors from the national average.

Hospitals that do not receive a risk-adjusted mortality rate (AMR) from the STS can receive up to 2.5 points for the measure of patient survival after complex heart procedures. This measure represents the rate of operative mortality (patient deaths) following moderately complex to very difficult heart surgery procedures at pediatric hospitals in the four most recent reporting periods (E42). An overall survival rate was computed based on data from STAT levels 1-5 for the past 4 years. Points were assigned as follows: 0.5 points for operative mortality rates > 4.0% and ≤ 5.0%, 1 point for rates > 3.0% and ≤ 4.0%, 1.5 points for rates > 2.0% and ≤ 3.0%, 2 points for rates > 1.0% and ≤ 2.0%, or 2.5 points for rates ≤ 1.0%.

Survival After Certain Complex Heart Procedures (21 points). Hospitals received 9 points for lower rates of reoperation and support after initial surgeries for each of three types of surgeries: Complete AV Canal repair (E37.1), Arterial Switch Operations for Transposition of the Great Arteries with intact ventricular septum (TGA, IVS) (E37.3), and Ventricular Septal Defect (VSD) repair surgery (E37.4). For each type, hospitals received 1 point for > 6% and ≤ 10% reoperation or support after the initial surgery, 2 points for > 3% and ≤ 6% reoperation or support, or 3 points for ≤ 3% reoperation or support.

Hospitals received an additional 12 points for neonates and infants with congenital heart disease (CHD) who had surgery prior to 1 year of age for their CHD. For neonates and infants born at 28 to < 34 weeks gestation (E37.5), hospitals received 3 points each for death rates ≤ 3%, 2 points each for death rates > 3% and ≤ 6%, and 1 point each for death rates > 6% and ≤ 12%. For neonates and infants born at 34 to < 37 weeks gestation (E37.6), hospitals received 3 points each for death rates ≤ 2%, 2 points each for death rates > 2% and ≤ 5%, and 1 point each for death rates > 5% and ≤ 10%.

Survival After Heart Transplant (6 points). Hospitals received up to 3 points based on the ratio of observed[####]to expected survival rates for pediatric patients at 1 and 3 years following heart transplant (6 points total) (E23 and E24/E24.1). The expected survival rate is calculated from statistical models that take into account various factors of both recipients and donors that affect success. A ratio of observed (unadjusted probability of survival) to expected (adjusted probability of survival) survival rates greater than 1.0 indicates that more patients survived than expected, and a ratio of less than 1.0 indicates that fewer patients survived than expected. Points were awarded for both 1-year and 3-year ratios as follows: 1 point for ratios ≥ 0.80 and < 0.90, 2 points for ratios ≥ 0.90 and < 1., or 3 points for ratios ≥ 1.

[####] The SRTR now uses "estimated" rather than "observed" survival in its public reports. This report uses "observed" for consistency with other Best Children's Hospitals measures.

Survival After Norwood/Hybrid Surgery (24 points). Hospitals received up to 12 points based on the percentage of patients who received the Hybrid Stage 1, Norwood Stage 1 operation, or Hybrid Stage 1 operation NOT as a planned bridge to transplant in the last 4 years and were alive without a heart transplant at 1 year of age (E40.1); the denominator for this calculation includes all patients who received any of these three procedures at each heart center and patients who were in the program but died prior to surgical intervention. Up to 3 points were awarded for each of the four reporting years for 1-year survival rates. Points were awarded as follows: 1 point for survival rates ≥ 25% and < 50%, 2 points for survival rates ≥ 50% and < 75%, or 3 points for survival rates ≥ 75%.

Hospitals received up to 12 points based on the percentage of patients who received any of these three procedures in the last 4 years and were alive regardless of whether they had a heart transplant or not at 1 year of age (E40.2); the denominator for this calculation includes all patients who received any of these three procedures at each heart center and patients who were in the program but died prior to surgical intervention. Up to 3 points were awarded for each of the four reporting years for 1-year survival rates. Points were awarded as follows: 1 point for survival rates ≥ 25% and < 50%, 2 points for survival rates ≥ 50% and < 75%, or 3 points for survival rates ≥ 75%.

Diabetes & Endocrinology

Success in Hypo and Hyperthyroid Management (9 points). Hospitals received up to 9 points for hypothyroid and hyperthyroid management (C59, C59.1, C59.2). Hospitals received points for having a higher percentage of new congenital hypothyroid patients referred at < 21 days of age who received a confirmatory serum TSH > 50uIU/ml and began thyroid hormone therapy also before 21 days of age (C59). Points were awarded as follows: 1 point for ≥ 90% and < 95% of patients beginning therapy, 2 points for ≥ 95% and < 99% of patients beginning therapy, or 3 points for ≥ 99% patients beginning therapy.

Hospitals received up to 3 additional points for having a higher percentage of congenital hypothyroidism patients <3 years of age at the time of their outpatient visit with at least 2 TSH values within normal ranges (C59.1). Points were awarded as follows: 1 point for ≥ 75% and < 90% of patients with at least 2 TSH values in normal ranges, 2 points for ≥ 90% and < 95% of patients with at least 2 TSH values in normal ranges, or 3 points for ≥ 95% of patients with at least 2 TSH values in normal ranges.

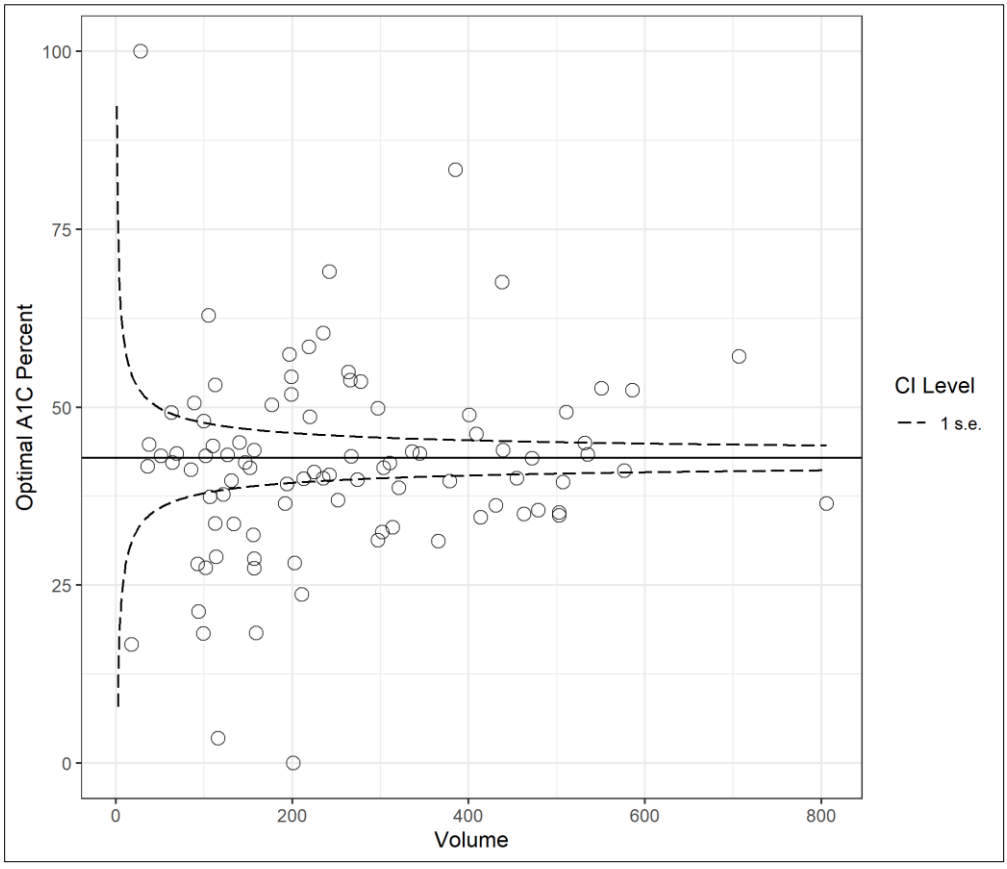
Hospitals received up to 3 additional points for having a higher percentage of patients newly diagnosed with Grave's Disease with at least 1 Free T4 value within normal ranges (C59.2). Points were awarded as follows: 1 point for ≥ 50% and < 65% of patients with at least 1 Free T4 value

within normal ranges, 2 points for ≥ 65% and < 85% of patients with at least 1 Free T4 value within normal ranges, or 3 points for ≥ 85% of patients with at least 1 Free T4 value within normal ranges.

Success in Managing Diabetes (72 points). This measure evaluated adverse events in Type 1 and Type 2 diabetes outpatients, rate of optimal hemoglobin A1c levels in primary care Type 1 diabetes outpatients, and inpatient admissions for Type 1 and Type 2 primary care diabetes patients.

To increase the statistical reliability of hospitals' scores on this measure, a funnel plot methodology was first implemented in the 2020-21 rankings to assign points to hospitals for each element of the Success in Managing Diabetes measure. To accomplish this, we calculated value of 1 standard error from the national average dependent on patient volume across the 4-years (see ***Figure 3***). The standard errors were calculated using the standard statistical formula of $\sqrt{\frac{p*(1-p)}{n}}$, where n represents patient volume, and p represents the national ratio value of each metric. After establishing the ranges for scoring of using the funnel plot methodology, points were awarded based on the comparison of the hospital's metric to the national average.

Figure 3. Example funnel plot of optimal A1C values for patients 13-17 years of age on private insurance with Type 1 diabetes and patient volume with 1 standard error lines used for point boundaries



Type 1 diabetes patients < 18 years of age, were evaluated to determine the percentage that achieved optimal control (i.e., at or below 7.5%) for two types of payers (private insurance and Medicaid) and three age groups (0-5 years of age—National average: private insurance = 56.4%, Medicaid = 34.4%; 6-12 years of age—National average: private insurance = 60.1%, Medicaid = 39.1%; and 13-17 years of age—National average: private insurance = 53.7%, Medicaid = 35.5%) in the last calendar year. Increases in A1c values increase the risk of microvascular complications in patients. Hospitals received up to 3 points in each of the six groups (18 points total) for higher percentages of patients with optimal A1c values (C35.1). Points were awarded as follows:

- 3 points were awarded to hospitals who had a percentage of patients with optimal A1c values greater than or equal to the 1 standard error upper bound from the national average;
- 2 points were awarded to hospitals who had a percentage of patients with optimal A1c values greater than or equal to the 1 standard error lower bound and less than the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a percentage of patients with optimal A1c values less than the 1 standard error lower bound from the national average.

Hospitals that had missing data in one of the six populations, but otherwise had data for all other elements, received a score based on their overall average for that population. For example, if a hospital did not have any patients 0-5 years of age in the private insurance group, their score for that population, is based on their overall percentage of patients with optimal A1c values across the other five populations. Hospitals who did not have any patients in two or more of the six populations, received 0 points for that population.

Type 1 diabetes patients < 18 years of age, were evaluated to determine the percentage that achieved poor control (i.e., above 10%) for two types of payers (private insurance and Medicaid) and three age groups (0-5 years of age—National average: private insurance = 4.1%, Medicaid = 15.8%; 6-12 years of age—National average: private insurance = 4.8%, Medicaid = 16.6%; and 13-17 years of age—National average: private insurance = 9.4%, Medicaid = 24.8%) in the last calendar year. Hospitals received up to 3 points in each of the six groups (18 points total) for lower percentages of patients with poor A1c values (C35.2). Points were awarded as follows:

- 3 points were awarded to hospitals who had a percentage of patients with poor A1c values less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had a percentage of patients with poor A1c values less than or equal to the 1 standard error upper bound and greater than the 1 standard error lower bound from the national average;
- 1 point was awarded to hospitals who had a percentage of patients with poor A1c values greater than the 1 standard error upper bound from the national average.

As with the optimal scoring, hospitals that had missing data in one of the six populations, but otherwise had data for all other elements, received a score based on their overall average for that population. Hospitals who did not have any patients in two or more of the six populations, received 0 points for that population.

Successful management of Type 1 and Type 2 diabetes patients is reflected by the type of primary care these patients receive. Hospitals were rewarded for lower incidence of inpatient admissions and visits to the ER/urgent care for diabetes-related causes for two types of payers (private insurance and Medicaid) (C29.2). For inpatient admissions for Type 1 (C29.2c—National average: private insurance = 3.6%, Medicaid = 9.9%) and Type 2 (C29.2d—National average: private insurance = 3.0%, Medicaid = 4.9%) primary care diabetes patients for each insured group, and for ER/urgent care visits for Type 1 (C29.2e—National average: private insurance = 3.2%, Medicaid = 6.9%) and Type 2 (C29.2f—National average: private insurance = 3.3%, Medicaid = 4.6%) primary care diabetes patients, hospitals were awarded up to 3 points for each insured group (private insurance and Medicaid) for up to a total of 24 points. Points were awarded as follows:

- 3 points were awarded to hospitals who had a ratio of inpatient admissions or ER/urgent care visits less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had a ratio of inpatient admissions or ER/urgent care visits greater than the 1 standard error lower bound and less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a ratio of inpatient admissions or ER/urgent care visits greater than the 1 standard error upper bound from the national average.

Hospitals received up to 3 points for cholesterol management through a lipid panel for Type 1 and Type 2 diabetes patients (C41.1) for each insured group (Type 1: private/commercial insurance—National average = 87.5% and Medicaid—National average = 82.7%; Type 2: private/commercial insurance—National average = 79.8% and Medicaid—National average = 78.5%) for up to a total of 12 additional points. Hospitals were rewarded according to the percentage of Type 1 and Type 2 patients with LDL cholesterol values less than 130 at the most recent measurement, with Type 1 patients measured in the last 3 years and Type 2 patients measured in the last year. Points were awarded as follows:

- 3 points were awarded to hospitals who had a percentage of patients with LDL cholesterol values less than 130 at the most recent measurement greater than or equal to the 1 standard error upper bound from the national average;

- 2 points were awarded to hospitals who had a percentage of patients with LDL cholesterol values less than 130 at the most recent measurement greater than or equal to the 1 standard error lower bound and less than the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a percentage of patients with LDL cholesterol values less than 130 at the most recent measurement less than the 1 standard error lower bound from the national average.

Gastroenterology & GI Surgery

Ability to Prevent Infections in Intensive Care Units (5 points). The rate was calculated as the number of CLABSI (A33) infections per 1,000 central-line days in pediatric ICUs during the previous 12 months. Hospitals were rewarded for lower rates of infections. Hospitals received up to 5 points. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their pediatric ICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3.0 infections per 1,000 patient days.

Ability to Prevent Pressure Injuries (5 points). Hospitals received up to 3 points for lower rates of Stage III, Stage IV and unstageable hospital-acquired pressure injuries (A38.1 and A38.2). For Stage III and IV, hospitals received 1 point for having a pressure ulcer rate of ≤ 0.1 per 100 patient admissions assessed over the last four quarters. For unstageable pressure ulcers, hospitals received 1 point for a pressure ulcer rate of ≤ 0.2 per 100 patient admissions assessed over the last four quarters. Hospitals also received up to 2 points for assessing a larger percentage of their total inpatients for pressure ulcers: 1 point for ≥ 50% and < 75% or 2 points for ≥ 75%.

Success of Certain GI-Related Treatments (9 points). This measure comprises of three items: percentage of patients receiving endoscopic procedures with severe complications (D29), percentage of patients receiving successful Kasai procedures (i.e., combined surgical and medical care success as defined by (1) survival with the native liver 2 years after surgery (Kasai) with a serum total bilirubin <2 mg/dl or (2) survival with a transplanted liver 2 years after the surgery (Kasai) with a serum total bilirubin <2 mg/dl) within 90 days of birth (D30.1) and percentage of patients treated for inflammatory bowel disease (IBD) experiencing prednisone-free remission (D32 and D33). Up to 3 points were awarded for each type of procedure. For endoscopic procedures, points were awarded for fewer complications as follows: 1 point for > 3% and ≤ 5% complications, 2 points for > 1% and ≤ 3% complications, or 3 points for ≤ 1% complications. For Kasai procedure success,

points were awarded as follows: 1 point for ≥ 30% and <45%, 2 points for ≥ 45% and < 60%, or 3 points for ≥ 60%. For IBD prednisone-free remission at the most recent visit, points were awarded as follows: 1 point for ≥ 55% and < 70% success, 2 points for ≥ 70% and < 80% success, or 3 points for ≥ 80% success.

Survival After Liver Transplant (6 points). Hospitals received up to 3 points based on the ratio of observed[§§§§§] to expected survival rates for pediatric patients at 1 and 3 years after isolated liver transplant (6 points total) (D21 and D22). The expected survival rate is calculated from statistical models that take into account various factors of both recipients and donors that affect success. A ratio of observed (unadjusted probability of survival) to expected (adjusted probability of survival) survival rates greater than 1.0 indicates more patients survived than expected, and a ratio of less than 1.0 indicates that fewer patients survived than expected. Points were awarded as follows: 1 point for ratios ≥ 0.80 and < 0.90, 2 points for ratios ≥ 0.90 and < 1, or 3 points for ratios ≥ 1.

Neonatology

Ability to Prevent Infections in Neonatal Intensive Care Unit (5 points)[******]. The rate was calculated as the number of BSIs per 1,000 central-line days during the previous 12 months (F26.1). Hospitals were rewarded for lower CLABSI rates, which is calculated as the number of BSI events divided by the number of central line days and multiplied by 1,000. Hospitals received up to 5 points. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their NICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3.0 infections per 1,000 patient days.

Keeping Breathing Tube in Place (5 points). Hospitals were rewarded for having a lower rate of unintended extubations in infants without tracheostomy. The rate was calculated as the number of unintended extubations per 100 patient ventilator days (F32.1). Hospitals received up to 5 points as follows: 1 point for > 3.0 and ≤ 5.0 extubations per 100 days, 2 points for > 2.0 and ≤

§§§§§ The SRTR now uses "estimated" rather than "observed" survival in its public reports. This report uses "observed" for consistency with other Best Children's Hospitals measures.

****** In the 2017-18 rankings we attempted to address year-to-year variability in the measurement of BSIs, by incorporating data from the last three years of reporting in the Pediatric Hospital Survey. After discussions with hospitals and the working groups, we have returned to awarding points based on only the most recent year of data.

3.0 extubations, 3 points for > 1.0 and ≤ 2.0 extubations, 4 points for > 0.5 and ≤ 1.0 extubations, or 5 points for ≤ 0.5 extubations.

Matching Breast Milk With Correct Infants (4 points). Hospitals were rewarded for having a lower rate of breast milk administration errors, such as a newborn receiving the wrong breast milk. The rate was calculated as the number of breast milk administration errors per 1,000 breast feeding patient days (F10.6). Hospitals received up to 4 points as follows: 1 point for > 1.0 and ≤ 3.0 errors per 1,000 breast milk feeding patient days, 2 points for > 0.5 and ≤ 1.0 errors, 3 points for > 0.25 and ≤ 0.5 errors, or 4 points for ≤ 0.25 errors.

NICU Temperature Management (12 points). Hospitals were rewarded for having success in managing temperature at the time of admission and post-operatively for patients in the NICU. Hospitals received up to 3 points for having a lower percentage of patients with a first recorded NICU temperature of < 36.0 degrees Celsius in two patient populations: infants with an admission weight of ≤ 1500 grams; and infants with an admission weight of > 1500 (6 points total). For each of these two categories, hospitals were awarded 3 points for having ≤ 10% of infants with a temperature of < 36.0 degrees Celsius, 2 points for > 10% and ≤ 20% of infants with a temperature of < 36.0 degrees Celsius, or 1 point for > 20% and ≤ 40% of infants with a temperature of < 36.0 degrees Celsius. Because temperature management success rates did not differ significantly between inborn infants (i.e., infants delivered in the hospital where the Level IV NICU is located or at a hospital physically connected to it) and outborn infants (i.e., infants born at another facility and requiring vehicle transfer to hospital or infants previously at home), these populations were pooled within each weight category.

Hospitals could receive an additional 3 points based on the admission temperature of infants who were cooled during transport for the management of hypoxic ischemic encephalopathy in the past 3 years (F13.2). Hospitals received 3 points if ≤10% of infants had an admission temperature < 33.0 degrees Celsius, 2 points if > 10% and ≤ 20% of infants had an admission temperature < 33.0 degrees Celsius, or 1 point if > 20% and ≤ 30% of infants had that temperature upon admission. Since this temperature represents overcooling, the goal is to reduce the percentage of patients with admission temperatures of 33.0 degrees Celsius or less.

Hospitals received up to 3 points based the first postoperative temperature within 30 minutes of return to the NICU after surgery (F31.1). Hospitals received points based on the percent of infants with the first postoperative temperature < 36.0 degrees Celsius. Points were awarded as follows: 3 points if ≤ 5% of infants had the first postoperative temperature < 36.0 degrees Celsius, 2 points if > 5% and ≤ 10% of infants had the first postoperative temperature < 36.0 degrees Celsius, or 1 point if > 10% and ≤ 15% of infants had the first postoperative temperature < 36.0 degrees Celsius.

Taking Breast Milk When Discharged (3 points). Hospitals were rewarded for having higher rates of infants on partial or full mother's own milk admitted at less than 7 days of age being discharged (F10.1). Points were awarded as follows: 1 point for > 0% and < 60%, 2 points for ≥ 60% and < 80%, or 3 points for ≥80%.

Nephrology

Ability to Prevent Biopsy-Related Complications (6 points). This item measures the percentage of native kidney percutaneous biopsy procedures (G14) and percutaneous kidney transplant biopsies (G27) that resulted in a biopsy complication requiring admission, readmission or a lengthened stay (G15 and G27.2). For both rates, hospitals receive more points for having lower complication rates, as follows: 1 point for complication rates > 5% and ≤ 10%, 2 points for complication rates > 2% and ≤ 5%, or 3 points for complication rates ≤ 2%.

Ability to Prevent Dialysis-Related Infections (9 points). Hospitals received 6 points based on a lower peritonitis rate (months of dialyses/cases of peritonitis) for pediatric outpatients on maintenance peritoneal dialysis (G24.1). For each of the past 2 years, up to 3 points were awarded: 1 point for a peritonitis rate of ≥ 1 and < 10 months between peritonitis cases, 2 points for a rate of ≥ 10 and < 20 months between cases, or 3 points for a rate of ≥ 20 months between cases.

Hospitals could receive an additional 3 points for having lower hemodialysis catheter-associated BSIs for outpatients on maintenance hemodialysis in the last 2 years (G37). Hospitals received points for each year as follows: 1 point for ≥ 4.0 and < 8.0 infections per 100 patient months, and 2 points for ≥ 2.0 and < 4.0 infections, or 3 points for < 2.0 infections.

Ability to Prevent Infections in Intensive Care Units (5 points). The rate was calculated as the number of CLABSI (A33) infections per 1,000 central-line days in pediatric ICUs during the previous 12 months. Hospitals were rewarded for lower rates of infections. Hospitals received up to 5 points. Hospitals received points based on the better score between the NHSN Standardized Infection Ratio (SIR) for their pediatric ICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3.0 infections per 1,000 patient days. Hospitals that do not participate in the NHSN SIR program receive points based on their unadjusted CLABSI rates as follows: 1 point for > 2.0 and ≤ 3.0 infections per 1,000 patient days, 2 points for > 1.5 and ≤ 2.0

infections, 3 points for > 1.0 and ≤ 1.5 infections, 4 points for > 0.5 and ≤ 1.0 infections, or 5 points for ≤ 0.5 infections.

Ability to Prevent Pressure Injuries (5 points). Hospitals received up to 3 points for lower rates of Stage III, Stage IV and unstageable hospital-acquired pressure injuries (A38.1 and A38.2). For Stage III and IV, hospitals received 1 point for having a pressure ulcer rate of ≤ 0.1 per 100 patient admissions assessed over the last four quarters. For unstageable pressure ulcers, hospitals received 1 point for a pressure ulcer rate of ≤ 0.2 per 100 patient admissions assessed over the last four quarters. Hospitals also received up to 2 points for assessing a larger percentage of their total inpatients for pressure ulcers: 1 point for ≥ 50% and < 75% or 2 points for ≥ 75%.

Success in Managing Dialysis Patients (16 points). This measure evaluates outcomes for patients on maintenance dialysis during the past 2 calendar years (G23). Hospitals received up to 12 points for higher percentage of patients with these favorable outcomes: percentage of monthly Kt/V values of ≥ 1.2 for patients who received hemodialysis three times a week, percentage of total Kt/V values of ≥ 1.8 for patients receiving peritoneal dialysis, and percentage of standard Kt/V values ≥ 2.1 for patients receiving hemodialysis more than three times a week. For each outcome in each of the past 2 years points were awarded as follows: 1 point for desirable outcome rates ≥ 80% and < 90% or 2 points for desirable outcome rates ≥ 90%.

Hospitals received up to an additional 4 points based on the percentage of end-stage renal disease patients receiving hemodialysis and/or peritoneal dialysis for at least 3 consecutive months who survived (G20). Rates were divided into two submeasures based on age: infants and children under 5 years of age and children and adolescents aged 5-19. For children under 5 years of age, up to 2 points per item were awarded: 1 point for survival rates ≥ 80% and < 90% or 2 points for survival rates ≥ 90%. For children and adolescents aged 5-19, points were awarded as follows: 1 point for survival rates ≥ 85% and < 95% or 2 points for survival rates ≥ 95%.

Survival after Kidney Transplant (24 points). Hospitals received up to 24 points based on observed†††††† survival rates at 1 and 3 years of the kidney and of the patient for deceased-donor and living-donor kidney transplants (24 points total) (G32.1b, G32.2b, G32.3b, and G32.4b). A total of eight observed survival rates, each worth up to 3 points were included: 1- and 3-year graft survival rates (deceased donor), 1- and 3-year graft survival rates (living donor), 1- and 3-year patient survival rates (deceased donor), and 1- and 3-year patient survival rates (living donor). Points were awarded in each of the eight groups based on the observed probability of survival (unadjusted probability of

†††††† The SRTR now uses "estimated" rather than "observed" survival in its public reports. This report uses "observed" for consistency with other Best Children's Hospitals measures.

survival) as follows: 1 point for rates ≥ 0.50 and < 0.80, 2 points for rates ≥ 0.80 and < 0.90, or 3 points for rates ≥ 0.90.

Neurology & Neurosurgery

Ability to Prevent Surgical Complications (22 points). This measure rewards hospitals for having lower readmission rates. Hospitals received up to 10 points total for having a lower percentage of patients readmitted for any cause within 30 days of the following four surgical procedures: craniotomy (H17a), spinal surgery for dysraphism (H17b), Chiari decompression (H17c), shunt placement (H17d), and intrathecal baclofen pump insertion (H17e). Points were awarded in each group as follows: 1 point for > 5% and ≤ 15% readmission rate or 2 points for ≤ 5% readmission rate.

Hospitals received up to 3 points for having lower unplanned returns to the operating room within 30 days for patients receiving new/initial neurosurgical shunt placements (H29). Points were awarded as follows: 1 point for > 5% and ≤ 15% unplanned return rate, 2 points for > 3% and ≤ 5 unplanned return rate, or 3 points for ≤ 3% unplanned return rate.

Hospitals received up to 3 points for having a lower percentage of unplanned returns to the operating room within 30 days of receiving a craniotomy (H17.1). Points were awarded as follows: 1 point for > 5% and ≤ 15% readmission rate, 2 points for > 3% and ≤ 5% readmission rate, or 3 points for ≤ 3% readmission rate.

Hospitals received up to 3 points for having a lower complication rate–returns to the OR for unplanned revision surgery within 12 months –for craniofacial procedures performed (H33 and H34). Points were awarded as follows: 1 point for > 5% and ≤ 15% complication rate, 2 points for > 3% and ≤ 5% complication rate, or 3 points for ≤ 3% complication rate.

Hospitals received up to 3 points for having lower 30-day complication rates for epilepsy surgical resection or laser ablation in patients with convulsive disorders (H8 and H8.2). Points were awarded as follows: 1 point for > 5% and ≤ 10% complication rate, 2 points for > 3% and ≤ 5% complication rate, or 3 points for ≤ 3% complication rate.

Success in Controlling Epilepsy (6 points). Hospitals received up to 6 points for the percentage of patients receiving three specific treatments for epilepsy (temporal lobe epilepsy surgery, extra-temporal lobe epilepsy surgery, and functional hemispherectomy) who achieved Engel Class 1 after 12 months. Hospitals were rewarded for higher rates of success. For temporal lobe epilepsy surgery including laser ablation (H31a): 1 point for seizure-free rates ≥ 50% and < 80% or 2 points for seizure-free rates ≥ 80%. For extra-temporal lobe epilepsy surgery including laser ablation (H31b): 1 point for seizure-free rates ≥ 30% and < 60% or 2 points for seizure-free rates

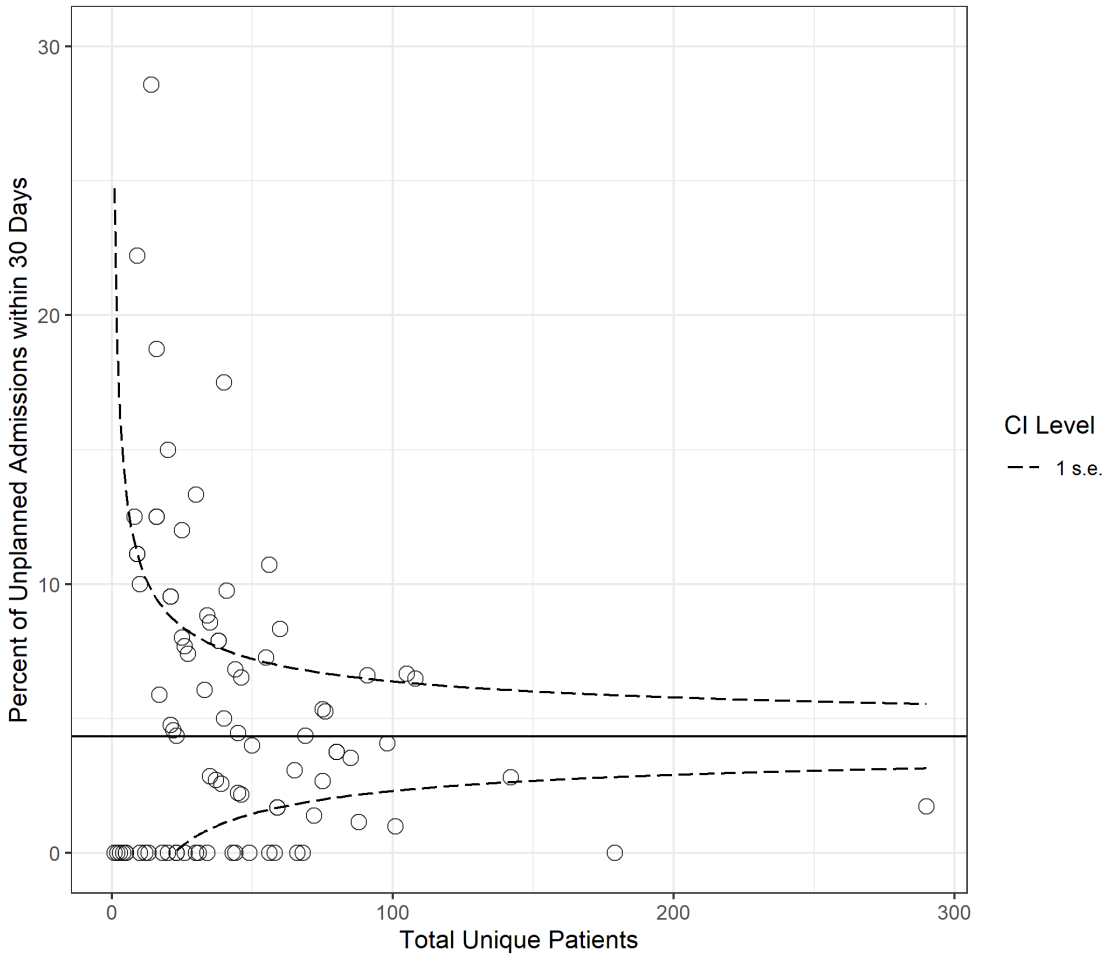
≥ 60%. For functional hemispherectomy (including corpus callosotomy) (H31c): 1 point for seizure-free rates ≥ 75% and < 90% or 2 points for seizure-free rates ≥ 90%.

Survival After Surgery (12 points). Hospitals received up to 12 points for surgical survival rates for six significant neurological disorders or procedures, including brain tumors (H16a), craniosynostosis (H16b), hydrocephalus patient shunts (H16c), medically intractable epilepsy (H16d), spinal dysraphism (H16e), and Chiari I malformation (H16f). Lower mortality rates indicate better performance (i.e., a lower rate of death following surgery). Points were awarded as follows: 1 point for survival rates ≥ 95% and <99% or 2 points for survival rates ≥ 99%.

Orthopedics

Ability to Prevent Surgical Complications (13 points). In an effort to create more statistically reliable scores, a funnel plot scoring methodology was used to assign points to hospitals for each element of the Ability to Prevent Surgical Complications score. To accomplish this, we calculated a value of 1 standard error from the national average dependent on patient volume across the 4-years (see ***Figure 4***). The national average is the average rate of all hospitals who submitted the orthopedic section of the survey. The standard errors were calculated using the standard statistical formula of $\sqrt{\frac{p*(1-p)}{n}}$, where n represents patient volume, and p represents the national ratio value of each metric. After establishing the ranges for scoring of using the funnel plot methodology, points were awarded based on the comparison of the hospital's metric to the national average. Some metrics are assessed with a 3-point scale and some are assessed with a 2-point scale (see below). The decision for choosing a maximum of 2 points for some metrics is based on the rarity of outcome rates and overall distribution of hospital volume and outcomes. Metrics where a 2-point maximum is used, combine two sections of the funnel plot (e.g., between the standard error bounds and below the lower standard error bound).

Figure 4. Example funnel plot of unplanned hospital admissions (for any reason) within 30 days for patients with neuromuscular scoliosis with 1 standard error lines used for point boundaries



For surgical correction of idiopathic scoliosis (I31a), hospitals could receive up to 2 points for each of two adverse outcomes (4 points total): unplanned admissions (for any reason) within 30 days of procedure (I32a—National average: 1.2%) and reoperation (for any cause) within 90 days (I32a—National average: 1.2%). More points were awarded for better performance (i.e., lower adverse event rates) as follows:

- 2 points were awarded to hospitals who had an adverse event rate greater than the 1 standard error lower bound and less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had an adverse event rate greater than 1 standard error upper bound from the national average.

For surgical correction of neuromuscular scoliosis in patients with Cerebral Palsy who have a Gross Motor Function Classification System (GMFCS) function level IV or V (I31b), hospitals could receive up to 3 points for each of two adverse outcomes (6 points total): unplanned admissions (for any reason) within 30 days of procedure (I32b—National average: 4.8%) and reoperation (for any cause) within 90 days (I32b—National average: 4.1%). More points were awarded for better performance (i.e., lower adverse event rates) as follows:

- 3 points were awarded to hospitals who had an adverse event rate less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had an adverse event rate less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had an adverse event rate greater than the 1 standard error upper bound from the national average.

Hospitals received an additional 3 points for rates of allogenic blood transfusions for adolescent patients with idiopathic scoliosis with major Cobb angle of 45-70 degrees who received posterior spinal fusion and instrumentation (I32.3—National average: 4.8%). More points were awarded for fewer patients who received allogenic blood transfusions as follows:

- 3 points were awarded to hospitals who had a rate of allogenic blood transfusions less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had a rate of allogenic blood transfusions less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a rate of allogenic blood transfusions greater than the 1 standard error upper bound from the national average.

Speed and Success in Treating Complex Fractures (11 points). Hospitals received up to 6 points for having a higher percentage of patients with an operating room start time within 18 hours of check-in with the Emergency Department for two conditions: operative reduction and fixation of supracondylar fracture (I25) of the humerus and femoral shaft fracture (I26). Hospitals received points for supracondylar fractures as follows: 1 point for ≥ 60% and < 80% of patients with operating room start times within 18 hours, 2 points for ≥ 80% and < 90%, or 3 points for ≥ 90%. Hospitals received points for femoral shaft fractures as follows: 1 point for ≥ 60% and <80% of patients with operating room start times within 18 hours, 2 points for ≥ 80% and <90%, or 3 points for ≥ 90%. Hospitals received an additional 2 points for fewer procedures performed on patients with supracondylar fractures using a formal open procedure (I25.1/I25): 2 points for ≤ 5%, or 1 point for > 5% and ≤ 10%.

Hospitals received up to 3 additional points for conducing radiographically-assisted reductions (without requiring hospital admission) of displaced forearm fractures in patients under 14 years of age (I27). Hospitals received points as follows: 1 point for ≥ 60% and < 80% of patients without requiring hospital admission, 2 points for ≥ 80% and < 90%, or 3 points for ≥ 90%.

Pulmonology & Lung Surgery

Ability to Prevent Infections in Intensive Care Units (5 points). The rate was calculated as the number of CLABSI (A33) infections per 1,000 central-line days in pediatric ICUs during the previous 12 months. Hospitals were rewarded for lower rates of infections. Hospitals received up to 5 points. Hospitals received points based on the better score between the Standardized Infection Ratio (SIR) for their pediatric ICU and the unadjusted CLABSI rate provided by the hospital as follows: 5 points if SIR value is ≤ 0.75 or unadjusted CLABSI rate is ≤ 0.5 infections per 1,000 patient days, 4 points if the SIR value is ≤ 1.0 or unadjusted CLABSI rate is > 0.5 and ≤ 1.0 infections per 1,000 patient days, 3 points if the SIR value is ≤ 1.25 or unadjusted CLABSI rate is > 1.0 and ≤ 1.5 infections per 1,000 patient days, 2 points if the SIR value is ≤ 1.5 or unadjusted CLABSI rate is > 1.5 and ≤ 2.0 infections per 1,000 patient days, or 1 point if the SIR value is > 1.5 or unadjusted CLABSI rate is > 2.0 and ≤ 3.0 infections per 1,000 patient days.

Ability to Prevent Pressure Injuries (5 points). Hospitals received up to 3 points for having lower rates of Stage III, Stage IV and unstageable hospital-acquired pressure injuries (A38.1 and A38.2). For Stage III and IV, hospitals received 1 point for having a pressure ulcer rate of ≤ 0.1 per 100 patient admissions assessed over the last four quarters. For unstageable pressure ulcers, hospitals received 1 point for a pressure ulcer rate of ≤ 0.2 per 100 patient admissions assessed over the last four quarters. Hospitals also received up to 2 points for assessing a larger percentage of their total inpatients for pressure ulcers: 1 point for ≥ 50% and < 75% or 2 points for ≥ 75%.

Success in Managing Cystic Fibrosis Patients (19 points). Hospitals received up to 19 points for representing better outcomes for patients with cystic fibrosis. Hospitals received up to 15 points (3 points for each item) for improving the functional status of cystic fibrosis patients' median body mass index (BMI) for patients 2-19 (J24b), median forced expiratory volume (FEV_1) for patients 6-12 (J24c), median forced expiratory volume (FEV) for patients 13-17(J24d), the percentage of children ≥ 7 who met treatment guidelines for established CF patients (at least one outpatient visit, one culture, and one PFTs) (J24e), and median weight-for-length percentile for CF patients 24 months of age or less (J24f). More points indicate better outcomes or better functional status. For BMI, points were awarded as follows: 1 point for median BMI percentile ≥ 40 and < 45%, 2 points for median BMI percentile ≥ 45% and < 50%, or 3 points for median BMI percentile ≥ 50%. For the FEV_1 measure, points were awarded as follows: 1 point for median FEV_1 ≥ 80 and < 90%, 2 points for median FEV_1 ≥ 90% and < 100%, or 3 points for median FEV_1

≥ 100%. For the percentage of children meeting treatment guidelines, points were awarded as follows: 1 point for ≥ 50 and < 75%, 2 points for ≥ 75% and < 90%, or 3 points for median FEV_1 ≥ 90%. For median weight-for-length percentile for CF patients 24 months of age or less, points were awarded as follows: 1 point for ≥ 10 and < 25%, 2 points for ≥ 25% and < 50%, or 3 points for median ≥ 50%.

Hospitals received up to 2 additional points for meeting performance benchmarks for cystic fibrosis. One point was awarded for having met the benchmark of < 10% quantity not sufficient (QNS) when conducting pilocarpine iontophoresis (sweat test) for cystic fibrosis with infants (< 3 months of age) (J21); 1 additional point was awarded for meeting the benchmark of < 5% QNS for children over 3 months (J22).

Hospitals received up to 2 points for having higher rates of patients over age 10 with cystic fibrosis (not already taking insulin) who completed an oral glucose tolerance test in the previous 12 months (J23). One point was awarded for ≥ 50% and < 75% of patients completing the test or 2 points were awarded for ≥ 75% of patients completing the test.

Success With Asthma Inpatients (8 points). Success with asthma patients was measured by two factors: shorter inpatient stays and lower readmission rates for asthma-related symptoms. Hospitals were awarded up to 6 points total based on the percentage of asthma inpatients readmitted within 7 days and 30 days for exacerbation of asthma-related symptoms (J13). Hospitals were rewarded for lower percentages of inpatient readmissions: 1 point each for readmission rates > 3% and ≤ 5%, 2 points each for rates > 1.5% and ≤ 3%, or 3 points each for rates ≤ 1.5%. Up to 2 additional points are awarded for shorter lengths of stay for asthma inpatients (J12): 1 point for an average stay > 2 days and ≤ 4 days or 2 points for a stay ≤ 2 days.

Survival After Lung Transplant (5 points). Hospitals received up to 5 points based on the observed[#####] survival rates at 1-year and 3-year for pediatric lung transplant patients (J47 and J48). Points were awarded in each group based on the observed probability of survival (unadjusted probability of survival). For 1-year survival rates, hospitals received 1 point for rates ≥ 50% and < 65%, 2 points for rates ≥ 65% and < 80%, or 3 points for rates ≥ 80%. For 3-year survival rates, hospitals received 1 point for rates ≥ 50% and < 60%, or 2 points for rates ≥ 60%.

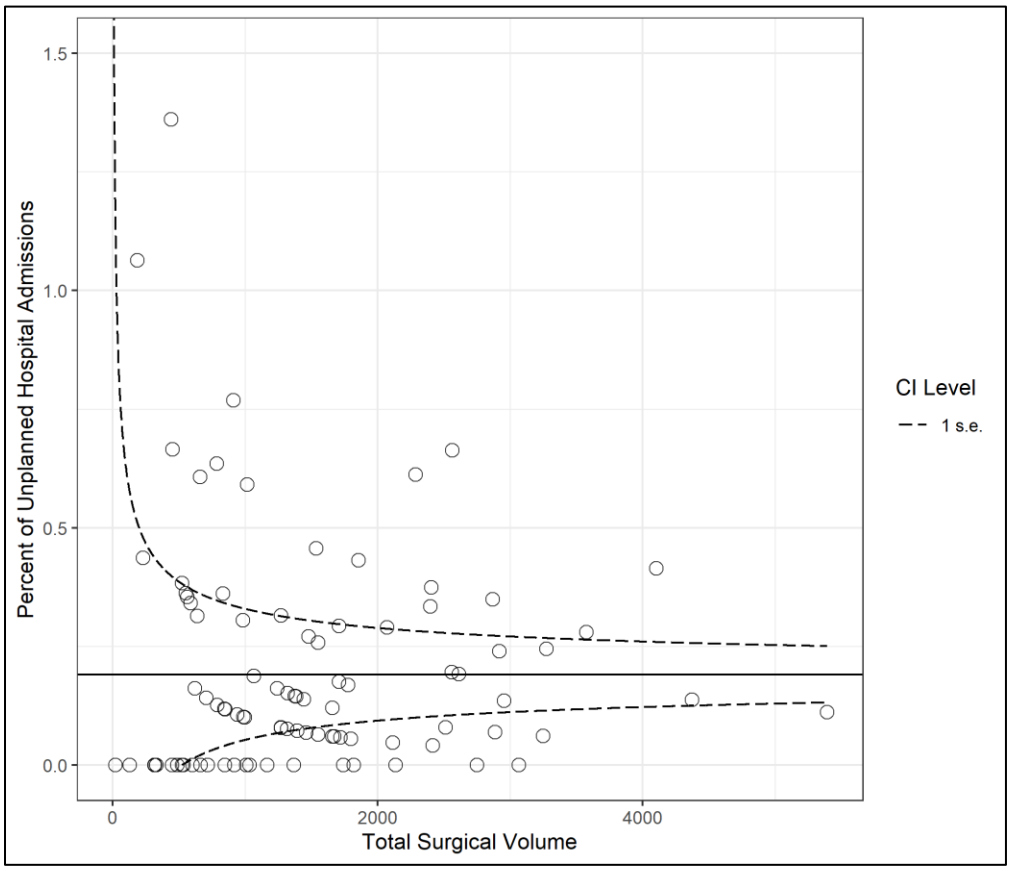
[#####] The SRTR now uses "estimated" rather than "observed" survival in its public reports. This report uses "observed" for consistency with other Best Children's Hospitals measures.

Urology

Ability to Prevent Surgical Complications (15 points). This measure evaluated a number of complications and adverse outcomes in patients who received urologic surgical procedures in the last 3 years.

In an effort to create more statistically reliable scores, a funnel plot scoring methodology was first implemented in the 2020-21 rankings to assign points to hospitals for each element of the Ability to Prevent Surgical Complications score. To accomplish this, we calculated a value of 1 standard error from the national average dependent on surgical volume across the 4-years (see ***Figure 5***). The national average is the average rate of all hospitals who submitted the urology section of the survey. The standard errors were calculated using the standard statistical formula of $\sqrt{\frac{p*(1-p)}{n}}$, where n represents surgical volume, and p represents the national ratio value of each metric. After establishing the ranges for scoring of using the funnel plot methodology, points were awarded based on the comparison of the hospital's metric to the national average. Some metrics are assessed with a 3-point scale and some are assessed with a 2-point scale (see below). The decision for choosing a maximum of 2 points for some metrics is based on the rarity of outcome rates and overall distribution of hospital volume and outcomes. Metrics where a 2-point maximum is used, combine two sections of the funnel plot (e.g., between the standard error bounds and below the lower standard error bound).

Figure 5. Example funnel plot unplanned hospital admissions for urologic issue within 30 days of inpatient urological surgery and surgical volume with 1 standard error lines used for point boundaries



Hospitals received up to 3 points for complications for distal hypospadias (K15a—National average: 3.5%) surgical procedures. More points were awarded for better performance (i.e., lower complication rates), as follows:

- 3 points were awarded to hospitals who had a complication rate less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had a complication rate greater than the 1 standard error lower bound and less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a complication rate greater than 1 standard error upper bound from the national average.

Hospitals received up to 2 points for the rate of complications for each of the following surgical procedures (4 points total): pyeloplasty (K15b—National average: 3.3%) and ureteral

reimplantation, primary or revision surgery (K15c—National average: 1.3%). More points were awarded for better performance (i.e., lower complication rates), as follows:

- 2 points were awarded to hospitals who had a complication rate less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had a complication rate greater than 1 standard error upper bound from the national average.

For adverse events of unplanned hospital admissions for urologic issue within 30 days of inpatient urological surgery (K16.1a—National average: 1.63%) following a scheduled ambulatory urological surgical procedure (K16.1b—National average: 0.2%), hospitals received up to 3 points for each of the three measures (6 points total), with more points awarded for better performance (i.e., lower adverse event rates) as follows:

- 3 points were awarded to hospitals who had an adverse event rate less than or equal to the 1 standard error lower bound from the national average;
- 2 points were awarded to hospitals who had an adverse event rate greater than the 1 standard error lower bound and less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had an adverse event rate greater than 1 standard error upper bound from the national average.

For adverse events of unplanned reoperation for a urologic issue within 48 days of urological surgery (K16.1c—National average: 0.06%), hospitals received up to 2 points with more points awarded for better performance (i.e., lower adverse event rates) as follows:

- 2 points were awarded to hospitals who had an adverse event rate less than or equal to the 1 standard error upper bound from the national average;
- 1 point was awarded to hospitals who had an adverse event rate greater than the 1 standard error upper bound from the national average.

Speed in Treating Testicular Torsion (2 points). This measure evaluates how quickly patients who presented with torsion of the testis received care following their registration for care in the ED or outpatient clinic (K19). Hospitals received 1 point for ≥ 50% and < 90% of patients who spent < 4 hours in the OR following their registration for care in the ED or outpatient clinic or 2 points for ≥ 90% of patients who spent < 4 hours in the OR before surgery.

B. Normalization and Weighting

As with structural and process measures, individual outcomes measures were normalized to have a distribution between 0 and 1. ***Table 16*** shows the relative weight of each measure on the total outcomes score for that specialty. The outcome measures combined are worth 33.3% of the overall score in all specialties except for pediatric Cardiology & Heart Surgery, for which outcomes are worth 38.3%. To determine the percent of the overall score for a given measure, divide the individual measure relative weight by the total weight for that specialty and multiply by 33.3 (38.3 in Cardiology & Heart Surgery).

Table 16. Relative Weights of Outcomes Measures by Specialty

Measure	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Ability to prevent biopsy-related complications						1				
Ability to prevent dialysis-related infections						1				
Ability to prevent infections in intensive-care units	0.38	0.98		0.56	2	0.74			1	
Ability to prevent pressure injuries	0.11	0.29		0.17		0.22			0.30	
Ability to prevent surgical complications							1.25	1		1.75
Five-year cancer survival	1									
Keeping breathing tube in place					1					
Matching breast milk with correct infants					1					
Median post-operative length of stay		1								
NICU temperature management					1					
Speed and success in treating complex fractures								1		
Speed in treating testicular torsion										1
Success in controlling epilepsy							1			
Success in hypothyroid management			1							
Success in managing cystic fibrosis patients									2	
Success in managing diabetes			2							

(continued)

Table 16. Relative Weights of Outcomes Measures by Specialty, continued

Measure	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Gastroenterology & GI Surgery	Neonatology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology & Lung Surgery	Urology
Success in managing dialysis patients						1				
Success of certain GI-related treatments				2						
Success with asthma inpatients									1.5	
Survival after (bone marrow/heart/kidney/liver/lung) transplant	1	1		1		1			0.5	
Survival after certain complex heart procedures		2								
Survival after congenital heart surgery		5								
Survival after Norwood/hybrid surgery		1								
Survival after surgery							1			
Taking breast milk when discharged					1					
Total	**2.49**	**11.27**	**3.00**	**3.73**	**6.00**	**4.96**	**3.25**	**2.00**	**5.30**	**2.75**

VII. Calculation of the U.S. News Score

The U.S. News ranking score reflects the followings weights for each of the major components and the individual process measures as shown in ***Table 17***. Starting with the 2017-18 rankings, individual component weights differ for Cardiology & Heart Surgery when compared with the other specialties. The differences can be seen in ***Table 17***. This shift in scoring is due to the inclusion of risk-adjusted mortality measures, which are more reliable than the observed outcome measures used in the other specialties.

Relative structural measure weights can be found in Table 8, and the relative outcomes measure weights are shown in Table 17.

Table 17. Component Weighting

Component	All Specialties Except Pediatric Cardiology & Heart Surgery	Pediatric Cardiology & Heart Surgery
Structure	33.3%	33.3%
Process: Commitment to Best Practices	12.0%	12.0%
Process: Infection-preventing measures	9.0%	9.0%
Process: Commitment to Equity, Diversity, and Inclusion	2.33%	2.33%
Process: Expert opinion	10.0%	5.0%
Outcomes*	33.3%	38.3%

*Numbers do not add up to total due to rounding.

Although each measure represents a specific aspect of quality, a single score provides a result that is easy to use and understand and that portrays overall quality more accurately than any of the three components would individually. The rankings for the top 50 hospitals in each of the pediatric specialties, by U.S. News score, are shown in ***Appendix C***. Starting with the 2012-13 rankings, hospitals with the same U.S. News rounded score have been considered to be tied.

The formula for calculating the U.S. News score for a given hospital is shown in Equation (2). The score can be thought of as a simple weighted sum of structural, process and outcome measures as shown below:

Equation (2) $Score = \left(\sum_{i=1}^{n_s} wts_i * s_i\right) + \left(\sum_{i=1}^{n_p} wtp_i * p_i\right) + \left(\sum_{i=1}^{n_o} wto_i * o_p\right)$,

where

$Score$ = raw hospital score in a given specialty,

wts_i = weight assigned to structure measure i,

wtp_i = weight assigned to process (expert opinion) measure i,

wto_i = weight assigned to outcomes measure i,

s_i = normalized value for structural measure i,

p_i = normalized value for process measure i,

o_i = normalized value for outcomes measure i.

Please note that the formula is meant for illustrative purposes only; it *cannot* be used to directly calculate a score for an individual hospital. For presentation purposes, raw scores are transformed to a scale that assigns a U.S. News score of 100 to the top hospital. The formula for the transformation is shown in Equation (3):

Equation (3) U.S. News *Score* = *(score - minimum)/range*

VIII. Pediatric Honor Roll

In all, 89 different hospitals were ranked in at least one pediatric specialty in the 2023-24 rankings. The Best Children's Hospitals Honor Roll, established in 2009, recognizes excellence across a broad range of pediatric specialties.

In each specialty, the No. 1-ranked hospital received 25 Honor Roll points and lower-ranked hospitals received progressively fewer points – the No. 2 hospital receiving 24 points, the No. 3 hospital 23 points, and so on – with all hospitals ranked 21-50 receiving 5 points. A hospital ranked No. 1 in all 10 specialties would therefore have received 250 points. The 2023-24 Honor Roll recognizes the 10 hospitals that earned the most points out of 250 across the 10 specialties. The Honor Roll is ordered 1 through 10 based on total points (see Appendix D).

IX. 2023-24 Changes

- **Refinement of the Commitment to Equity, Diversity, and Inclusion measure.** This year the section of questions focusing on efforts that hospitals engage in to address equity, diversity, and inclusion was revised in the survey to better reflect efforts that hospitals engage in. This resulted in overall fewer questions on the topic, but items that better represented key activities involved in this area of work. Hospitals received points in all specialties for engaging in activities related to advancing equity, diversity, and inclusion at varying levels within their system of care. This measure will continue to evolve over the next few years as hospital engage in more equity, diversity, and inclusion activities to address patient, family, provider, and staff needs.
- **Reduction in the Weight of Expert Opinion and Related Adjustments to the Process Component.** As previously announced, the weight of the Expert Opinion component was reduced by 3% to 10%) in all specialties except for pediatric cardiology and heart surgery where the Expert Opinion was already lower than other specialties; for this specialty, the percentage weight for Expert Opinion was reduced to 5%). In addition, when calculating the rankings, the Expert Opinion score was capped at 25%. Note that the actual Expert Opinion score achieved by a hospital is shown in the ranking tables, but when calculating the final ranking, all scores at or above 25% were constrained to 25%. Along with reducing the weight of the Expert Opinion scores, the weights assigned to objective measures in the process component were adjusted as well. These changes included a boost of 2.85% to the Commitment to Best Practices score (to 12%), and a boost of 0.33% to Equity, Diversity, and Inclusion score (to 2.33%), and a reduction of 0.15% to the Infection Prevention score (to 9%).

X. Future Improvements

Continued refinements are anticipated during the next few years. They are likely to include the following:

- **Adding questions focused on Pediatric and Adolescent Behavioral Health.** The project team developed questions and collected data on pediatric and adolescent behavioral health in children's hospitals in a test version of a new section L of the U.S. News Pediatric Hospital Survey in 2023. This work was done to support the development of questions to support a future ranking in pediatric and adolescent behavioral health. Work continues on the development of questions and material for this new section of the survey, but no rankings will be published in 2023.
- **Consider further weighting changes.** We plan to review the survey with the working groups to consider additional changes to the weights used in the rankings to assess hospitals.
- **Expand outcome measures.** We plan, for example, to explore alternatives for collecting additional mortality data, infection rates, patient functional measures, and complication rates.
- **Explore risk adjustment.** We will continue to investigate methods for risk-adjusting pediatric mortality data to better reflect hospital-to-hospital differences in patient mix, severity and comorbidities. As more pediatric-specific databases are developed or further expanded to include more pediatric facilities, we will explore their possible use in creating risk-adjusted outcomes and performance measures of health care.
- **Identify additional structural measures.** External certifications of hospital quality, excellence in specialty areas and awards for high-quality care will be considered for incorporation in the rankings. Additional technologies, teams and practices that define high-quality pediatric services also will be evaluated.
- **Identify opportunities for data validation and auditing.** To ensure the integrity of the data used, the project team plans to continue to explore opportunities for employ data validation and possible auditing techniques to evaluate data submitted by hospitals for consideration in the rankings.

The project team will continue to work with advisory panels of physicians, nurses, hospital quality specialists and other healthcare professionals. RTI and U.S. News are grateful to these expert volunteers. Their recommendations and advice have been invaluable.

XI. Contact Information

We welcome suggestions and questions. Readers and users of the rankings are encouraged to contact the Best Children's Hospitals research team at BestHospitals@rti.org. This report and methodology reports for the adult rankings can be viewed or downloaded online in their entirety from the RTI International Web site at http://www.rti.org/besthospitals.

XII. References

1. Donabedian A. Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly.* 1966; 44:166-203.

2. Donabedian A. Promoting quality through evaluating the process of patient care. *Medical Care.* 1968; 6:181.

3. Donabedian A. The quality of care: How can it be assessed? *Journal of the American Medical Association.* 1988; 260:1743-1748.

4. Donabedian A. The seven pillars of quality. *Archives of Pathology and Laboratory Medicine.* 1990; 114:1115-1118.

5. Donabedian A. The role of outcomes in quality assessment and assurance. *Quality Review Bulletin.* 1992; 18(11):356-360.

6. National Center for Health Statistics. *The international classification of diseases, ninth revision, clinical modification (ICD-9-CM*). Hyattsville, MD: National Center for Health Statistics. Available at http://www.cdc.gov/nchs/icd/icd9.htm. Accessed on April 21, 2006.

7. Jacobs JP, Mavroudis C, Jacobs ML, et al. What is operative mortality? Defining death in a surgical registry database: a report from the STS Congenital Database Task Force and the Joint EACTS-STS Congenital Database Committee. *Ann Thorac Surg 2006*;81:1937–41.

8. Overman D, Jacobs JP, Prager RL, et al. Report from The Society of Thoracic Surgeons National Database Work Force: clarifying the definition of operative mortality. *World J Pediatr Congenit Heart Surg 2013*;4:10–2.

Appendix A

2023-24 Best Children's Hospitals

Working Groups and Members

The Pediatric Hospital Survey is informed, updated and enhanced every year with the help of more than 168 volunteer advisers in 14 working groups – one group for each of the 10 Best Children's Hospitals specialties, plus infection control, radiology, and Behavioral Health. Three senior advisers provide overarching expertise.

The working groups' input is invaluable. However, U.S. News and RTI International make all final decisions concerning the content and wording of the survey and the analysis of the data it generates. Working group members do not have access to the data provided by participating hospitals and are not asked to endorse the decisions made by U.S. News.

The working group members and their institutions are listed below.

2023-24 Best Children's Hospitals Working Groups and Advisors

Behavioral Health
Dr. David Axelson, Nationwide Children's Hospital
Dr. Barbara Felt, University of Michigan Health C.S. Mott Children's Hospital
Dr. Lisa Giles, Intermountain Primary Children's Hospital-University of Utah
Dr. Cori Green, New York-Presbyterian Children's Hospital-Columbia and Cornell
Dr. Heather Huszti, CHOC Children's Hospital
Dr. Jennifer Katzenstein, Johns Hopkins All Children's Hospital
Dr. Elizabeth McCauley, Seattle Children's Hospital
Dr. Andres Pumariega, UF Shands Children's Hospital
Dr. Mandakini Sadhir, Kentucky Children's Hospital
Dr. Michael Sorter, Cincinnati Children's Hospital Medical Center
Dr. Diane Straub, Children's Hospital Colorado
Dr. Robert Voigt, Texas Children's Hospital
Dr. John Walkup, Ann and Robert H. Lurie Children's Hospital of Chicago
Dr. Carol Weitzman, Boston Children's Hospital

Cancer
Dr. Amy Louise Billett, Nemours Children's Hospital-Delaware
Dr. Tim Cripe, Nationwide Children's Hospital
Dr. Christopher Dandoy, Cincinnati Children's Hospital Medical Center
Dr. Jeffrey Dome, Children's National Hospital
Dr. Jeffrey D. Hord, Akron Children's Hospital
Ms. Kristen Johnston, Cook Children's Medical Center
Dr. Jessica Kandel, University of Chicago, Comer Children's Hospital
Dr. Eugenie Kleinerman, Children's Cancer Hospital-University of Texas M.D. Anderson Cancer Center
Dr. Andrew Kung, MSK Kids at Memorial Sloan Kettering Cancer Center
Dr. Ellis Neufeld, St. Jude Children's Research Hospital
Dr. Rita Secola, Children's Hospital Los Angeles
Dr. Sheri Spunt, Lucile Packard Children's Hospital Stanford

Cardiology & Heart Surgery
Dr. Catherine Collins, Ann and Robert H. Lurie Children's Hospital of Chicago
Dr. Charles Fraser, Jr., Dell Children's Medical Center
Dr. Richard Friedman, Cohen Children's Medical Center
Dr. Jeffrey Jacobs, University of Florida
Dr. Kathy Jenkins, Boston Children's Hospital
Dr. Jennifer Li, Duke Children's Hospital and Health Center
Dr. Bradley Marino, Cleveland Clinic Children's Hospital
Dr. Sara Pasquali, University of Michigan Health C.S. Mott Children's Hospital
Dr. Christian Pizarro, Nemours Children's Hospital-Delaware
Dr. Phil Saul, West Virginia University Children's Hospital
Dr. David Vener, Texas Children's Hospital
Dr. Robert Vincent, Maria Fareri Children's Hospital at Westchester Medical Center
Dr. Karl F. Welke, Levine Children's Hospital

Diabetes & Endocrinology
Dr. Stuart Chalew, Children's Hospital New Orleans
Dr. Mark Clements, Children's Mercy Kansas City Hospital
Dr. Fran Cogen, Children's National Hospital
Dr. Mark Daniels, CHOC Children's Hospital
Dr. Larry Fox, Wolfson Children's Hospital
Dr. Madhusmita Misra, MassGeneral Hospital for Children
Dr. David Repaske, University of Virginia Children's Hospital
Ms. Lydia Smith, Le Bonheur Children's Hospital
Dr. Doris Taha, Children's Hospital of Michigan
Dr. Steven Willi, Children's Hospital of Philadelphia
Dr. Jamie Wood, University Hospitals Rainbow Babies and Children's

Gastroenterology & GI Surgery
Dr. Bradley Barth, University of Texas Southwestern Medical Center/Children's Health
Dr. Jeffrey Bornstein, Arnold Palmer Hospital for Children
Dr. Adela Casas-Melley, Nemours Children's Hospital-Florida
Dr. Mitchell B. Cohen, Children's Hospital of Alabama at UAB
Dr. Eunice Huang, Monroe Carell Jr. Children's Hospital at Vanderbilt
Dr. Jeffrey Linzer Sr., Children's Healthcare of Atlanta
Dr. Inna Novak, Children's Hospital at Montefiore
Dr. Timothy Sentongo, University of Chicago, Comer Children's Hospital
Dr. Thomas Sferra, University Hospitals Rainbow Babies and Children's
Dr. Mitchell Shub, Phoenix Children's Hospital
Dr. Robbyn Sockolow, New York-Presbyterian Children's Hospital-Columbia and Cornell
Mr. Jorde Spitler, Dayton Children's Hospital
Dr. Daniel von Allmen, Cincinnati Children's Hospital Medical Center

Health Equity/Diversity/Inclusion
Ms. Alicia Adiele, Seattle Children's Hospital
Dr. Lalit Bajaj, Children's Hospital Colorado
Dr. Oscar Benavidez, MassGeneral Hospital for Children
Dr. Denice Cora-Bramble, Children's National Hospital
Dr. Cynthia Cross, Le Bonheur Children's Hospital
Dr. Allison Empey, Doernbecher Children's Hospital at Oregon Health and Science University
Dr. Stuart Gold, North Carolina Children's Hospital at UNC
Dr. Anu Partap, Cook Children's Medical Center
Dr. Jessica Pittman, St. Louis Children's Hospital-Washington University
Ms. Tracie Smith, Ann and Robert H. Lurie Children's Hospital of Chicago
Dr. Marsha Treadwell, UCSF Benioff Children's Hospital Oakland

Infection Control
Dr. Allison Bartlett, University of Chicago, Comer Children's Hospital
Dr. Margaret Aldrich, Children's Hospital at Montefiore
Dr. Mallory Davis, Spectrum Health Helen DeVos Children's Hospital
Ms. Wendi Gornick, CHOC Children's Hospital
Ms. Michele Honeycutt, Arkansas Children's Hospital
Dr. W. Charles Huskins, Mayo Clinic Children's Center
Mr. Raed Khoury, Valley Children's Healthcare and Hospital
Dr. Aaron Milstone, Johns Hopkins Children's Center
Ms. Elaine Whaley, Texas Children's Hospital
Ms. Jane Zbinden, St. Louis Children's Hospital-Washington University
Dr. Danielle Zerr, Seattle Children's Hospital

Neonatology
Dr. Rishi Bakshi, University of Michigan Health C.S. Mott Children's Hospital
Dr. Beverly Brozanski, St. Louis Children's Hospital-Washington University
Dr. David Burchfield, UF Health Shands Children's Hospital
Dr. Dmitry Dukhovny, Doernbecher Children's Hospital at Oregon Health Science University
Dr. Michael Gomez, Orlando Health Winnie Palmer Hospital for Women & Babies
Dr. Theresa Grover, Children's Hospital Colorado
Dr. Andrew Herman, Levine Children's Hospital
Dr. Kris Reber, Texas Children's Hospital
Dr. Yao Sun, UCSF Benioff Children's Hospital
Dr. Jonathan Swanson, University of Virginia Children's Hospital
Dr. Barry Weinberger, Cohen Children's Medical Center

Nephrology
Dr. Steve Alexander, Lucile Packard Children's Hospital Stanford
Dr. Paul Brakeman, UCSF Benioff Children's Hospital
Dr. Michael Braun, Texas Children's Hospital
Dr. Vikas Dharnidharka, St. Louis Children's Hospital-Washington University
Dr. Joseph Flynn, Seattle Children's Hospital
Dr. Jens Goebel, Spectrum Health Helen DeVos Children's Hospital
Dr. Stuart Goldstein, Cincinnati Children's Hospital Medical Center
Dr. Chryso Katsoufis, Holtz Children's Hospital at UM-Jackson Memorial Medical Center
Dr. Katherine MacRae Dell, Cleveland Clinic Children's Hospital
Dr. Alicia Neu, Johns Hopkins Children's Center
Dr. Jeffrey M. Saland, Mount Sinai Kravis Children's Hospital
Dr. Michael Somers, Boston Children's Hospital
Ms. Colleen Tipping, UPMC Children's Hospital of Pittsburgh
Dr. Brad Warady, Children's Mercy Kansas City Hospital

Neurology & Neurosurgery
Dr. Joshua Chern, Children's Healthcare of Atlanta
Dr. Bruce Cohen, Akron Children's Hospital
Dr. Daniel Fain, Spectrum Health Helen DeVos Children's Hospital
Dr. Howard Goodkin, University of Virginia Children's Hospital
Dr. Mark D. Krieger, Children's Hospital Los Angeles
Dr. David Limbrick, St. Louis Children's Hospital-Washington University
Dr. Tobias Loddenkemper, Boston Children's Hospital
Dr. Mohamad Mikati, Duke Children's Hospital and Health Center
Dr. Karin Muraszko, University of Michigan Health C.S. Mott Children's Hospital
Ms. Macey Perkins, Dayton Children's Hospital
Dr. Joseph Piatt, Nemours Children's Hospital-Delaware
Dr. Bradley Weprin, Children's Medical Center Dallas
Dr. Angus Wilfong, Phoenix Children's Hospital

Orthopedics
Dr. Laurel Blakemore, Pediatric Specialists of Virginia
Dr. Brian Brighton, Levine Children's Hospital
Dr. Sumeet Garg, Children's Hospital Colorado
Dr. Ryan Goodwin, Cleveland Clinic Children's Hospital
Dr. J Eric Gordon, St. Louis Children's Hospital-Washington University
Ms. Patricia Gust, St. Jude Children's Research Hospital
Dr. Gregory Hahn, Johns Hopkins All Children's Hospital
Dr. Lisa Ipp, Lerner Children's Pavilion-Hospital for Special Surgery
Dr. Charles Mehlman, Cincinnati Children's Hospital Medical Center
Dr. Karl Rathjen, Children's Medical Center Dallas-Scottish Rite Hospital for Children
Dr. Coleen Sabatini, UCSF Benioff Children's Hospital
Dr. Greg Schmale, Seattle Children's Hospital
Dr. David Skaggs, Cedars-Sinai Maxine Dunitz Children's Health Center

Pulmonology & Lung Surgery
Dr. Scott Bickel, Norton Children's Hospital
Dr. Casey Burg, Children's Hospital and Medical Center, Omaha
Dr. John Carl, Cleveland Clinic Children's Hospital
Dr. Shailendra Das, Texas Children's Hospital
Dr. Charles Esther, North Carolina Children's Hospital at UNC
Dr. Thomas Lahiri, University of Vermont Children's Hospital
Dr. Brian McGinley, Intermountain Primary Children's Hospital-University of Utah
Dr. Christopher Oermann, Children's Mercy Kansas City Hospital
Dr. Jonathan Popler, Children's Healthcare of Atlanta
Dr. Kristie Ross, University Hospitals Rainbow Babies and Children's
Dr. Julie Ryu, Rady Children's Hospital
Dr. Gregory S. Sawicki, Boston Children's Hospital
Dr. Pornchai Tirakitsoontorn, CHOC Children's Hospital

Radiology
Dr. Brian Coley, Cincinnati Children's Hospital Medical Center
Dr. Kassa Darge, Children's Hospital of Philadelphia
Dr. Azam Eghbal, CHOC Children's Hospital
Dr. Sheila Moore, UPMC Children's Hospital of Pittsburgh
Dr. Cynthia Rigsby, Ann and Robert H. Lurie Children's Hospital of Chicago
Dr. Douglas Rivard, Children's Mercy Kansas City Hospital
Dr. Victor Seghers, Texas Children's Hospital
Dr. Stephen Simoneaux, Children's Healthcare of Atlanta

Urology
Dr. Glenn Cannon, UPMC Children's Hospital of Pittsburgh
Dr. Pasquale Casale, AdventHealth for Children
Dr. Pamela Ellsworth, Nemours Children's Hospital-Florida
Ms. Kimberley Giles, Le Bonheur Children's Hospital
Dr. Micah Jacobs, University Hospital Children's Health
Dr. Paul Merguerian, Seattle Children's Hospital
Dr. Joseph Ortenberg, Children's Hospital New Orleans
Ms. Natalie Plachter, Children's Hospital of Philadelphia
Dr. Pramod Reddy, Cincinnati Children's Hospital Medical Center
Dr. Jonathan Routh, Duke Children's Hospital and Health Center
Dr. Stacey Tanaka, Monroe Carell Jr Children's Hospital at Vanderbilt
Dr. Thomas Vates, Hackensack Meridian Health JM Sanzari and K Hovnanian Children's Hospitals

Senior Advisors
Dr. Elaine Cox, Riley Hospital for Children at IU Health
Dr. F. Sessions Cole, St. Louis Children's Hospital-Washington University
Dr. Phil Saul, West Virginia University Children's Hospital

Appendix B

Glossary of Terms

Continuous video EEG monitoring with pediatric neurology support (F12a). EEG (electroencephalography) is a technology for measuring electrical activity produced by the brain, as recorded from electrodes placed on the scalp. EEG monitoring provides the ability to collect the brain's electrical activity continuously to help detect and diagnose neurological problems.

Cryoablation (B8f, E14b). This process uses cooled, thermally conductive gases and fluids circulated through hollow needles (cryoprobes) that are placed in contact with or inserted into diseased tissue to kill it.

EEG source localization (H5b). Source localization is the process of identifying the origin or site of seizure activity within the brain. For this item, only EEG testing was included.

Fast magnetic resonance imaging (MRI) shunt for hydrocephalus (A10h). Fast MRI shunt scans are exams performed in under 10 minutes as an alternative to CT scans to assess ventricular size when shunt tube malfunction is suspected.

Functional magnetic resonance (fMR) (B8b). fMR is a specialized type of MRI scan that measures changes in blood flow related to neural activity.

Genetic testing/counseling (A7d). A genetic testing/counseling service is equipped with the appropriate laboratory facilities and is directed by a physician qualified to advise parents and prospective parents on potential problems in cases of genetic defects. A genetic test is the analysis of human DNA, RNA, chromosomes, proteins and certain metabolites to detect heritable disease-related genotypes, mutations, phenotypes or karyotypes for clinical purposes. Genetic tests can have diverse purposes, including the diagnosis of genetic diseases in newborns, children and adults; the identification of future health risks; the prediction of drug responses; and the assessment of risks to future children.

Hypoplastic Left Heart Syndrome (HLHS) (E40). "A spectrum of congenital cardiovascular malformations with normally aligned great arteries without a common atrioventricular junction, characterized by underdevelopment of the left heart with significant hypoplasia of the left ventricle including atresia, stenosis, or hypoplasia of the aortic or mitral valve, or both valves, and hypoplasia of the ascending aorta and aortic arch." (See: Jacobs, et al. Nomenclature for Pediatric and Congenital Cardiac Care: Unification of Clinical and Administrative Nomenclature - The 2021 International Paediatric and Congenital Cardiac Code (IPCCC) and the Eleventh Revision of the International Classification of Diseases (ICD-11). Cardiology in the Young. 2021 Jul;31(7):1057-1188. doi: 10.1017/S104795112100281X. PMID: 34323211)

Image-guided radiation therapy (IGRT) (A10e). IGRT is an automated system that produces high-resolution x-ray images to pinpoint tumor sites, adjust patient positioning and generally make treatment more effective and efficient.

Intensity-modulated radiation therapy (IMRT) (A10f). IMRT is a three-dimensional radiation therapy that improves the targeting of treatment delivery in a way that is likely to decrease damage to normal tissues and allows for varying intensities.

Intraoperative magnetic resonance imaging (ioMRI) (A10c). ioMRI uses a uniform magnetic field and radio frequencies to study tissue and structure of the body. It enables visualization of biochemical cellular activity in vivo without the use of ionizing radiation, radioisotopes or ultrasound.

Magnetic resonance cholangiopancreatography (MRCP) (D7a). MRCP is a noninvasive approach for imaging the biliary and pancreatic ducts using MRI.

Multidisciplinary pediatric acute pain/sedation service available onsite 24 hours a day (A8d). This service provides monitored anesthesia care and sedation within the hospital (but not within an operating room or PICU), as well as emergency airway management and acute and chronic pain management for neonates and pediatric patients on a 24-hour basis. A qualified program must have at least an identified medical director (e.g., general pediatrician, pediatric subspecialist or anesthesiologist) with documented education in conscious sedation and a registered nurse coordinator (or pain management clinical nurse specialist).

Neonatal intensive care unit (NICU) (A7a). A NICU provides mechanical ventilation, neonatal surgery and special care for the sickest infants, including those with the lowest birth weights (below 1,500 grams), who are born in the hospital or transferred from another institution. The NICU is separate from the newborn nursery. A full-time neonatologist serves as director.

Neurophysiological intraoperative monitoring (H5a). This uses electrophysiological methods, including electroencephalography and electromyography, to monitor parts of the brain, spinal cord and peripheral nerves during surgery.

Palliative care program (A7e). A palliative care program is organized and staffed for children nearing the end of life or living with lifespan-limiting conditions. The program's purpose is to minimize pain and discomfort, provide emotional and spiritual support for children and their families, assist with financial guidance and social services and support decision making. Programs must include at least one physician providing direct patient care; a nurse coordinator; and a social worker, certified child-life specialist or pastoral counselor. All program staff must have training in palliative care.

Patient care rooms with protective environment (A7c). The Protective Environment incorporates the following: air exchanges $\geq$ 12 per hour; central or point-of-use high-efficiency particulate (HEPA) filters, consistent positive air pressure differentials between the patient's room and hallway and continuous monitoring of pressure differentials.

Pediatric anesthesia program available onsite 24 hours a day (A8a). This team provides anesthesia care for children before, during and after surgery (or other medical procedures). The team provides 24-hour coverage by board-certified anesthesiologists who specialize in pediatric anesthesia.

Pediatric intensive care unit (PICU) (A7b). A PICU is staffed with specially trained personnel and has monitoring and specialized support equipment for treating pediatric patients who, because of shock, trauma or other life-threatening conditions, require intensified, comprehensive observation and care.

Pediatric pain management program available onsite 24 hours a day (A8c). Administered by specially trained physicians and other clinicians, this is a recognized clinical service or program providing specialized medical care, drugs or therapies for the management of acute or chronic pain and other distressing symptoms among children suffering from an acute illness of diverse causes.

PET/computed tomography (PET/CT) scanning (A10b). PET/CT combines the capabilities of PET and CT scanning into a single, integrated device that provides metabolic functional information for monitoring chemotherapy, radiotherapy, and surgical planning.

Portable CT scanning unit (A10g). CT scanning unit that can be moved to where patient care is being provided rather than having a fixed unit in a single location. The portable unit is particularly helpful in delivering care in the ICU, emergency department, and in operating room environments.

Positron emission tomography (PET) (A10a). PET scanning is a computerized nuclear medicine imaging technology that uses radioactive (positron-emitting) isotopes created in a cyclotron or generator to produce composite images of the brain and heart activity. The scans are sectional images depicting metabolic activity or blood flow rather than anatomy.

Radio frequency ablation (B8f, E14c). This procedure involves placing probes that emit radiofrequency energy into the heart using a catheter. The radiofrequency energy is then used to destroy abnormal electrical activity in the heart tissue.

Rapid response team (A8a). A rapid response team, also known as a medical emergency team, is distinct from the hospital "code" team. It is available 24 hours a day and has three essential characteristics: (1) the team creates tools and provides staff education for recognizing an acute deterioration in patient condition; (2) the team follows the SBAR (situation, background, assessment, recommendation) method to communicate such a change in condition effectively and efficiently (i.e., escalation policy); and (3) the team responds to the change in condition with the goal of reducing/eliminating preventable "codes."

Rehabilitation program and consultation service (A7f). This program provides either a rehabilitation unit and/or a consultation service within the pediatric program for patients requiring rehabilitation. The program must include a pediatric physiatrist (board certified/board eligible pediatric rehabilitation physician) as the director.

Therapeutic meta-iodine-benzyl-guanidine with I-131 radionuclide (I-131 MIBG) (B8a). I-131MIBG is a functional imaging and treatment agent used to help locate, diagnose and treat tumors of adrenergic tissues, such as neuroblastoma and pheochromocytoma. For this question, we are only interested in therapeutic use of I-131 MIBG to treat cancer.

Three-dimensional mapping (E14a). This includes the use of three-dimensional imaging systems such as MRI or ultrasound to guide ablation probes.

Underrepresented in medicine (URiM) (A49). Underrepresented in medicine refers to "those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population" (Association of American Medical Colleges [AAMC] Executive Council on June 26, 2003). This definition is used to guide work by medical schools and health care organizations in their efforts to identify and address equity, diversity and inclusion concerns with providers, leaders, patients, and their families to ultimately improve patient care.

Vascular tumor program (A35). This program brings together a multidisciplinary team of specialists to diagnose and ensure the most effective treatment for optimal functioning and quality of life for children with vascular anomalies (tumors or malformations). To be eligible, a program must have at least three of the following: pediatric physicians in Dermatology, Hematology, Diagnostic Radiology, Interventional Radiology, Pediatric Surgery, Pediatric Neuro-interventional

Radiology and Pediatric Orthopedics. The program must also include a nursing clinical coordinator and a medical director.

Virology laboratory with weekday 24-hour availability (F12b). This is a diagnostic laboratory that supports the NICU by conducting culture and tissue studies to determine patients' virological conditions. Laboratory should be able to complete one or more of the following tests: HSV PCR from CSF, HSV PCR from blood, or direct HSV antigen testing for skin lesions.

3-Tesla magnetic resonance imaging (3T MRI) (A10d). 3T MRI is a higher-powered version of MRI that offers improved morphological and functional studies of the brain compared with the more common field strength of 1.5T.

Appendix C

2023-24 Best Children's Hospitals Rankings by Specialty

Rank	Best Children's Hospital 2023-24: Cancer Hospital	Overall Score	Five-year cancer survival	Survival after bone marrow transplant	Ability to prevent infections throughout hospital	Ability to prevent infections in intensive-care units	Ability to prevent pressure injuries	Number of patients	Number of new patients	Number of surgeries	Nurse staffing	Bone marrow transplant services	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Accredited by FACT	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care	Provides advanced palliative care
1	Cincinnati Children's Hospital Medical Center	100	15	6	46	13	5	30	3	16	4.1	15	26	11	19	5	20	1	1	31.6	48	16	7	13	15	67	8	7	8
2	Dana-Farber/Boston Children's Cancer and Blood Disorders Center	98.0	15	6	44	13	4	29	3	16	4.1	15	25	11	19	5	20	1	1	43.5	48	16	7	12	15	57	8	7	8
3	Children's Hospital Los Angeles	97.0	15	6	44	14	4	29	3	16	3.7	15	26	11	17	5	20	1	1	21.5	49	16	7	9	15	69	8	7	8
4	Children's National Hospital	96.3	15	6	46	15	5	30	3	16	3.8	14	26	11	18	5	20	1	1	16.6	48	16	7	12	13	65	8	7	8
5	St. Jude Children's Research Hospital	94.2	15	6	39	10	3	30	3	16	6.3	15	26	11	18	5	19	1	1	26.8	48	16	7	11	15	61	8	7	8
6	Texas Children's Hospital	93.8	15	5	41	13	5	30	3	16	4.3	15	25	11	19	5	20	1	1	32.9	48	16	7	13	15	51	8	7	8
7	Children's Hospital Colorado	93.0	14	6	42	13	5	30	3	16	4.0	15	26	11	18	5	20	1	1	17.7	47	15	7	13	15	57	8	7	8
8	Children's Healthcare of Atlanta	91.1	15	5	41	15	5	30	3	16	5.1	13	27	11	19	5	20	1	1	20.2	47	16	6	12	15	35	8	7	8
9	Children's Hospital of Philadelphia	90.6	14	5	36	14	4	30	3	16	3.7	15	25	11	18	5	20	1	1	43.6	48	16	7	13	15	54	8	7	8
9	Johns Hopkins Children's Center	90.6	15	6	46	11	4	30	3	16	3.7	15	26	11	19	5	20	1	1	9.2	49	16	7	12	15	69	8	7	8
9	Nationwide Children's Hospital	90.6	15	6	44	11	3	30	3	16	3.2	15	26	11	19	5	20	1	1	13.6	47	16	7	12	15	66	8	7	8
12	UCSF Benioff Children's Hospitals, San Francisco and Oakland	86.4	15	6	45	11	5	27	3	12	4.4	15	25	11	18	5	20	1	1	9.7	41	16	7	11	15	56	8	7	8
13	Seattle Children's Hospital	86.3	12	6	43	9	4	22	3	14	3.7	14	25	11	18	5	20	1	1	24.9	42	16	7	13	14	47	8	7	7
14	MSK Kids at Memorial Sloan Kettering Cancer Center	83.5	14	5	40	11	5	28	3	14	5.4	15	25	11	19	5	20	1	1	10.0	48	14	7	12	15	65	8	7	8
15	Children's Medical Center Dallas	83.4	14	6	43	14	5	30	3	16	3.8	15	25	11	19	5	20	1	1	3.0	46	16	7	13	15	52	8	7	8
16	University of Michigan Health C.S. Mott Children's Hospital	82.6	14	6	40	14	3	29	2	16	5.3	15	25	11	18	5	20	1	1	4.2	48	16	7	10	15	60	8	7	8
17	Ann and Robert H. Lurie Children's Hospital of Chicago	81.5	15	5	39	14	3	30	3	16	2.8	15	25	11	17	5	20	1	1	7.8	47	16	7	12	14	48	8	7	8
17	UPMC Children's Hospital of Pittsburgh	81.5	14	6	41	13	4	29	3	14	3.0	12	25	11	18	5	20	1	1	3.8	47	16	7	13	15	56	8	7	8
19	Children's Cancer Hosp.-Univ. of Texas M.D. Anderson Cancer Center	81.3	14	6	41	14	5	24	3	14	3.7	15	23	11	19	5	20	1	1	3.9	45	15	7	13	14	41	8	7	8
20	Lucile Packard Children's Hospital Stanford	80.2	14	6	39	13	4	17	3	10	4.3	15	23	11	18	5	18	1	1	9.1	43	16	7	8	13	39	8	7	7
21	Rady Children's Hospital	80.1	14	5	45	15	5	27	3	15	4.1	14	26	11	18	5	20	1	1	1.7	46	16	7	12	15	69	8	7	8
22	St. Louis Children's Hospital-Washington University	79.6	14	6	42	15	4	15	3	15	3.4	15	24	11	19	5	20	1	1	3.3	45	16	7	10	15	41	8	7	7
23	Cleveland Clinic Children's Hospital	78.6	15	5	41	14	4	27	3	16	3.1	11	24	11	19	5	20	1	1	1.3	49	16	7	12	15	69	8	7	8
24	Riley Hospital for Children at IU Health	76.5	12	6	42	11	4	27	3	15	3.9	15	26	11	17	5	20	1	1	1.7	48	16	7	11	15	48	8	7	8
25	Cohen Children's Medical Center	74.3	15	5	40	15	5	14	3	10	4.4	13	24	11	19	5	19	1	1	0.9	46	16	7	7	8	68	8	7	8
26	Duke Children's Hospital and Health Center	73.9	15	5	43	11	3	19	2	8	3.6	15	23	11	18	5	19	1	1	2.8	46	16	7	8	12	66	8	7	7
26	MUSC Shawn Jenkins Children's Hospital	73.9	15	6	43	11	4	16	2	10	3.1	14	24	11	16	5	20	1	1	0.7	45	16	7	7	9	62	8	7	8
28	Children's Wisconsin Hospital	73.6	15	6	37	9	3	18	3	10	3.8	15	24	11	17	5	20	1	1	2.4	45	16	7	8	12	34	8	7	8
29	Rainbow Babies and Children's Hospital	73.5	10	6	45	15	4	23	2	11	2.9	12	26	11	19	5	20	1	1	1.3	48	16	7	8	13	68	8	7	8
30	Cook Children's Medical Center	73.1	15	6	36	15	5	29	3	11	3.5	14	23	11	17	5	18	1	1	0.5	43	16	7	1	11	35	8	7	8
31	Johns Hopkins All Children's Hospital	72.7	12	6	43	11	5	14	3	12	3.8	15	24	11	16	5	20	1	1	1.0	48	16	7	5	15	34	8	7	8
31	Levine Children's Hospital	72.7	14	5	42	15	4	19	3	10	3.4	15	24	11	18	5	20	1	1	0.7	48	16	7	0	11	67	8	7	8
33	CHOC Children's Hospital	71.6	12	6	41	8	4	24	3	10	4.4	15	25	11	13	5	20	1	1	3.3	45	16	7	8	13	29	8	7	8
34	Children's Hospital of Alabama at UAB	71.3	14	5	39	14	4	29	3	13	3.7	15	24	11	18	5	20	0	1	1.9	47	16	7	10	14	55	8	7	8
35	Intermountain Primary Children's Hospital-University of Utah	71.0	15	5	40	15	5	30	3	15	3.1	15	24	10	18	5	19	0	1	1.6	46	16	6	9	14	32	8	7	8
36	North Carolina Children's Hospital at UNC	69.6	11	6	41	7	5	26	2	15	3.7	15	23	11	17	5	20	1	1	0.9	46	16	7	10	9	67	8	7	8
37	Children's Hospital of Richmond at VCU	69.0	13	5	38	15	5	10	2	8	3.3	13	24	10	15	5	17	1	1	0.5	48	16	7	6	13	66	8	7	8
37	Nemours Children's Hospital-Delaware	69.0	14	6	31	9	2	18	2	12	3.3	12	26	11	19	5	20	1	1	1.4	46	16	7	7	14	49	8	7	8
37	UCLA Mattel Children's Hospital	69.0	12	5	35	15	4	10	2	13	4.4	13	24	10	17	5	19	1	1	3.1	44	15	7	6	12	69	8	7	8
40	Arkansas Children's Hospital	68.7	14	6	40	13	5	12	2	8	2.6	12	27	11	16	5	20	1	1	0.5	41	16	7	7	7	48	8	7	8
40	Corewell Health Helen DeVos Children's Hospital	68.7	13	6	39	15	4	11	3	9	2.9	15	25	11	17	5	19	1	1	0.3	45	16	7	4	10	33	8	5	8
42	Monroe Carell Jr. Children's Hospital at Vanderbilt	68.2	14	4	41	9	4	30	3	16	4.2	14	23	11	17	5	19	1	1	2.0	44	16	7	8	14	39	8	7	8
43	Doernbecher Children's Hosp. at Oregon Health and Science Univ.	67.1	13	5	34	11	4	23	2	14	4.3	14	25	11	18	5	19	1	1	0.9	44	16	7	9	14	43	8	7	8
44	New York-Presbyterian Children's Hospital-Columbia and Cornell	66.7	13	4	37	9	3	19	3	16	3.5	14	24	10	18	5	20	1	1	3.8	44	16	7	10	15	56	8	7	7
45	Hackensack Meridian Health JM Sanzari and K Hovnanian Children's Hosps.	66.0	12	5	43	9	4	9	2	7	2.7	15	22	11	18	5	20	1	1	1.1	48	16	7	4	13	69	8	7	8
46	University of Rochester-Golisano Children's Hospital	65.7	15	6	30	13	5	10	2	8	3.2	13	21	9	16	3	18	1	1	0.4	44	16	7	5	3	57	8	7	8
47	Children's Hospital of Michigan	64.6	13	6	41	15	5	10	2	7	3.2	13	21	11	16	5	20	0	1	0.8	39	15	7	7	11	48	8	7	8
47	Penn State Health Children's Hospital	64.6	12	6	33	13	5	10	2	6	3.2	8	23	11	16	5	19	1	1	0.4	44	16	7	11	6	48	8	7	8
49	American Family Children's Hospital	63.9	11	6	35	11	4	10	2	9	3.4	14	22	10	18	5	20	1	1	0.8	43	16	6	7	14	46	8	6	8
50	SSM Health Cardinal Glennon Children's Hospital-St. Louis University	62.2	14	5	38	15	4	8	2	6	2.8	10	22	11	18	4	20	1	1	0.6	42	16	7	3	4	37	8	7	8

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Cardiology & Heart Surgery Hospital	Overall Score	Survival after congenital heart surgery	Prevention of complications following certain heart procedures	Survival after Norwood/hybrid surgery	Survival after heart transplant	Median post-operative length of stay for patients in STAT categories 1-3	Ability to prevent infections throughout hospital	Ability to prevent infections in intensive-care units	Ability to prevent pressure injuries	Number of surgeries	Number of the high complexity heart surgeries	Number of catheter procedures	Number of Norwood or hybrid surgeries	Nurse staffing	Congenital heart program	Adult congenital heart program	Heart transplant program	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Texas Children's Hospital	100	5	15	21	6	4	46	3	5	16	417	21	12	4.3	24	11	11	16	9	8	22	1	43.8	60	14	7	12	4	51	8	7
2	Duke Children's Hospital and Health Center	92.9	5	14	24	4	6	49	5	3	14	251	18	12	3.6	24	11	12	16	9	8	22	1	3.5	60	14	7	9	4	66	8	7
3	Rady Children's Hospital	91.6	5	12	21	5	6	50	5	5	9	100	16	5	4.1	24	11	11	16	9	8	23	1	3.7	61	14	7	11	4	69	8	7
4	MUSC Children's Heart Network of South Carolina	90.0	5	17	24	6	7	47	1	4	11	222	19	9	3.1	23	11	9	16	9	8	23	1	7.4	59	14	7	6	4	62	8	7
5	Nationwide Children's Hospital	85.8	4	12	20	5	7	49	5	3	10	171	16	7	3.2	24	11	9	16	9	8	23	1	10.6	60	14	7	11	4	66	8	7
6	Boston Children's Hospital	85.0	3	11	21	6	6	48	3	4	17	582	21	11	4.1	24	11	10	16	9	8	23	1	54.9	60	14	7	11	4	57	8	7
7	Cincinnati Children's and Kentucky Children's Hosp. Joint Heart Prog.	84.9	3	12	22	4	6	50	3	5	14	302	21	11	4.1	24	11	12	16	9	8	23	1	22.8	61	14	7	12	4	67	8	7
8	Levine Children's Hospital	83.8	5	12	22	5	6	46	5	4	10	152	17	8	3.4	24	11	11	16	9	8	21	1	1.7	59	14	7	0	4	67	8	7
8	UPMC Children's Hospital of Pittsburgh	83.8	4	9	18	6	5	46	5	4	10	151	18	6	3.0	24	11	11	17	9	8	23	1	15.0	61	14	7	12	4	56	8	7
10	Cleveland Clinic Children's Hospital	83.3	4	18	20	5	7	46	4	4	11	128	18	4	3.1	24	11	12	16	9	8	22	1	2.3	60	14	7	11	4	69	8	7
11	University of Michigan Health C.S. Mott Children's Hospital	82.6	3	10	24	5	6	45	4	3	15	347	19	11	5.3	24	11	11	16	9	8	22	1	24.4	60	14	7	10	4	60	8	7
12	Children's Healthcare of Atlanta	81.0	3	10	23	6	6	45	5	5	15	338	20	10	5.1	24	11	10	17	9	8	22	1	16.9	59	14	6	10	4	35	8	7
13	Children's Hospital Los Angeles	80.3	3	10	20	6	7	50	4	4	15	395	16	10	3.7	24	9	10	16	9	8	22	1	14.7	59	14	7	8	4	69	8	7
14	Hassenfeld Children's Hospital at NYU Langone	80.2	5	17	24	3	6	47	4	5	9	93	12	5	3.2	19	11	7	16	9	8	21	1	1.3	52	14	7	7	4	63	8	7
15	Children's Hospital of Alabama at UAB	79.6	5	16	24	5	7	43	4	4	13	284	17	9	3.7	24	7	10	15	9	8	22	0	1.5	54	14	7	7	4	55	8	7
16	Children's Hospital Colorado	78.6	3	7	22	6	6	47	3	5	13	236	20	11	4.0	24	11	11	16	9	8	23	1	14.5	60	14	7	12	4	57	8	7
17	Children's Hospital of Philadelphia	77.1	3	4	24	4	6	41	4	4	15	368	21	12	3.7	24	11	11	16	9	8	22	1	42.9	61	14	7	12	4	54	8	7
18	Riley Hospital for Children at IU Health	76.8	4	5	20	5	6	47	5	4	12	288	15	9	3.9	23	11	8	17	9	8	22	1	4.5	60	14	7	9	4	48	8	7
19	Seattle Children's Hospital	75.1	3	14	20	5	5	49	3	4	13	205	17	8	3.7	24	11	11	16	9	8	21	1	9.3	57	14	7	12	4	47	8	7
20	New York-Presbyterian Children's Hospital-Columbia and Cornell	74.0	3	9	24	5	6	43	3	3	15	328	20	8	3.5	24	11	13	16	8	8	22	1	17.2	55	14	7	11	4	56	8	7
21	UCLA Mattel Children's Hospital	72.5	3	18	21	6	5	39	5	4	8	136	18	6	4.4	24	11	12	16	8	8	20	1	4.2	57	13	7	4	4	69	8	7
22	Loma Linda University Children's Hospital	71.5	4	11	22	6	8	38	5	5	10	92	13	6	3.1	24	11	10	16	8	8	18	1	1.0	54	14	7	8	4	36	8	7
23	Ann and Robert H. Lurie Children's Hospital of Chicago	71.2	3	11	20	5	6	44	4	3	11	153	16	4	2.8	23	10	11	16	9	7	21	1	14.2	61	14	7	9	4	48	8	7
24	Johns Hopkins Children's Center	69.5	3	12	16	6	4	50	5	4	9	60	10	3	3.7	23	10	6	16	9	8	21	1	1.9	59	14	7	11	4	69	8	7
25	Mayo Clinic-Children's Minnesota Cardiovascular Collaborative	67.4	2	12	22	4	7	44	5	5	14	238	18	8	4.1	24	11	11	16	9	8	22	1	3.1	59	14	7	7	4	69	8	7
26	UF Health Shands Children's Hospital	67.3	3	15	24	3	4	44	5	5	11	125	13	10	2.6	24	10	13	16	8	8	21	1	2.5	59	14	7	8	4	40	8	7
27	Intermountain Primary Children's Hospital-University of Utah	66.5	3	11	24	6	6	46	5	5	14	241	17	9	3.1	24	10	11	16	8	8	22	0	4.9	57	14	6	8	4	32	8	7
27	Rainbow Babies and Children's Hospital	66.5	3	18	22	NA	6	49	5	4	9	42	12	4	2.9	18	10	NA	17	9	8	23	1	0.8	60	14	7	8	4	68	8	7
28	Le Bonheur Children's Hospital	66.4	4	4	16	5	7	45	4	5	10	131	12	6	2.7	24	11	10	16	7	8	21	1	3.0	59	13	7	6	4	44	8	7
29	Children's Memorial Hermann Hospital	66.3	5	9	20	NR	4	46	3	3	12	220	8	6	3.2	22	11	2	15	8	8	22	1	1.8	55	14	7	6	4	50	8	7
30	Monroe Carell Jr. Children's Hospital at Vanderbilt	66.1	3	10	16	5	5	46	3	4	14	244	20	11	4.2	24	11	12	16	9	8	21	1	4.2	54	14	7	7	4	39	8	7
32	Advocate Children's Heart Institute	64.4	4	15	20	NA	6	44	2	5	12	181	13	8	2.3	23	10	NA	16	8	8	21	1	1.9	59	13	7	4	4	59	8	7
33	Nemours Children's Hospital-Delaware	64.0	4	13	20	6	5	37	1	2	10	199	11	5	3.3	23	9	8	16	9	8	23	1	0.8	58	14	7	6	4	49	8	7
34	Ochsner Hospital for Children	63.5	3	18	22	6	5	45	1	5	8	87	10	4	2.7	23	9	7	14	8	8	20	1	0.9	56	14	7	11	4	58	8	7
35	Children's Medical Center Dallas	63.1	2	12	13	4	5	48	4	5	12	223	13	10	3.8	24	11	11	16	9	8	22	1	3.9	61	14	7	10	4	52	8	7
36	Virginia Congenital Cardiac Collaborative	63.0	3	9	20	5	5	49	5	5	11	119	4	10	2.9	24	9	11	16	8	8	20	1	1.7	57	14	7	6	4	43	8	6
37	Nicklaus Children's Hospital	61.5	4	15	22	NA	5	40	5	3	10	128	13	5	2.5	17	8	NA	15	8	7	23	1	1.8	56	12	7	6	4	52	8	7
37	Oklahoma Children's Hospital OU Health	61.5	5	11	22	NA	6	41	5	5	10	193	9	9	3.2	22	7	NA	14	9	8	20	0	0.6	54	14	7	3	3	45	8	7
39	SSM Health Cardinal Glennon Children's Hospital-St. Louis University	60.9	3	9	22	6	7	45	5	4	10	131	9	5	2.8	23	9	5	16	9	8	22	1	0.6	54	14	7	4	4	37	8	7
40	UCSF Benioff Children's Hospitals, San Francisco and Oakland	59.1	1	12	20	5	5	50	3	5	14	296	15	8	4.4	23	10	8	17	9	8	22	1	6.4	57	14	7	11	4	56	8	7
41	Norton Children's Hospital	58.8	3	12	17	3	6	44	5	3	11	203	12	7	3.6	23	11	10	16	9	8	22	0	0.5	58	14	7	4	4	69	8	7
42	Lucile Packard Children's Hospital Stanford	58.5	1	9	14	4	6	43	3	4	15	353	20	7	4.3	24	11	12	16	9	8	22	1	30.4	58	14	7	10	4	39	8	7
43	Children's Mercy Kansas City Hospital	58.4	1.5	11	21	6	6	42	3	5	12	179	16	10	4.0	19	9	10	16	9	8	22	1	2.5	60	14	7	12	4	39	8	7
44	Phoenix Children's Hospital	58.3	2	12	16	5	6	49	4	5	12	209	18	7	3.3	24	11	10	16	9	8	22	0	2.2	60	13	7	6	4	67	8	7
45	Arkansas Children's Hospital	58.1	2	12	18	3	6	47	5	5	9	112	16	6	2.6	23	10	10	17	9	8	23	1	1.3	61	14	7	6	4	48	8	7
46	Children's National Hospital	57.0	1	8	9	3	6	50	5	5	11	157	16	5	3.8	23	11	10	16	9	8	23	1	10.3	61	14	7	11	4	65	8	7
47	American Family Children's Hospital	56.9	3	16	19	NA	6	41	5	4	9	68	11	5	3.4	22	11	NA	14	8	8	21	1	1.0	56	14	6	6	4	46	8	6
48	Dell Children's Medical Center	56.7	4	11	9	2	6	36	5	4	9	153	13	5	4.1	23	9	8	15	8	8	22	1	1.1	51	14	7	1	4	37	8	7
49	CHOC Children's Hospital	55.6	4	17	11	NA	6	45	2	4	9	51	10	2	4.4	20	7	NA	14	9	8	19	1	0.5	53	14	7	4	4	29	8	7
50	Yale New Haven Children's Hospital	55.4	3	19	10	3	6	45	2	5	8	38	10	2	2.5	19	9	4	16	8	8	21	1	0.7	53	14	7	7	4	62	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Diabetes & Endocrinology	Overall Score	Success in managing diabetes	Success in hypo and hyper-thyroid management	Ability to prevent infections throughout hospital	Number of patients	Number of procedures	Nurse staffing	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Boston Children's Hospital	100	61	9	42	34	14	4.1	18	9	11	22	14	1	35.3	117	15	7	8	3	57	8	7
1	Cincinnati Children's Hospital Medical Center	100	58	9	42	34	14	4.1	18	9	11	22	14	1	20.2	130	15	7	9	3	67	8	7
2	Texas Children's Hospital	94.0	48	9	38	34	14	4.3	18	9	11	22	14	1	18.3	125	15	7	9	3	51	8	7
3	Children's Hospital of Philadelphia	93.2	65	8	34	34	14	3.7	19	9	10	21	14	1	40.3	129	15	7	9	3	54	8	7
4	Children's Hospital Colorado	91.5	48	9	39	34	14	4.0	18	9	11	22	14	1	25.4	120	15	7	9	3	57	8	7
5	UPMC Children's Hospital of Pittsburgh	89.7	61	8	39	34	13	3.0	19	9	11	21	14	1	14.8	125	15	7	9	3	56	8	7
6	Children's Hospital Los Angeles	86.3	68	5	42	34	14	3.7	18	9	11	22	14	1	14.5	122	15	7	7	3	69	8	7
7	Children's National Hospital	84.1	50	6	44	34	14	3.8	18	9	10	22	14	1	11.5	121	15	7	8	3	65	8	7
8	Rady Children's Hospital	83.1	66	8	42	34	13	4.1	18	9	11	21	14	1	3.5	118	15	7	7	2	69	8	7
9	New York-Presbyterian Children's Hospital-Columbia and Cornell	81.5	63	9	34	31	14	3.5	16	8	11	20	14	1	6.8	107	15	7	8	2	56	8	7
9	Rainbow Babies and Children's Hospital	81.5	53	9	43	32	13	2.9	19	9	11	22	13	1	4.0	127	15	7	4	3	68	8	7
10	Lucile Packard Children's Hospital Stanford	78.5	65	6	35	32	14	4.3	19	9	11	21	13	1	13.1	104	15	7	8	2	39	8	7
10	UF Health Shands Children's Hospital	78.5	47	9	36	28	12	2.6	18	9	11	22	14	1	5.5	120	15	7	6	3	40	8	7
12	Johns Hopkins Children's Center	78.0	46	7	42	28	12	3.7	17	9	11	17	14	1	7.1	125	15	7	8	2	69	8	7
12	Nationwide Children's Hospital	78.0	46	9	41	34	12	3.2	18	9	11	22	14	1	7.3	123	15	7	9	3	66	8	7
14	Children's Medical Center Dallas	77.6	51	9	40	34	14	3.8	18	9	11	22	14	1	4.9	118	15	7	9	2	52	8	7
15	Children's Mercy Kansas City Hospital	77.0	63	9	34	33	9	4.0	18	9	11	20	14	1	3.6	111	15	7	8	2	39	8	7
15	Riley Hospital for Children at IU Health	77.0	56	6	40	33	13	3.9	19	9	11	22	14	1	8.3	116	15	7	8	3	48	8	7
16	UCSF Benioff Children's Hospitals, San Francisco and Oakland	76.4	49	7	42	33	10	4.4	19	9	11	18	14	1	11.0	112	15	7	8	2	56	8	7
17	Ann and Robert H. Lurie Children's Hospital of Chicago	76.2	62	6	36	33	12	2.8	17	9	10	18	13	1	8.2	119	15	7	8	3	48	8	7
17	MassGeneral Hospital for Children	76.2	52	9	31	32	14	3.7	16	9	11	20	13	1	5.0	126	15	7	5	3	60	8	7
19	St. Louis Children's Hospital-Washington University	75.3	46	9	40	33	14	3.4	18	9	11	20	14	1	5.5	114	15	7	6	3	41	8	7
20	Seattle Children's Hospital	75.1	48	6	41	34	14	3.7	18	9	11	22	14	1	8.9	124	15	7	9	2	47	8	7
23	Norton Children's Hospital	73.8	62	9	38	33	13	3.6	18	9	11	20	14	0	0.7	125	15	7	5	2	69	8	7
23	University of Iowa Stead Family Children's Hospital	73.8	54	8	32	34	9	3.4	16	9	11	22	13	1	2.2	107	15	7	4	3	69	8	7
24	North Carolina Children's Hospital at UNC	71.7	51	8	40	30	12	3.7	18	9	11	20	14	1	2.1	122	15	7	6	1	67	8	7
24	University of Michigan Health C.S. Mott Children's Hospital	71.7	50	7	36	31	9	5.3	16	9	11	18	13	1	2.8	120	15	7	8	2	60	8	7
26	CHOC Children's Hospital	69.5	64	6	38	34	10	4.4	18	9	11	17	14	1	2.0	113	15	7	4	2	29	8	7
26	Johns Hopkins All Children's Hospital	69.5	45	9	40	32	11	3.8	18	9	11	20	14	1	1.0	118	15	7	2	3	34	8	7
29	Mount Sinai Kravis Children's Hospital	68.6	52	9	30	28	11	3.3	18	8	11	22	13	1	2.5	119	15	7	5	2	45	8	7
30	Cleveland Clinic Children's Hospital	66.7	43	9	38	28	10	3.1	16	9	11	21	14	1	0.7	122	15	7	4	2	69	8	7
30	Wolfson Children's Hospital	66.7	64	6	35	32	12	2.9	16	9	11	19	13	1	2.4	111	15	7	3	2	46	8	7
31	Cook Children's Medical Center	66.2	48	7	35	34	11	3.5	18	9	11	20	13	1	2.7	117	15	7	2	2	35	8	7
32	Duke Children's Hospital and Health Center	66.0	47	6	40	33	9	3.6	18	9	11	21	13	1	1.9	117	15	7	7	2	66	8	7
32	Monroe Carell Jr. Children's Hospital at Vanderbilt	66.0	58	5	38	33	9	4.2	17	9	10	22	13	1	3.4	107	15	7	4	3	39	8	7
34	Arnold Palmer Hospital for Children	65.6	55	9	33	31	12	4.1	16	9	11	21	13	1	0.1	122	15	7	1	1	48	8	7
34	Cohen Children's Medical Center	65.6	53	4	38	33	14	4.4	17	9	11	21	13	1	1.9	119	15	7	6	1	68	8	7
34	Mayo Clinic Children's Center	65.6	43	8	36	27	13	4.1	15	9	11	20	13	1	1.3	122	15	7	4	2	69	8	7
34	University of Virginia Children's Hospital	65.6	49	7	41	28	13	2.9	17	8	11	22	12	1	1.0	119	15	7	4	3	43	8	6
37	Phoenix Children's Hospital	64.7	45	8	41	34	14	3.3	18	9	11	22	14	0	0.8	124	15	7	4	3	67	8	7
38	Children's Healthcare of Atlanta	64.0	42	6	37	34	12	5.1	18	9	11	17	14	1	2.2	119	15	6	7	2	35	8	7
38	Nemours Children's Hospital-Delaware	64.0	56	8	28	33	12	3.3	17	9	9	19	14	1	1.7	113	15	7	4	1	49	8	7
41	Children's Hospital of Richmond at VCU	62.5	49	8	37	26	5	3.3	18	9	11	15	12	1	0.2	113	15	7	5	2	66	8	7
41	UC Davis Children's Hospital	62.5	53	7	34	24	9	7.5	15	9	11	20	14	1	0.5	115	15	7	5	1	63	8	7
43	Children's Hospital at Montefiore	62.4	52	7	36	28	10	5.1	17	9	11	13	13	0	1.9	107	15	7	7	0	63	8	7
44	Arkansas Children's Hospital	61.4	54	6	39	31	11	2.6	17	9	11	21	14	1	0.7	121	15	7	3	1	48	8	7
45	Holtz Children's Hospital at UM-Jackson Memorial Medical Center	61.0	62	8	28	26	10	2.0	17	8	11	22	10	0	1.4	123	15	7	4	1	63	8	6
46	Akron Children's Hospital	60.9	49	9	35	33	11	2.9	17	9	10	18	14	1	0.5	108	15	7	1	1	45	8	7
47	Children's Hospital of Alabama at UAB	60.7	35	6	37	34	14	3.7	16	9	11	22	14	0	1.9	119	15	7	8	2	55	8	7
48	UCLA Mattel Children's Hospital	60.4	49	6	33	21	9	4.4	14	9	8	15	12	1	5.9	103	13	7	6	1	69	8	7
48	Yale New Haven Children's Hospital	60.4	34	2	38	31	6	2.5	17	8	11	22	13	1	11.1	124	15	7	5	3	62	8	7
49	Nemours Children's Hospital-Florida	60.3	47	7	38	32	14	3.3	17	9	10	22	13	0	1.5	118	15	7	2	1	49	8	7
50	Doernbecher Children's Hospital at Oregon Health and Science University	60.0	50	7	29	30	11	4.3	15	9	11	18	13	1	2.7	87	15	7	3	2	43	8	7
50	Valley Children's Healthcare and Hospital	60.0	50	4	44	32	11	3.5	19	9	11	18	14	1	0.4	110	15	7	1	1	67	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Gastroenterology & GI Surgery Hospital	Overall Score	Success of certain GI-related treatments	Survival after liver transplant	Ability to prevent pressure injuries	Ability to prevent infections throughout hospital	Ability to prevent infections in intensive-care units	Number of patients	Number of surgeries	Number of tests and noninvasive procedures	Nurse staffing	Liver transplant program	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Boston Children's Hospital	100	9	6	4	48	3	27	12	18	4.1	5	9	10	19	12	13	1	44.1	42	15	7	11	7	57	8	7
2	Cincinnati Children's Hospital Medical Center	99.6	9	5	5	52	3	27	12	18	4.1	5	9	10	19	12	13	1	40.3	41	15	7	12	7	67	8	7
3	Children's Hospital Colorado	98.2	9	5	5	49	3	27	12	17	4.0	5	9	10	19	12	13	1	29.9	42	15	7	11	7	57	8	7
4	Children's Hospital of Philadelphia	97.3	9	5	4	42	4	27	12	18	3.7	5	9	10	19	12	13	1	38.4	42	15	7	12	7	54	8	7
5	Children's Hospital Los Angeles	95.1	9	5	4	52	4	27	9	18	3.7	5	9	10	19	12	13	1	14.8	42	15	7	10	7	69	8	7
6	Nationwide Children's Hospital	94.8	9	3	3	51	5	26	12	18	3.2	3	9	10	19	12	13	1	25.1	42	15	7	9	7	66	8	7
7	Texas Children's Hospital	94.3	9	4	5	45	3	27	12	18	4.3	5	9	10	19	12	13	1	25.0	42	15	7	10	7	51	8	7
8	Children's National Hospital	92.8	9	6	5	52	5	23	12	15	3.8	5	9	10	18	12	13	1	6.0	42	15	7	7	7	65	8	7
9	Children's Healthcare of Atlanta	92.2	9	6	5	45	5	27	12	18	5.1	5	9	10	19	12	13	1	9.7	40	15	6	8	7	35	8	7
10	UPMC Children's Hospital of Pittsburgh	90.0	9	5	4	46	5	26	11	12	3.0	5	10	10	17	12	13	1	11.9	39	15	7	10	7	56	8	7
11	Johns Hopkins Children's Center	89.9	9	5	4	52	5	27	11	16	3.7	5	9	10	19	12	13	1	5.1	41	15	7	9	7	69	8	7
12	UCSF Benioff Children's Hospitals, San Francisco and Oakland	89.6	9	6	5	52	3	26	10	15	4.4	5	10	10	19	12	13	1	6.2	40	15	7	9	7	56	8	7
13	Ann and Robert H. Lurie Children's Hospital of Chicago	88.0	9	5	3	44	4	26	11	18	2.8	5	9	10	18	12	13	1	12.4	42	15	7	8	6	48	8	7
14	Lucile Packard Children's Hospital Stanford	87.9	9	6	4	41	3	26	11	15	4.3	5	9	10	19	12	12	1	10.6	40	15	7	9	7	39	8	7
15	Children's Medical Center Dallas	87.7	9	4	5	50	4	27	11	18	3.8	5	9	10	19	12	13	1	7.8	42	15	7	8	7	52	8	7
16	Riley Hospital for Children at IU Health	87.4	9	5	4	47	5	26	10	18	3.9	5	10	10	19	12	13	1	4.0	42	15	7	9	7	48	8	7
17	UCLA Mattel Children's Hospital	85.3	9	6	4	41	5	22	11	12	4.4	5	9	9	19	12	12	1	4.6	39	14	7	5	7	69	8	7
18	Seattle Children's Hospital	83.3	7	6	4	50	3	25	10	12	3.7	5	8	10	16	11	13	1	12.2	39	15	7	10	7	47	8	7
19	Cleveland Clinic Children's Hospital	81.9	9	5	4	45	4	24	10	18	3.1	5	9	10	19	12	13	1	2.3	41	15	7	6	7	69	8	7
20	Duke Children's Hospital and Health Center	81.4	9	5	3	49	5	25	9	11	3.6	5	8	10	18	12	12	1	1.0	41	15	7	6	7	66	8	7
20	University of Michigan Health C.S. Mott Children's Hospital	81.4	9	5	3	42	4	27	10	15	5.3	5	9	10	17	12	13	1	3.0	40	15	7	7	7	60	8	7
22	Levine Children's Hospital	81.0	9	6	4	46	5	25	7	15	3.4	4	9	10	18	12	13	1	0.7	41	15	7	0	6	67	8	7
22	St. Louis Children's Hospital-Washington University	81.0	8	5	4	48	5	23	9	15	3.4	5	9	10	18	12	13	1	3.8	42	15	7	6	7	41	8	7
24	Children's Wisconsin Hospital	78.6	8	6	3	44	3	25	11	15	3.8	5	9	10	19	12	12	1	4.0	41	15	7	4	7	34	8	7
25	New York-Presbyterian Children's Hospital-Columbia and Cornell	78.0	8	5	3	39	3	26	10	18	3.5	5	9	9	19	12	13	1	5.3	40	15	7	9	7	56	8	7
26	Yale New Haven Children's Hospital	77.2	9	6	5	46	2	19	9	13	2.5	4	9	9	19	12	12	1	2.0	39	15	7	6	7	62	8	7
27	Children's Mercy Kansas City Hospital	76.8	9	3	5	44	3	25	12	17	4.0	4	9	10	19	12	13	1	3.3	40	15	7	8	7	39	8	7
28	Children's Hospital at Montefiore	76.6	9	5	5	43	5	17	8	14	5.1	5	9	10	18	11	12	0	2.1	39	15	7	6	7	63	8	7
29	University of Virginia Children's Hospital	76.3	8	6	5	48	5	19	11	10	2.9	5	9	9	18	11	11	1	1.0	40	15	7	6	5	43	8	6
30	Children's Memorial Hermann Hospital	75.6	9	6	3	44	3	16	6	10	3.2	4	9	9	18	11	13	1	1.6	39	15	7	6	7	50	8	7
30	Monroe Carell Jr. Children's Hospital at Vanderbilt	75.6	8	4	4	47	3	26	11	18	4.2	5	9	10	19	12	12	1	3.0	41	15	7	5	7	39	8	7
32	Intermountain Primary Children's Hospital-University of Utah	75.4	9	5	5	44	5	23	10	17	3.1	5	9	9	19	12	12	0	2.2	39	15	6	6	7	32	8	7
33	Children's Hospital of Michigan	73.6	9	6	5	43	5	26	6	12	3.2	4	9	10	15	12	13	0	0.5	36	14	7	6	7	48	8	7
34	Phoenix Children's Hospital	73.5	7	6	5	48	4	26	8	14	3.3	5	9	10	19	12	13	0	2.1	42	15	7	2	7	67	8	7
34	Rady Children's Hospital	73.5	9	NR	5	51	5	24	11	14	4.1	2	9	10	18	12	13	1	2.3	40	15	7	6	7	69	8	7
36	Children's Hospital of Richmond at VCU	72.4	8	6	5	43	5	11	8	9	3.3	2	9	9	18	12	11	1	0.4	38	15	7	3	4	66	8	7
37	Le Bonheur Children's Hospital	71.6	9	4	5	45	4	19	9	10	2.7	4	9	8	17	11	12	1	0.7	39	14	7	5	7	44	8	7
38	North Carolina Children's Hospital at UNC	71.4	9	3	5	49	1	22	9	11	3.7	3	10	10	18	12	13	1	1.2	40	15	7	6	7	67	8	7
39	MassGeneral Hospital for Children	71.3	6	6	5	39	3	20	9	13	3.7	2	9	10	19	12	12	1	3.6	41	15	7	5	7	60	8	7
40	Mount Sinai Kravis Children's Hospital	71.1	7	5	3	36	5	21	10	14	3.3	5	9	9	19	11	12	1	2.2	41	15	7	5	7	45	8	7
41	University of Chicago Comer Children's Hospital	70.5	9	3	5	47	3	18	8	12	3.4	4	10	10	16	12	12	1	1.5	40	15	7	5	7	26	8	7
42	Rainbow Babies and Children's Hospital	68.5	9	NA	4	51	5	19	7	12	2.9	NA	9	10	18	12	13	1	1.5	41	15	7	4	7	68	8	7
43	Oklahoma Children's Hospital OU Health	68.1	8	6	5	39	5	16	12	13	3.2	2	5	10	19	12	12	0	1.0	34	15	7	4	7	45	8	7
44	Children's Hospital of Alabama at UAB	67.0	8	3	4	43	4	24	12	15	3.7	5	9	10	19	12	13	0	2.0	37	15	7	7	6	55	8	7
45	Valley Children's Healthcare and Hospital	65.5	9	NA	4	52	5	26	8	16	3.5	NA	9	10	17	12	12	1	0.6	39	15	7	3	1	67	8	7
46	SSM Health Cardinal Glennon Children's Hospital-St. Louis Univ.	65.0	7	3	4	43	5	17	10	11	2.8	3	9	10	18	12	13	1	0.8	41	15	7	3	7	37	8	7
47	Nemours Children's Hospital-Delaware	64.8	8	6	2	36	1	15	9	9	3.3	5	9	10	18	12	13	1	1.5	39	15	7	5	2	49	8	7
48	M Health Fairview Masonic Children's Hospital	63.9	6	5	5	38	5	24	10	15	3.6	5	9	10	18	11	13	0	0.2	38	15	7	8	7	44	8	7
49	Cohen Children's Medical Center	63.7	7	NA	5	46	5	19	11	12	4.4	NA	9	10	18	12	12	1	1.0	42	15	7	5	7	68	8	7
50	MUSC Shawn Jenkins Children's Hospital	62.6	6	5	4	48	1	15	9	12	3.1	5	9	10	18	11	13	1	0.7	40	15	7	3	7	62	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Neonatology Hospital	Overall Score	Taking breast milk when discharged	Ability to prevent infections throughout hospital	Ability to prevent infections in neonatal intensive-care unit	Keeping breathing tube in place	NICU temperature management	Matching breast milk with correct infants	Tracking of growth metrics for treated patients	Number of patients	Nurse staffing	ECMO availability	Neonatal transport	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Cincinnati Children's Hospital Medical Center	100	3	49	5	5	12	4	7	38	3.7	2	10	15	7	13	19	17	1	18.9	86	18	7	13	4	67	13	8
2	Children's National Hospital	96.6	3	49	5	5	12	4	7	33	3.6	2	12	15	7	13	19	17	1	15.5	85	18	7	11	4	65	13	8
3	Texas Children's Hospital	92.9	3	45	5	4	12	4	7	36	3.5	2	12	15	7	13	19	17	1	15.9	85	18	7	13	4	51	13	8
4	Children's Hospital of Philadelphia	92.8	3	40	4	5	10	4	7	38	4.2	2	12	15	7	13	19	17	1	34.1	84	18	7	13	4	54	13	8
5	Boston Children's Hospital	90.1	3	47	3	4	12	4	7	38	4.2	2	10	14	7	12	19	17	1	26.5	86	18	7	12	4	57	13	8
6	Children's Hospital Los Angeles	88.5	3	49	5	5	12	3	7	30	4.3	2	13	15	7	12	19	17	1	7.8	86	18	7	10	4	69	13	8
7	Rady Children's Hospital	88.2	3	49	5	5	11	4	7	31	4.0	2	13	15	7	13	19	17	1	4.9	86	18	7	11	4	69	13	8
8	Lucile Packard Children's Hospital Stanford	86.4	3	43	4	5	12	4	7	29	4.7	2	11	15	7	12	19	16	1	15.1	83	18	7	11	4	39	13	8
9	UCSF Benioff Children's Hospitals, San Francisco and Oakland	85.8	2	49	5	4	12	4	7	32	3.7	2	13	16	7	13	19	17	1	9.8	84	18	7	11	4	56	13	8
10	Rainbow Babies and Children's Hospital	83.3	3	48	5	5	9	4	7	19	4.2	2	10	16	7	13	18	17	1	6.2	84	18	7	9	4	68	13	8
11	UCLA Mattel Children's Hospital	80.6	3	40	5	5	10	4	7	17	4.0	2	12	15	6	13	19	17	1	7.1	82	17	7	7	4	69	13	8
12	Ann and Robert H. Lurie Children's Hosp.-Prentice Women's Hosp.	79.9	3	45	4	5	12	4	7	27	2.9	2	12	15	7	13	19	17	1	7.2	84	18	7	11	4	48	13	7
13	New York-Presbyterian Children's Hospital-Columbia and Cornell	79.2	3	42	5	5	6	4	7	30	2.6	2	11	15	6	13	18	17	1	9.7	83	17	7	11	4	56	13	8
14	Duke Children's Hospital and Health Center	78.6	2	48	5	5	12	4	7	27	2.5	2	12	15	7	13	19	17	1	3.1	85	18	7	10	4	66	13	8
14	Johns Hopkins Children's Center	78.6	2	49	5	5	9	4	7	32	3.2	2	13	15	7	12	19	17	1	4.2	82	18	7	11	4	69	12	8
16	UPMC Children's Hospital of Pittsburgh	75.8	3	45	4	4	12	4	7	30	3.0	2	12	16	7	13	19	17	1	6.2	84	18	7	13	4	56	13	8
17	Riley Hospital for Children at IU Health	75.5	3	47	3	5	12	4	7	34	3.0	2	12	16	7	13	19	17	1	4.4	84	18	7	12	4	48	13	8
18	Cleveland Clinic Children's Hospital	75.2	3	45	4	5	12	4	7	23	2.8	2	13	15	7	13	19	17	1	3.6	86	18	7	11	4	69	13	8
18	Nationwide Children's Hospital	75.2	2	48	2	4	11	4	7	33	3.8	2	12	15	7	13	19	17	1	13.9	85	18	7	13	4	66	13	8
20	CHOC Children's Hospital	74.8	3	44	4	5	12	4	7	32	4.2	2	13	15	7	13	19	17	1	2.9	84	18	7	5	4	29	13	8
21	University of Iowa Stead Family Children's Hospital	73.9	2	39	5	5	10	4	7	24	2.5	2	12	15	7	13	19	17	1	6.5	78	18	7	8	4	69	13	8
22	Monroe Carell Jr. Children's Hospital at Vanderbilt	72.9	3	41	5	3	12	4	7	34	2.6	2	13	15	7	13	16	17	1	5.2	77	17	7	10	4	39	10	8
23	Children's Hospital Colorado	72.6	3	45	1	5	12	4	7	36	2.7	2	12	15	7	12	18	17	1	11.7	85	18	7	13	4	57	13	8
23	University of Virginia Children's Hospital	72.6	2	49	5	5	12	4	7	23	2.8	2	13	14	7	13	19	16	1	1.8	83	18	7	7	4	43	12	6
25	Seattle Children's Hospital	72.0	3	45	2	5	11	4	7	34	6.5	2	11	15	7	13	18	17	1	9.4	75	18	7	13	4	47	13	7
26	Mayo Clinic Children's Center	70.8	3	43	5	4	12	4	7	14	3.3	2	12	15	7	13	18	17	1	0.6	82	18	7	7	4	69	13	8
27	Cohen Children's Medical Center	70.7	2	42	5	4	12	4	7	21	3.3	2	13	15	7	13	18	17	1	1.1	82	18	7	9	4	68	13	8
27	North Carolina Children's Hospital at UNC	70.7	2	46	4	5	12	4	7	27	2.0	2	13	16	7	12	19	17	1	2.4	85	18	7	7	4	67	13	8
29	Valley Children's Healthcare and Hospital	70.3	3	49	5	5	12	3	7	22	2.3	2	12	15	7	13	18	17	1	0.6	82	18	7	3	3	67	13	7
30	Doernbecher Children's Hosp. at Oregon Health and Science Univ.	69.5	3	37	5	5	11	4	7	19	3.0	2	12	15	7	13	18	17	1	0.9	81	18	7	6	4	43	13	8
31	Children's Healthcare of Atlanta	69.4	2	44	5	4	9	3	7	32	3.3	2	13	16	7	12	19	17	1	4.8	82	18	6	10	4	35	13	8
32	AdventHealth for Children	68.7	2	40	5	5	12	4	7	21	2.8	2	13	15	7	13	19	17	1	0.8	84	18	7	1	4	65	13	8
33	University of Michigan Health C.S. Mott Children's Hospital	68.2	2	42	5	3	9	4	7	31	3.4	2	11	15	7	13	18	17	1	2.3	82	18	7	12	4	60	12	8
34	Hassenfeld Children's Hospital at NYU Langone	68.0	3	47	5	4	10	4	7	15	2.7	2	9	15	7	11	18	17	1	1.0	76	17	7	8	4	63	12	8
35	UF Health Shands Children's Hospital	67.2	2	43	5	5	10	4	7	22	2.3	2	13	15	6	12	19	17	1	1.2	83	16	7	10	4	40	12	8
36	Children's Medical Center Dallas	66.8	2	47	4	5	11	2	7	22	3.2	2	13	15	7	12	18	17	1	3.8	83	18	7	11	4	52	13	8
36	Dell Children's Medical Center	66.8	3	36	5	5	12	4	7	15	2.4	2	12	15	6	11	17	17	1	1.4	81	18	7	3	4	37	13	8
36	Johns Hopkins All Children's Hospital	66.8	2	47	5	4	12	4	7	28	2.9	2	12	15	7	11	18	17	1	1.2	84	18	7	7	4	34	13	8
36	Phoenix Children's Hospital	66.8	3	48	4	5	12	4	7	35	3.2	2	13	15	7	11	17	17	0	0.7	84	18	7	7	4	67	13	8
40	SSM Health Cardinal Glennon Children's Hospital-St. Louis Univ.	66.5	2	44	5	4	12	4	7	22	2.7	2	12	14	7	11	17	17	1	1.0	82	18	7	7	4	37	13	8
40	University of Rochester-Golisano Children's Hospital	66.5	3	38	4	3	12	4	7	21	2.9	2	13	15	6	13	19	16	1	2.4	84	18	7	9	4	57	13	8
42	Yale New Haven Children's Hospital	65.9	2	44	3	5	12	4	7	17	3.0	2	13	15	7	13	17	17	1	2.5	85	18	7	10	4	62	13	8
43	Levine Children's Hospital	65.5	2	45	4	5	12	4	7	24	2.4	2	13	15	7	12	17	17	1	1.3	83	18	7	0	4	67	13	8
44	MUSC Shawn Jenkins Children's Hospital	65.1	2	43	5	4	9	4	7	25	2.8	2	13	15	7	11	15	17	1	0.7	82	18	7	8	4	62	12	8
45	Nicklaus Children's Hospital	65.0	3	40	5	5	12	4	7	18	2.5	2	12	15	6	10	15	17	1	1.1	75	14	7	5	3	52	12	7
46	Inova L.J. Murphy Children's Hospital	64.6	3	46	5	3	9	4	7	16	3.3	2	9	15	7	13	18	15	1	0.7	84	17	7	4	4	38	13	8
47	Children's Memorial Hermann Hospital	64.5	2	46	5	5	6	4	6	34	2.4	2	9	15	6	11	18	16	1	1.4	79	18	7	9	4	50	13	8
48	Children's Mercy Kansas City Hospital	64.4	2	41	3	4	12	3	7	38	4.0	2	11	15	7	12	18	17	1	3.4	86	18	7	13	4	39	13	8
49	Arnold Palmer Hospital for Children	64.3	2	41	5	4	11	4	7	26	2.9	2	12	15	7	11	19	17	1	1.9	84	18	7	3	4	48	13	8
49	Children's Hospital of Richmond at VCU	64.3	3	42	4	4	12	4	7	14	2.5	2	11	15	6	13	18	16	1	0.5	81	18	7	6	4	66	13	8

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Best Children's Hospital 2023-24: Nephrology

Rank	Hospital	Overall Score	Survival after kidney transplant	Success in managing dialysis patients	Ability to prevent biopsy-related complications	Ability to prevent infections throughout hospital	Ability to prevent infections in intensive-care units	Ability to prevent dialysis-related infections	Ability to prevent pressure injuries	Number of patients	Number of dialysis patients	Number of kidney biopsies	Number of kidney transplants	Percent of dialysis patients who had transplants	Nurse staffing	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Texas Children's Hospital	100	24	16	6	60	3	9	5	8	12	6	6	3	4.3	8	9	1	9	1	27.4	64	14	7	9	4	51	14	7
2	Boston Children's Hospital	99.9	23	15	6	64	3	9	4	8	11	5	6	4	4.1	8	9	1	9	1	40.8	66	14	7	8	4	57	14	7
3	Cincinnati Children's Hospital Medical Center	98.2	23	15	6	66	3	6	5	8	12	6	6	5	4.1	8	9	1	9	1	38.5	63	14	7	9	4	67	14	7
4	Children's Hospital of Philadelphia	97.6	24	13	6	57	4	9	4	8	12	6	6	3	3.7	8	9	1	9	1	34.9	63	14	7	9	4	54	14	7
4	Nationwide Children's Hospital	97.6	24	13	6	64	5	9	3	8	10	4	3	5	3.2	8	9	1	9	1	19.6	62	14	7	9	4	66	14	7
6	Children's National Hospital	95.2	24	12	6	66	5	9	5	8	9	5	6	4	3.8	8	9	1	9	1	11.9	64	14	7	8	4	65	14	7
7	Lucile Packard Children's Hospital Stanford	94.7	24	15	6	58	3	9	4	8	12	5	6	3	4.3	8	9	1	8	1	22.7	62	14	7	8	4	39	14	7
8	Seattle Children's Hospital	94.6	24	15	6	58	3	8	4	8	12	6	6	3	3.7	8	9	1	9	1	38.1	59	14	7	9	4	47	14	7
9	UPMC Children's Hospital of Pittsburgh	94.5	24	16	6	60	5	9	4	8	9	5	6	4	3.0	9	9	1	9	1	11.6	63	14	7	9	4	56	13	7
10	Children's Mercy Kansas City Hospital	94.3	24	16	6	58	3	9	5	8	11	6	6	4	4.0	8	9	1	9	1	15.4	64	14	7	8	4	39	14	7
11	Children's Healthcare of Atlanta	94.2	23	12	6	58	5	9	5	8	12	6	6	2	5.1	8	9	1	9	1	22.1	61	14	6	7	4	35	13	7
12	Riley Hospital for Children at IU Health	92.5	24	16	6	63	5	9	4	8	11	4	6	2	3.9	9	9	1	9	1	9.7	62	14	7	7	4	48	14	7
13	Rady Children's Hospital	91.3	23	16	6	66	5	9	5	8	10	6	6	5	4.1	8	9	1	9	1	3.2	62	14	7	7	4	69	14	7
14	Ann and Robert H. Lurie Children's Hospital of Chicago	90.4	24	15	6	57	4	8	3	8	12	6	6	5	2.8	7	9	1	9	1	13.1	64	14	7	8	4	48	14	7
15	Johns Hopkins Children's Center	89.1	24	9	6	66	5	7	4	7	9	3	5	5	3.7	8	9	1	9	1	12.0	63	14	7	8	4	69	14	7
16	Children's Medical Center Dallas	86.5	24	15	6	62	4	9	5	8	12	5	6	1	3.8	8	9	1	9	1	5.9	59	14	7	9	4	52	14	7
16	St. Louis Children's Hospital-Washington University	86.5	24	16	6	60	5	8	4	8	12	5	5	3	3.4	7	9	1	9	1	5.6	64	14	7	6	4	41	14	7
18	UCSF Benioff Children's Hospitals, San Francisco and Oakland	86.0	22	13	6	66	3	9	5	8	11	6	6	5	4.4	8	9	1	9	1	5.0	60	14	7	8	4	56	14	7
19	UCLA Mattel Children's Hospital	85.1	24	13	6	55	5	9	4	8	11	4	6	1	4.4	8	8	1	8	1	9.9	56	13	7	6	4	69	13	7
20	Children's Hospital of Alabama at UAB	83.6	24	14	6	60	4	8	4	8	12	5	5	4	3.7	8	9	1	9	0	8.0	64	14	7	8	4	55	14	7
20	Cohen Children's Medical Center	83.6	22	16	6	60	5	8	5	8	5	4	5	6	4.4	8	9	1	9	1	0.9	62	14	7	6	4	68	14	7
22	M Health Fairview Masonic Children's Hospital-Children's Minnesota	83.0	24	15	6	51	5	8	5	8	11	6	6	3	3.6	6	9	1	9	1	5.0	58	14	7	8	4	44	14	7
23	Children's Hospital Colorado	81.2	23	13	5	60	3	6	5	8	11	5	6	3	4.0	8	9	1	9	1	8.2	62	14	7	9	4	57	14	7
24	Children's Hospital Los Angeles	81.0	24	9	6	63	4	8	4	8	12	6	5	4	3.7	8	9	1	9	1	4.4	59	14	7	6	4	69	14	7
25	University of Michigan Health C.S. Mott Children's Hospital	80.6	22	15	6	57	4	5	3	8	11	4	6	4	5.3	7	9	1	9	1	5.8	62	14	7	8	4	60	14	7
26	Children's Hospital of Richmond at VCU	79.3	23	16	6	58	5	9	5	8	7	3	3	4	3.3	8	8	1	7	1	0.7	60	14	7	4	4	66	14	7
27	Levine Children's Hospital	78.5	23	16	6	60	5	8	4	8	10	5	4	2	3.4	8	9	1	9	1	1.1	62	14	7	0	4	67	14	7
28	Cleveland Clinic Children's Hospital	78.3	24	10	6	60	4	9	4	8	7	5	4	5	3.1	8	9	1	9	1	1.8	62	14	7	5	4	69	14	7
29	Phoenix Children's Hospital	77.6	23	16	6	63	4	9	5	8	12	6	6	4	3.3	7	9	1	9	0	1.8	59	14	7	3	4	67	14	7
30	Rainbow Babies and Children's Hospital	77.5	18	13	6	65	5	8	4	7	6	3	3	6	2.9	9	9	1	9	1	1.9	61	14	7	3	4	68	14	7
31	Duke Children's Hospital and Health Center	77.3	18	10	6	65	5	9	3	8	6	4	4	2	3.6	8	9	1	9	1	3.5	59	14	7	6	4	66	14	7
32	University of Virginia Children's Hospital	76.8	24	12	6	63	5	8	5	7	8	2	4	6	2.9	7	8	1	7	1	2.1	60	14	7	5	4	43	14	6
33	Children's Hospital at Montefiore	76.3	24	11	5	60	5	8	5	8	5	4	4	5	5.1	8	9	1	8	0	4.7	59	14	7	7	4	63	14	7
34	Arkansas Children's Hospital	76.0	24	14	6	61	5	8	5	8	9	6	4	3	2.6	8	9	1	8	1	0.5	59	14	7	3	4	48	14	7
34	UC Davis Children's Hospital	76.0	24	12	6	59	2	9	5	8	8	3	6	4	7.5	9	9	1	9	1	1.1	64	14	7	4	4	63	12	7
36	Hackensack Meridian Health JM Sanzari and K Hovnanian Children's Hosps.	75.6	21	11	6	62	5	8	4	6	7	3	4	6	2.7	7	9	1	9	1	1.1	66	14	7	1	4	69	14	7
37	Doernbecher Children's Hospital at Oregon Health and Science University	74.7	24	16	6	52	3	8	4	7	6	5	5	2	4.3	8	9	1	9	1	2.7	61	14	7	2	4	43	14	7
38	Mount Sinai Kravis Children's Hospital	74.0	23	10	6	51	5	9	3	7	8	2	6	5	3.3	7	8	1	9	1	2.4	60	14	7	5	4	45	13	7
39	Johns Hopkins All Children's Hospital	73.9	24	12	6	62	5	8	5	8	11	3	5	1	3.8	7	9	1	9	1	0.4	62	14	7	1	4	34	14	7
40	Intermountain Primary Children's Hospital-University of Utah	73.8	24	12	6	58	5	8	5	8	10	4	6	5	3.1	8	8	1	9	0	2.4	64	14	6	4	4	32	14	7
41	Loma Linda University Children's Hospital	73.3	22	13	6	51	5	9	5	7	9	3	5	2	3.1	7	8	1	9	1	1.0	62	14	7	5	4	36	13	7
42	University of Iowa Stead Family Children's Hospital	72.8	24	11	6	55	2	6	4	8	9	5	5	6	3.4	8	9	1	9	1	4.3	60	14	7	2	4	69	14	7
43	New York-Presbyterian Children's Hospital-Columbia and Cornell	72.0	23	9	6	54	3	8	3	8	6	4	4	3	3.5	7	8	1	9	1	4.1	58	14	7	8	4	56	14	7
44	Monroe Carell Jr. Children's Hospital at Vanderbilt	71.3	23	11	6	60	3	7	4	8	9	3	6	5	4.2	8	9	1	8	1	0.8	62	14	7	3	4	39	14	7
45	North Carolina Children's Hospital at UNC	70.9	24	10	6	57	1	7	5	8	7	6	5	5	3.7	9	9	1	8	1	1.6	59	14	7	6	4	67	14	7
46	University of Rochester-Golisano Children's Hospital	70.2	18	12	6	53	3	9	5	8	4	3	2	6	3.2	7	7	1	6	1	2.5	60	14	7	6	3	57	14	7
47	SSM Health Cardinal Glennon Children's Hospital-St. Louis University	69.9	24	12	6	59	5	7	4	8	9	4	4	2	2.8	7	9	1	9	1	0.2	60	14	7	2	4	37	14	7
48	MUSC Shawn Jenkins Children's Hospital	68.7	19	12	6	63	1	7	4	8	9	4	5	4	3.1	8	9	1	9	1	1.1	65	14	7	4	4	62	13	7
49	Mayo Clinic Children's Center	68.6	24	12	6	50	5	2	5	6	6	5	5	6	4.1	5	9	1	8	1	2.4	58	14	7	2	4	69	14	7
50	Children's Wisconsin Hospital	66.6	22	8	6	59	3	8	3	7	8	3	5	2	3.8	8	9	1	9	1	1.4	59	14	7	4	4	34	14	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Neurology & Neurosurgery Hospital	Overall Score	Ability to prevent infections throughout hospital	Survival after surgery	Ability to prevent surgical complications	Success in controlling epilepsy	Number of surgeries	Number of epilepsy workups and treatments	Nurse staffing	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Boston Children's Hospital	100	48	12	21	6	34	14	4.1	19	11	20	19	17	1	42.7	48	14	7	13	7	57	8	7
2	Texas Children's Hospital	99.2	44	12	22	6	34	13	4.3	19	11	20	19	17	1	26.3	47	14	7	14	7	51	8	7
3	Children's National Hospital	98.3	48	12	22	6	31	15	3.8	19	11	20	19	17	1	18.3	48	14	7	12	7	65	8	7
4	Cincinnati Children's Hospital Medical Center	97.9	48	11	22	6	33	14	4.1	19	11	20	19	17	1	18.5	48	14	7	14	7	67	8	7
5	Children's Hospital of Philadelphia	97.1	39	12	21	6	32	15	3.7	18	11	19	19	17	1	34.7	48	14	7	14	7	54	8	7
6	Nationwide Children's Hospital	95.0	47	12	22	6	30	14	3.2	19	11	20	19	17	1	13.2	48	14	7	13	7	66	8	7
7	Johns Hopkins Children's Center	91.6	48	12	20	6	25	9	3.7	19	11	20	19	16	1	11.4	48	14	7	13	6	69	8	7
8	Rady Children's Hospital	90.4	48	12	22	6	33	12	4.1	17	11	20	19	17	1	3.9	48	14	7	13	7	69	8	7
9	Seattle Children's Hospital	90.0	47	12	21	5	33	11	3.7	11	11	20	19	16	1	15.0	45	14	7	14	7	47	8	7
10	Ann and Robert H. Lurie Children's Hospital of Chicago	88.8	42	12	21	6	33	14	2.8	18	11	17	19	17	1	13.0	47	14	7	9	5	48	8	7
11	Lucile Packard Children's Hospital Stanford	88.2	40	12	21	6	26	10	4.3	17	11	19	19	14	1	9.6	48	14	7	12	7	39	8	7
12	St. Louis Children's Hospital-Washington University	87.9	47	12	20	4	29	13	3.4	19	11	19	19	17	1	17.0	47	14	7	10	7	41	8	7
13	Children's Hospital Los Angeles	87.3	48	12	20	5	31	12	3.7	19	11	19	19	17	1	7.7	47	14	7	9	7	69	8	7
13	UCSF Benioff Children's Hospitals, San Francisco and Oakland	87.3	47	12	17	5	27	13	4.4	19	11	20	19	17	1	13.1	47	14	7	13	5	56	8	7
15	Children's Medical Center Dallas	86.9	47	12	22	5	33	13	3.8	18	11	20	19	17	1	3.6	48	14	7	14	7	52	8	7
16	New York-Presbyterian Children's Hospital-Columbia and Cornell	86.6	40	12	22	6	26	15	3.5	16	10	20	19	16	1	6.4	47	14	7	11	5	56	8	7
17	UPMC Children's Hospital of Pittsburgh	84.8	45	12	20	4	28	14	3.0	20	11	20	19	17	1	8.2	48	14	7	14	7	56	8	7
18	Children's Hospital Colorado	84.6	44	11	11	6	31	13	4.0	19	11	20	18	17	1	14.9	47	14	7	14	6	57	8	7
19	Children's Healthcare of Atlanta	84.0	43	12	22	6	32	13	5.1	20	11	19	16	16	1	3.5	45	14	6	11	5	35	8	7
20	North Carolina Children's Hospital at UNC	82.3	45	12	21	6	14	8	3.7	20	11	19	17	16	1	0.8	47	14	7	11	7	67	8	7
21	Intermountain Primary Children's Hospital-University of Utah	81.8	44	12	22	6	31	13	3.1	19	10	19	19	17	0	6.5	46	14	6	9	6	32	8	7
22	Nicklaus Children's Hospital	80.1	38	12	22	6	22	14	2.5	16	9	18	17	16	1	4.8	46	12	7	8	4	52	8	7
23	University of Michigan Health C.S. Mott Children's Hospital	79.9	43	12	18	5	24	11	5.3	17	10	17	18	16	1	6.5	45	14	7	10	4	60	8	7
24	Cleveland Clinic Children's Hospital	79.3	44	12	19	5	18	11	3.1	11	11	19	16	16	1	4.3	45	14	7	13	6	69	8	7
25	Monroe Carell Jr. Children's Hospital at Vanderbilt	78.4	44	12	14	6	27	13	4.2	17	11	18	18	17	1	4.0	46	14	7	10	5	39	8	7
26	Johns Hopkins All Children's Hospital	77.8	46	12	18	6	24	9	3.8	16	11	19	18	16	1	2.0	45	14	7	7	5	34	8	7
27	Cohen Children's Medical Center	76.8	42	12	22	4	25	8	4.4	17	10	20	19	17	1	1.9	48	14	7	7	2	68	8	7
28	Norton Children's Hospital	76.2	42	12	21	6	24	13	3.6	18	11	19	18	16	0	0.9	45	14	7	6	5	69	8	7
29	Le Bonheur Children's Hospital	75.6	43	12	18	6	18	10	2.7	16	9	20	13	16	1	3.9	44	13	7	8	4	44	8	7
30	Children's Mercy Kansas City Hospital	75.3	40	12	19	4	27	11	4.0	19	11	19	19	16	1	2.2	46	14	7	11	5	39	8	7
31	Mayo Clinic Children's Center	74.9	42	12	13	5	19	8	4.1	19	10	20	19	15	1	4.6	48	14	7	6	5	69	8	7
31	UCLA Mattel Children's Hospital	74.9	39	12	18	5	20	8	4.4	16	10	19	12	16	1	5.3	44	13	7	6	3	69	8	7
33	Children's Hospital of Richmond at VCU	74.8	42	12	20	6	12	5	3.3	17	10	19	15	14	1	0.5	44	14	7	6	5	66	8	7
34	Children's Hospital of Alabama at UAB	74.6	44	12	17	5	30	14	3.7	18	11	19	16	16	0	4.8	43	14	7	10	5	55	8	7
35	Phoenix Children's Hospital	74.5	46	11	18	5	32	12	3.3	19	11	20	19	17	0	2.9	46	14	7	8	5	67	8	7
36	Cook Children's Medical Center	74.4	41	11	19	5	26	13	3.5	13	11	20	19	15	1	2.7	47	14	7	3	5	35	8	7
37	Wolfson Children's Hospital	73.9	39	12	18	6	19	10	2.9	18	10	19	18	16	1	0.6	48	14	7	3	5	46	8	7
38	Valley Children's Healthcare and Hospital	73.6	48	11	21	6	19	10	3.5	14	10	17	16	16	1	0.1	43	14	7	1	1	67	8	7
39	Hackensack Meridian Health JM Sanzari and K Hovnanian Children's Hosps.	72.9	46	12	22	4	17	12	2.7	12	11	20	18	16	1	0.9	46	14	7	4	1	69	8	7
40	University of Virginia Children's Hospital	72.7	47	11	19	6	13	6	2.9	15	10	19	19	14	1	1.1	43	14	7	8	4	43	8	6
41	Rainbow Babies and Children's Hospital	72.5	47	12	20	3	13	6	2.9	18	11	20	19	16	1	2.6	43	14	7	9	5	68	8	7
42	West Virginia University Children's Hospital	71.7	46	11	19	6	16	5	3.7	14	11	19	19	14	1	0.3	45	12	7	0	3	54	8	7
43	Children's Hospital of Michigan	71.5	44	11	20	6	24	11	3.2	17	11	19	16	16	0	1.0	42	13	7	7	5	48	8	7
43	Corewell Health Helen DeVos Children's Hospital	71.5	40	12	16	6	22	12	2.9	19	11	19	19	17	1	0.3	47	14	7	3	5	33	8	5
45	Duke Children's Hospital and Health Center	70.8	46	12	13	4	25	10	3.6	8	11	19	15	16	1	2.1	48	14	7	10	5	66	8	7
46	Children's Memorial Hermann Hospital	69.9	44	11	19	4	21	7	3.2	17	10	17	18	16	1	1.4	43	14	7	7	5	50	8	7
47	University of Iowa Stead Family Children's Hospital	69.1	37	12	16	4	15	7	3.4	17	11	19	19	16	1	1.9	44	14	7	4	7	69	8	7
48	CHOC Children's Hospital	68.9	43	11	18	3	18	10	4.4	16	11	20	18	17	1	3.2	44	14	7	5	5	29	8	7
49	Mount Sinai Kravis Children's Hospital	67.0	37	12	20	3	12	10	3.3	11	10	20	19	17	1	0.5	47	14	7	2	6	45	8	7
50	Riley Hospital for Children at IU Health	66.6	45	12	14	2	22	10	3.9	20	10	18	18	17	1	1.6	45	14	7	12	5	48	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Orthopedics Hospital	Overall Score	Speed and success in treating complex fractures	Ability to prevent surgical complications	Ability to prevent infections throughout hospital	Number of patients	Number of procedures and surgeries	Nurse staffing	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Children's Hospital of Philadelphia	100	11	13	36	24	26	3.7	15	10	3	11	22	1	35.7	82	14	7	10	1	54	8	7
2	Children's Hospital Los Angeles	96.8	11	13	45	24	25	3.7	16	10	3	11	22	1	12.6	81	14	7	8	1	69	8	7
3	Cincinnati Children's Hospital Medical Center	96.6	11	12	45	23	26	4.1	16	10	3	11	22	1	14.3	80	14	7	10	1	67	8	7
4	Children's Medical Center Dallas-Scottish Rite for Children	95.4	10	11	44	23	26	3.8	16	10	3	11	22	1	32.4	81	14	7	10	1	52	8	7
5	Boston Children's Hospital	95.2	10	11	45	23	21	4.1	15	10	3	11	22	1	40.7	82	14	7	9	1	57	8	7
6	Rady Children's Hospital	94.2	9	11	45	24	25	4.1	15	10	3	11	22	1	26.7	82	14	7	9	1	69	8	7
7	Children's National Hospital	89.9	11	13	45	22	20	3.8	15	10	3	11	22	1	5.1	80	14	7	9	1	65	8	7
8	Texas Children's Hospital	89.8	11	11	41	24	26	4.3	16	10	3	11	22	1	10.2	81	14	7	10	1	51	8	7
9	Johns Hopkins Children's Center	84.1	11	12	45	16	16	3.7	13	10	3	11	22	1	3.4	81	14	7	9	1	69	8	7
10	Children's Healthcare of Atlanta	83.7	10	11	40	24	20	5.1	14	10	3	10	22	1	11.8	78	14	6	9	1	35	8	7
11	Nationwide Children's Hospital	80.8	10	9	44	23	24	3.2	15	10	3	11	22	1	8.4	79	14	7	10	1	66	8	7
12	Rainbow Babies and Children's Hospital	79.7	10	11	44	21	17	2.9	15	10	3	10	22	1	5.8	80	14	7	6	1	68	8	7
13	St. Louis Children's Hospital-Washington University/Shriners Hospital	79.0	11	8	44	24	24	3.4	15	10	3	11	22	1	7.4	80	14	7	8	1	41	8	7
14	UPMC Children's Hospital of Pittsburgh-Shriners Hospitals for Children Erie	76.7	11	10	42	21	19	3.0	16	10	3	9	22	1	2.9	75	14	7	10	1	56	8	7
15	Children's Hospital Colorado	76.3	10	9	42	24	24	4.0	16	10	3	10	22	1	15.0	75	14	7	10	1	57	8	7
16	Mayo Clinic Children's Center	75.0	11	11	39	10	16	4.1	15	10	3	11	22	1	2.0	80	14	7	2	1	69	8	7
17	Lerner Children's Pavilion-Hospital for Special Surgery	74.8	11	8	45	14	24	6.2	12	10	3	11	22	1	3.1	80	14	7	8	1	69	8	7
18	Children's Mercy Kansas City Hospital	73.3	10	10	37	21	22	4.0	15	10	3	10	22	1	2.0	80	14	7	9	1	39	8	7
19	Levine Children's Hospital	73.2	11	12	41	15	18	3.4	13	10	3	10	22	1	0.6	73	14	7	0	1	67	8	7
20	UC Davis Children's Hospital/Shriners Children's Northern California	72.8	9	9	38	19	25	7.5	17	10	3	9	22	1	5.4	79	14	7	7	1	63	8	7
21	North Carolina Children's Hospital at UNC	72.6	11	11	43	13	14	3.7	16	10	3	6	22	1	0.8	71	14	7	6	1	67	8	7
22	Monroe Carell Jr. Children's Hospital at Vanderbilt	72.1	9	9	41	20	19	4.2	13	10	3	11	22	1	5.5	80	14	7	8	1	39	8	7
23	Duke Children's Hospital and Health Center	71.8	11	10	44	11	16	3.6	6	10	3	10	21	1	0.8	75	14	7	9	1	66	8	7
24	Lucile Packard Children's Hospital Stanford	71.1	11	9	38	13	23	4.3	16	10	3	8	21	1	3.2	71	14	7	9	1	39	8	7
25	Valley Children's Healthcare and Hospital	70.1	9	13	45	22	19	3.5	9	10	3	11	21	1	0.3	78	14	7	1	0	67	8	7
26	Dayton Children's Hospital	69.8	11	11	38	17	24	3.1	15	10	2	10	21	1	0.8	76	14	7	1	1	49	8	6
26	New York-Presbyterian Children's Hospital-Columbia and Cornell	69.8	9	11	38	10	17	3.5	15	9	3	5	22	1	4.3	75	14	7	9	1	56	8	7
28	University of Iowa Stead Family Children's Hospital	69.0	10	12	35	10	15	3.4	15	10	3	11	22	1	1.2	69	14	7	4	1	69	8	7
29	Cleveland Clinic Children's Hospital	68.4	10	10	41	13	12	3.1	7	10	3	8	22	1	2.0	80	14	7	6	1	69	8	7
30	University of Michigan Health C.S. Mott Children's Hospital	68.0	8	11	40	9	19	5.3	14	10	3	11	22	1	2.1	79	14	7	5	1	60	8	7
31	Nemours Children's Hospital-Delaware	67.6	7	8	32	21	23	3.3	16	10	3	11	22	1	13.9	77	14	7	8	1	49	8	7
31	Nicklaus Children's Hospital	67.6	11	9	35	23	19	2.5	15	9	2	11	22	1	1.1	81	12	7	6	1	52	8	7
33	Riley Hospital for Children at IU Health	67.5	8	9	42	23	20	3.9	16	10	3	10	22	1	1.8	79	14	7	9	1	48	8	7
34	Bristol-Myers Squibb Children's Hospital at RWJ University Hospital	66.9	11	11	39	12	11	3.1	10	10	3	8	21	1	1.0	72	14	7	0	1	67	8	7
34	University of Virginia Children's Hospital	66.9	11	9	44	8	15	2.9	15	9	3	11	20	1	0.7	79	14	7	6	1	43	8	6
36	MUSC Shawn Jenkins Children's Hospital	66.7	11	9	42	10	18	3.1	13	10	3	7	22	1	0.7	79	14	7	2	1	62	8	7
37	Seattle Children's Hospital	66.6	9	8	44	16	18	3.7	5	10	3	9	22	1	6.1	70	14	7	10	1	47	8	7
38	UCLA Mattel Children's Hospital	66.3	8	9	36	20	19	4.4	16	9	3	10	21	1	3.7	78	13	7	7	1	69	8	7
39	CHOC Children's Hospital	65.6	11	9	40	15	18	4.4	15	10	3	10	22	1	0.7	71	14	7	2	1	29	8	7
40	Cook Children's Medical Center	65.3	10	12	38	14	17	3.5	11	10	3	4	21	1	0.8	72	14	7	0	1	35	8	7
40	UCSF Benioff Children's Hospitals, San Francisco and Oakland	65.3	8	9	45	12	17	4.4	16	10	3	9	22	1	2.3	73	14	7	9	1	56	8	7
42	Kentucky Children's Hospital-Shriners Hospitals for Children	64.8	9	11	40	10	16	2.8	17	10	3	6	20	1	3.8	70	14	7	0	1	57	8	7
43	Doernbecher Children's Hospital at OHSU/Shriners Hospitals for Children Portland	64.6	11	7	33	13	23	4.3	16	10	3	10	20	1	4.0	76	14	7	1	1	43	8	7
44	Norton Children's Hospital	64.2	10	11	39	17	14	3.6	13	10	3	7	22	0	0.3	72	14	7	7	1	69	8	7
45	Arkansas Children's Hospital	64.1	11	8	42	16	15	2.6	15	10	3	10	22	1	0.3	77	14	7	3	1	48	8	7
45	Arnold Palmer Hospital for Children	64.1	11	9	37	12	13	4.1	12	10	3	10	21	1	1.1	74	14	7	5	1	48	8	7
47	Johns Hopkins All Children's Hospital	63.9	10	8	43	14	15	3.8	14	10	3	11	22	1	0.9	81	14	7	2	1	34	8	7
48	Ochsner Hospital for Children	63.8	10	10	42	10	14	2.7	7	9	3	5	21	1	0.5	77	14	7	7	1	58	8	7
49	Joe DiMaggio Children's Hospital at Memorial	63.0	11	10	31	21	22	4.4	10	10	3	11	21	0	1.2	79	14	7	0	1	28	8	7
50	Nemours Children's Hospital-Florida	62.4	8	13	39	17	17	3.3	5	10	2	9	21	0	2.0	73	14	7	6	1	49	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Pulmonology & Lung Surgery Hospital	Overall Score	Success with asthma inpatients	Success in helping patients manage their asthma	Success in managing cystic fibrosis patients	Success in managing neuromuscular weakness disorder	Ability to prevent infections throughout hospital	Ability to prevent infections in intensive-care units	Ability to prevent pressure injuries	Survival after lung transplant	Number of patients	Number of tests and noninvasive procedures	Nurse staffing	Lung transplant program	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Texas Children's Hospital	100	8	15	17	3	49	3	5	5	17	12	4.3	5.0	40	9	2	12	1	34	51.0	14	7	9	3	51	8	7
2	Cincinnati Children's Hospital Medical Center	99.6	7	15	18	3	53	3	5	5	17	12	4.1	5.0	39	9	2	12	1	40	51.0	14	7	9	2	67	8	7
3	Nationwide Children's Hospital	98.1	8	14	18	3	56	5	3	3	17	12	3.2	4.0	40	9	2	12	1	15	50.0	14	7	9	3	66	8	7
4	Children's Hospital of Philadelphia	97.9	8	14	16	3	47	4	4	4	17	12	3.7	5.0	40	9	2	12	1	46	50.0	14	7	9	3	54	8	7
5	Boston Children's Hospital	97.2	7	14	17	3	51	3	4	5	17	12	4.1	5.0	40	9	2	12	1	41	50.0	14	7	8	3	57	8	7
6	Children's Hospital Colorado	94.2	8	14	17	3	50	3	5	NR	15	12	4	1.0	40	9	2	12	1	39	51.0	14	7	9	3	57	8	7
7	Seattle Children's Hospital	93.0	8	15	18	3	55	3	4	NA	14	12	3.7	NA	32	9	2	12	1	23	49.0	14	7	9	3	47	8	7
8	Riley Hospital for Children at IU Health	92.4	8	15	18	3	47	5	4	2	14	9	3.9	2.0	41	9	2	12	1	13	50.0	14	7	8	3	48	8	7
9	Children's National Hospital	90.3	8	15	16	3	57	5	5	NA	13	12	3.8	NA	40	9	2	12	1	12	50.0	14	7	8	2	65	8	7
9	Johns Hopkins Children's Center	90.3	8	15	18	3	57	5	4	NA	15	10	3.7	NA	39	9	2	12	1	8.6	51.0	14	7	8	2	69	8	7
9	UPMC Children's Hospital of Pittsburgh	90.3	7	10	16	3	48	5	4	5	15	10	3	5.0	38	9	2	12	1	14	50.0	14	7	9	2	56	8	7
12	Lucile Packard Children's Hospital Stanford	88.1	8	15	17	3	45	3	4	3	16	12	4.3	5.0	39	9	2	11	1	12	49.0	14	7	8	3	39	8	7
13	Rainbow Babies and Children's Hospital	86.2	8	15	19	3	55	5	4	NA	13	11	2.9	NA	41	9	2	12	1	4.4	49.0	14	7	6	3	68	8	7
14	Children's Hospital Los Angeles	84.4	7	9	17	3	53	4	4	NA	14	12	3.7	NA	39	9	2	12	1	13	50.0	14	7	6	2	69	8	7
15	North Carolina Children's Hospital at UNC	83.8	8	13	16	3	53	1	5	5	11	7	3.7	5.0	41	9	2	12	1	11	50.0	14	7	6	2	67	8	7
16	Children's Healthcare of Atlanta	82.7	8	15	17	3	47	5	5	NA	15	12	5.1	NA	41	9	2	12	1	3.4	50.0	14	6	8	3	35	8	7
17	Rady Children's Hospital	82.1	7	15	18	3	52	5	5	NA	12	11	4.1	NA	38	9	2	12	1	2.5	50.0	14	7	8	2	69	8	7
18	St. Louis Children's Hospital-Washington University	80.0	5	14	16	3	47	5	4	2	13	11	3.4	5.0	40	9	2	12	1	9.3	50.0	14	7	7	2	41	8	7
19	Ann and Robert H. Lurie Children's Hospital of Chicago	79.8	8	14	18	3	46	4	3	NA	12	10	2.8	NA	40	9	2	12	1	8.5	44.0	14	7	7	3	48	8	7
19	UCSF Benioff Children's Hospitals, San Francisco and Oakland	79.8	7	14	18	3	54	3	5	NA	11	12	4.4	NA	41	9	2	12	1	3.1	50.0	14	7	8	3	56	8	7
21	Monroe Carell Jr. Children's Hospital at Vanderbilt	79.7	7	13	18	3	48	3	4	NR	13	12	4.2	1.0	40	9	2	12	1	6.8	50.0	14	7	7	3	39	8	7
22	Children's Medical Center Dallas	79.6	8	14	18	3	51	4	5	NA	15	11	3.8	NA	40	9	2	12	1	2	47.0	14	7	9	2	52	8	7
23	Duke Children's Hospital and Health Center	78.2	7	15	17	3	53	5	3	2	8	7	3.6	2.0	31	9	2	12	1	1.9	51.0	14	7	8	1	66	8	7
24	UF Health Shands Children's Hospital	76.9	8	15	15	3	42	5	5	5	12	9	2.6	4.0	39	8	2	11	1	1.6	49.0	14	7	5	2	40	8	7
25	Cohen Children's Medical Center	76.2	7	14	16	3	51	5	5	NA	9	8	4.4	NA	39	9	2	12	1	1.8	50.0	14	7	5	2	68	8	7
26	Children's Hospital of Richmond at VCU	75.6	8	15	19	3	46	5	5	NA	8	6	3.3	NA	39	8	2	10	1	0.7	46.0	14	7	6	2	66	8	7
27	Levine Children's Hospital	75.4	8	15	19	3	44	5	4	NA	11	10	3.4	NA	39	9	2	12	1	0.6	50.0	14	7	0	2	67	8	7
28	Valley Children's Healthcare and Hospital	75.3	8	13	17	3	56	5	4	NA	11	9	3.5	NA	34	9	2	11	1	0.2	50.0	14	7	1	2	67	8	7
29	New York-Presbyterian Children's Hospital-Columbia and Cornell	74.8	7	10	16	1	41	3	3	5	13	8	3.5	4.0	40	8	2	12	1	5.9	50.0	14	7	7	2	56	8	7
30	Cleveland Clinic Children's Hospital	74.4	8	15	18	2	45	4	4	NA	13	11	3.1	NA	31	9	2	12	1	1	50.0	14	7	6	2	69	8	7
31	Arkansas Children's Hospital	73.9	8	15	17	3	45	5	5	NA	10	6	2.6	NA	40	9	2	11	1	1.2	49.0	14	7	6	2	48	8	7
32	MassGeneral Hospital for Children	73.2	8	14	15	3	46	3	5	NA	8	11	3.7	NA	39	9	2	10	1	3.2	50.0	14	7	7	2	60	8	7
33	Children's Mercy Kansas City Hospital	72.7	8	12	19	3	45	3	5	NA	12	10	4	NA	35	9	2	12	1	2.5	39.0	14	7	9	2	39	8	7
34	Children's Hospital of Alabama at UAB	72.3	7	15	17	3	45	4	4	NA	14	11	3.7	NA	38	9	2	12	0	4	48.0	14	7	8	2	55	8	7
35	University of Michigan Health C.S. Mott Children's Hospital	72.2	6	14	15	3	48	4	3	NA	14	11	5.3	NA	38	9	2	12	1	1.9	48.0	14	7	8	3	60	8	7
36	Norton Children's Hospital	72.1	8	15	17	3	51	5	3	NA	9	10	3.6	NA	39	9	2	12	0	0.4	49.0	14	7	5	2	69	8	7
37	Mayo Clinic Children's Center	71.9	7	14	18	3	41	5	5	NA	6	10	4.1	NA	39	9	2	10	1	0.4	50.0	14	7	4	1	69	8	7
38	University of Virginia Children's Hospital	71.3	8	15	19	3	48	5	5	NR	9	5	2.9	1.0	38	8	2	9	1	0.3	45.0	14	7	3	2	43	8	6
39	Children's Hospital and Medical Center	70.7	8	15	18	3	45	4	5	NA	14	11	2.5	NA	35	8	1	12	1	0.4	47.0	14	7	5	2	50	8	7
40	MemorialCare Miller Children's and Women's Hospital Long Beach	70.5	7	14	18	3	40	5	5	NA	10	9	5.2	NA	36	6	2	10	1	0.7	48.0	12	7	4	2	54	8	7
41	Johns Hopkins All Children's Hospital	70.4	8	14	18	0	50	5	5	NA	10	8	3.8	NA	34	9	2	12	1	0.9	46.0	14	7	2	2	34	8	7
42	Le Bonheur Children's Hospital	69.6	8	13	16	3	47	4	5	NA	9	8	2.7	NA	35	7	2	11	1	2	45.0	13	7	7	2	44	8	7
43	CHOC Children's Hospital	69.4	8	14	16	3	52	2	4	NA	12	11	4.4	NA	40	9	2	12	1	1.4	48.0	14	7	2	3	29	8	7
44	Phoenix Children's Hospital	69.0	8	13	15	3	50	4	5	NA	13	10	3.3	NA	39	9	2	11	0	1	49.0	14	7	5	2	67	8	7
45	Hassenfeld Children's Hospital at NYU Langone	68.9	8	11	13	0	43	4	5	3	12	11	3.2	3.0	32	9	2	12	1	0.8	49.0	14	7	7	2	63	8	7
46	Intermountain Primary Children's Hospital-University of Utah	68.5	7	14	19	2	47	5	5	NA	15	11	3.1	NA	39	8	2	12	0	0.7	48.0	14	6	4	2	32	8	7
47	Children's Wisconsin Hospital	68.3	7	13	18	3	42	3	3	NA	13	10	3.8	NA	39	9	2	12	1	1.2	50.0	14	7	4	2	34	8	7
48	Cook Children's Medical Center	67.7	7	12	14	3	50	5	5	NA	14	11	3.5	NA	35	9	2	11	1	0.2	50.0	14	7	0	2	35	8	7
48	Nicklaus Children's Hospital	67.7	8	13	15	3	47	5	3	NA	11	5	2.5	NA	39	8	2	12	1	0.3	50.0	12	7	3	2	52	8	7
50	Arnold Palmer Hospital for Children	67.2	8	15	15	3	47	5	4	NA	9	5	4.1	NA	38	9	2	12	1	0.7	49.0	14	7	1	1	48	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Rank	Best Children's Hospital 2023-24: Urology Hospital	Overall Score	Ability to prevent surgical complications	Speed in treating testicular torsion	Ability to prevent infections throughout hospital	Number of patients	Number of surgeries	Number of minimally invasive procedures	Nurse staffing	Advanced clinical services offered	Clinical support services offered	Advanced technologies available	Specialized clinics and programs available	Has fulltime subspecialists available	Recognized as Nurse Magnet hospital	Expert Opinion	Commitment to best practices	Commitment to quality improvement	Adoption of health information technology	Active fellowship programs	Commitment to clinical research	Commitment to diversity, equity, and inclusion	Help for families	Enlists families in structuring care
1	Cincinnati Children's Hospital Medical Center	100	14	2	39	12	22	6	4.1	4	9	8	7	13	1	28.5	45	14	7	7	4	67	8	7
2	Boston Children's Hospital	98.8	14	2	39	10	24	6	4.1	4	9	8	7	13	1	50.2	45	14	7	6	4	57	8	7
3	Riley Hospital for Children at IU Health	94.8	13	2	36	9	23	5	3.9	5	9	8	7	13	1	33.8	45	14	7	6	4	48	8	7
4	Children's Hospital of Philadelphia	92.4	13	2	30	8	22	5	3.7	4	9	8	7	13	1	50.5	45	14	7	7	4	54	8	7
5	Seattle Children's Hospital	92.3	13	2	38	8	20	4	3.7	4	9	8	7	13	1	22.0	43	14	7	7	4	47	8	7
6	Children's Hospital Los Angeles	92.0	14	2	39	12	22	3	3.7	4	9	8	7	13	1	12.3	45	14	7	5	4	69	8	7
7	Texas Children's Hospital	89.2	11	2	35	8	23	5	4.3	4	9	8	7	13	1	24.7	45	14	7	7	3	51	8	7
8	Nationwide Children's Hospital	87.4	10	2	38	9	23	5	3.2	4	9	8	7	13	1	20.5	45	14	7	7	4	66	8	7
9	UPMC Children's Hospital of Pittsburgh	86.7	14	2	36	10	18	5	3.0	5	9	8	7	13	1	8.7	42	14	7	7	3	56	8	7
10	Children's Healthcare of Atlanta	86.6	14	2	34	9	21	6	5.1	5	9	8	7	13	1	7.7	43	14	6	6	4	35	8	7
11	Monroe Carell Jr. Children's Hospital at Vanderbilt	86.1	11	2	35	8	20	5	4.2	3	9	7	7	13	1	26.7	44	14	7	5	3	39	8	7
12	Ann and Robert H. Lurie Children's Hospital of Chicago	84.6	10	2	33	8	21	5	2.8	4	9	7	7	13	1	36.5	45	14	7	6	4	48	8	7
13	Children's National Hospital	84.2	10	2	39	9	20	4	3.8	4	9	8	7	13	1	14.4	44	14	7	6	4	65	8	7
14	Rady Children's Hospital	83.8	13	2	39	6	14	4	4.1	2	9	7	7	13	1	8.2	44	14	7	6	3	69	8	7
15	Children's Medical Center Dallas	83.2	11	2	38	8	23	4	3.8	4	9	8	7	13	1	12.7	42	14	7	7	3	52	8	7
16	Mayo Clinic Children's Center	82.5	14	2	33	5	16	3	4.1	4	9	8	7	12	1	7.5	42	14	7	2	4	69	8	7
17	Johns Hopkins Children's Center	82.1	12	2	39	6	17	2	3.7	4	9	6	7	13	1	8.9	42	14	7	6	4	69	8	7
18	Cleveland Clinic Children's Hospital	81.7	15	2	35	8	16	3	3.1	4	9	7	7	13	1	0.6	45	14	7	6	4	69	8	7
19	Children's Hospital Colorado	81.2	9	2	36	8	21	2	4.0	4	9	8	7	13	1	15.3	45	14	7	7	4	57	8	7
19	Duke Children's Hospital and Health Center	81.2	12	2	38	10	16	3	3.6	4	9	7	7	13	1	7.4	42	14	7	4	4	66	8	7
21	Norton Children's Hospital	79.2	15	2	33	12	19	6	3.6	3	9	7	6	13	0	0.9	45	14	7	5	4	69	8	7
22	St. Louis Children's Hospital-Washington University	78.0	14	2	38	7	18	3	3.4	2	9	8	7	13	1	2.3	42	14	7	3	4	41	8	7
23	North Carolina Children's Hospital at UNC	77.8	13	2	37	8	18	3	3.7	5	9	8	7	13	1	1.5	41	14	7	5	3	67	8	7
24	Yale New Haven Children's Hospital	77.6	14	2	34	7	14	2	2.5	4	8	7	7	13	1	3.6	43	14	7	3	4	62	8	7
25	Cohen Children's Medical Center	77.4	13	2	33	9	14	2	4.4	4	9	8	7	13	1	2.4	44	14	7	4	3	68	8	7
26	Children's Mercy Kansas City Hospital	77.3	13	2	31	6	20	4	4.0	3	9	8	7	13	1	2.3	45	14	7	5	4	39	8	7
27	UCLA Mattel Children's Hospital	76.0	14	2	30	5	13	2	4.4	4	8	8	7	13	1	2.8	43	13	7	2	3	69	8	7
28	Rainbow Babies and Children's Hospital	75.2	13	2	38	6	13	2	2.9	3	9	7	7	13	1	2.5	44	14	7	2	3	68	8	7
29	New York-Presbyterian Children's Hospital-Columbia and Cornell	75.1	13	2	32	6	17	6	3.5	2	8	8	7	13	1	1.1	43	14	7	4	4	56	8	7
30	Lucile Packard Children's Hospital Stanford	74.8	12	2	32	6	15	3	4.3	3	9	8	7	12	1	3.3	45	14	7	4	4	39	8	7
31	Valley Children's Healthcare and Hospital	74.5	14	2	39	8	15	3	3.5	2	9	7	7	13	1	0.4	42	14	7	1	2	67	8	7
32	Levine Children's Hospital	73.6	14	2	35	7	15	3	3.4	2	9	7	7	13	1	0.7	42	14	7	0	3	67	8	7
33	Children's Hospital of Richmond at VCU	73.4	13	2	33	7	16	5	3.3	2	8	7	7	11	1	1.7	42	14	7	3	3	66	8	7
34	CHOC Children's Hospital	73.1	11	2	34	6	17	2	4.4	3	9	6	7	13	1	5.8	42	14	7	4	4	29	8	7
35	West Virginia University Children's Hospital	72.8	13	2	37	6	15	3	3.7	3	9	7	7	12	1	1.0	42	12	7	0	4	54	8	7
36	Intermountain Primary Children's Hospital-University of Utah	72.7	12	2	35	9	21	4	3.1	4	8	8	7	13	0	3.8	43	14	6	6	4	32	8	7
37	Phoenix Children's Hospital	72.3	12	2	38	9	18	4	3.3	4	9	8	7	13	0	1.9	45	14	7	2	3	67	8	7
38	UCSF Benioff Children's Hospitals, San Francisco and Oakland	71.6	6	2	39	6	18	3	4.4	5	9	8	7	13	1	8.8	44	14	7	6	4	56	8	7
39	Arkansas Children's Hospital	71.2	11	2	36	8	14	3	2.6	3	9	8	7	13	1	2.1	44	14	7	3	4	48	8	7
39	Children's Hospital of Alabama at UAB	71.2	11	2	35	7	19	4	3.7	4	9	7	7	12	0	4.4	42	14	7	4	4	55	8	7
39	Loma Linda University Children's Hospital	71.2	13	2	27	6	17	4	3.1	4	8	6	7	13	1	0.6	44	14	7	4	4	36	8	7
42	Kentucky Children's Hospital	71.1	13	2	34	5	13	4	2.8	3	9	8	7	12	1	0.8	41	14	7	0	4	57	8	7
43	Le Bonheur Children's Hospital	70.7	12	2	34	5	13	3	2.7	4	7	7	5	12	1	3.9	41	13	7	5	3	44	8	7
43	University of Virginia Children's Hospital	70.7	12	2	38	6	12	3	2.9	3	8	8	7	11	1	3.2	41	14	7	2	3	43	8	6
45	Hackensack Meridian Health JM Sanzari and K Hovnanian Children's Hosps.	70.4	13	2	37	7	13	3	2.7	2	9	7	7	13	1	0.5	42	14	7	1	2	69	8	7
46	MassGeneral Hospital for Children	69.8	12	2	28	6	11	2	3.7	2	9	8	7	11	1	1.8	43	14	7	3	4	60	8	7
47	RWJBarnabas Children's Health	68.8	11	2	34	6	15	5	3.1	4	9	7	7	12	1	0.2	43	14	7	0	4	67	8	7
48	University of Iowa Stead Family Children's Hospital	68.6	10	2	29	6	16	2	3.4	3	9	7	7	13	1	4.0	43	14	7	2	4	69	8	7
49	University of Michigan Health C.S. Mott Children's Hospital	68.2	8	2	34	6	16	2	5.3	3	9	6	7	13	1	4.2	43	14	7	6	4	60	8	7
50	Children's Hospital of Michigan	67.9	13	2	35	6	17	4	3.2	2	9	6	7	13	0	1.8	39	13	7	4	3	48	8	7

Rankings are based on all of the above measures.

NA: Service not provided by hospital. NR: Data not reported or unavailable.

Appendix D

2023-24 Best Children's Hospitals Honor Roll

2023-24 Best Children's Hospitals Honor Roll

Rank	Name	Points
1	Cincinnati Children's Hospital Medical Center	235
2	Boston Children's Hospital	230
3	Texas Children's Hospital, Houston	222
4	Children's Hospital of Philadelphia	205
5	Children's National Hospital, Washington, D.C.	180
6	Nationwide Children's Hospital, Columbus, Ohio	178
7	Children's Hospital Los Angeles	171
8	UPMC Children's Hospital of Pittsburgh	146
9	Rady Children's Hospital, San Diego	142
10	Johns Hopkins Children's Center, Baltimore	136