

***Preliminary* RECOMMENDATIONS OF THE DATA EXPERT GROUP
to the Hospital Measures Advisory Council
INFECTION AND PEDIATRIC MEASURES
March 20, 2008**

The intent of this report is to provide the Hospital Measures Advisory Council (HMAC) with an overview and listing of infection and pediatric measures recommended by the Data Expert Group (DEG). At the March 14, 2008 meeting, the DEG reviewed and discussed the measures recommended by the Infection Control Group appointed by the HMAC and the pediatric measures workgroup authorized by the DEG. The formation and deliberation processes used by these recommending bodies are further explained later in this report.

The DEG had extensive dialog around the area of adult (18 year and over) vs. pediatric measures and the effect this issue will have on all hospitals reporting the measures. By law hospitals are required to report information on all measures if they have patients that fall within the measure's specifications with the important caveat that reporting parameters yet to be discussed could establish thresholds below which a hospital would not be required to report a given measure. For example, if a hospital treated fewer than 10 patients who met the measure specification during the reporting period, a hospital would not be required to report that measure. Therefore, it was decided that the DEG reports should delineate which measures are applicable to adult populations and which are applicable to the pediatric population. Further discussion revealed that most of the measures the DEG recommended to the HMAC in its first report excluded individuals less than 18 years of age.

Measures recommended by the DEG and ICG that are specific to the adult population that will need to be publicly reported by children's hospitals still needs to be determined. For those measures specific to the adult population that are selected, unique pediatric issues impacting specifications need to be identified and addressed. In addition, there will be a focus on assuring that children's hospital to adult hospital comparisons are structured in the most appropriate fashion (e.g., same age range in denominator) and appropriately displayed on the website. These measures would be requirements for all hospitals that serve pediatric patients, not just children's hospitals.

Although the DEG accepted the recommended infection and pediatric measures presented at its March meeting, the DEG requested that more specific reporting parameters be provided for certain measures. This additional information is attached to this report.

Infection Measures

BACKGROUND

Ohio Revised Code Section 3727.312(D) requires the Hospital Measures Advisory Council (HMAC) to “convene a group of health care consumers, nurses, and experts in infection control, the members of which shall be appointed by the council according to a method selected by the council, to provide information about infection issues to the council as needed for the council to perform its duties.” At its November 9 meeting, the HMAC agreed with the Director of Health’s suggestion that the members of the pre-existing Director’s Advisory Committee on Emerging Infections could serve this role. Members of the HMAC also expressed their desire that in addition to the consumer who had contacted the Ohio Department of Health and expressed a desire to serve, additional consumer members should be supplied by HMAC members. Regrettably, no other consumer participants who were recommended by HMAC members were able to devote the amount of time involved. A roster of the members is attached.

The Infection Control Group (ICG), as it is commonly known, was charged by the HMAC with recommending infection control measures to the Data Expert Group for their consideration.

The ICG met three times: on January 18, 2008, February 1, 2008, and March 7, 2008. Minutes of these meetings can be found on the Hospital Measures Advisory Council webpage accessible from ODH’s home page.

All of the measures recommended by the ICG were presented to and discussed by the Data Expert Group (DEG) during the March 14, 2008 meeting. Several ICG members were present at the DEG meeting to explain and answer questions about their measure recommendations. The reporting parameters of the recommended measures were discussed at length, particularly those related to the “Other Measures”. The DEG requested that the ICG report be modified to clarify that the infection measures apply to the adult population only and that parameters for the influenza measure were not yet determined. The DEG also requested that more specific reporting parameter information for the Staphylococcus aureus bacteremia and Clostridium difficile measures be added to the report. The DEG accepted the recommendations of the ICG set forth below.

SURGICAL CARE IMPROVEMENT PROJECT (SCIP) MEASURES CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS) AND JOINT COMMISSION

Measures Recommended (Adult)	Measures Not Recommended (for initial reporting)
SCIP Appropriateness of Care Measure (Includes all starred measures)	Cardiac Surgery Patients with Controlled 6 a.m. Postoperative Blood Glucose
Prophylactic Antibiotic Received One Hour Prior to Surgical Incision *	Colorectal Surgery Patients with Immediate Postoperative Normothermia
Prophylactic Antibiotic Selection for Surgical Patients *	Surgery Patients with Appropriate Hair Removal
Prophylactic Antibiotics Discontinued Within 24 Hours after Surgery End Time*	

The ICG recommends an appropriateness of care measure including the SCIP measures for prophylactic antibiotic start time, prophylactic antibiotic selection, and prophylactic antibiotic stop time. For each of these measures, the ICG recommends collecting both the overall rate and surgery type rates, i.e. rates for coronary artery bypass grafts (CABG), other cardiac surgery, hip arthroplasty, knee arthroplasty, colon surgery, hysterectomy, and vascular surgery. The ICG does not recommend the inclusion of cardiac surgery patients with controlled 6 a.m. postoperative blood glucose. At this time, the ICG does not recommend collecting the measure for surgery patients with appropriate hair removal because its inclusion would not add information of particular use to the consumer. The ICG had quite a bit of discussion on whether or not this measure should be included and is amenable to revisiting the measure after the initial set of measures have been implemented. The ICG also does not recommend the measure for colorectal surgery patients with immediate postoperative normothermia because hospitals will likely not be required to submit this measure to CMS and thus will not be collecting it.

**NATIONAL HEALTHCARE SAFETY NETWORK (NHSN)
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)**

Measures Recommended (Adult)	Measures Not Recommended (for initial reporting)
Surgical Site Infection Event – CABG with both chest and donor site incisions	Central Line-Associated Bloodstream Infection Event
Surgical Site Infection Event – Cesarean section	Ventilator-Associated Pneumonia Event
Surgical Site Infection Event – Knee prosthesis	Catheter-Associated Urinary Tract Infection Event
	Dialysis Incident Event
	Post Procedure Pneumonia Event
	Antimicrobial Use and Resistance Option

The ICG recommends the NHSN measure for surgical site infections for coronary artery bypass graft (CABG) with both chest and donor site incisions, Cesarean section, and knee prosthesis. The ICG chose these surgeries because they are high in volume, are of consumer interest, and reflect surgeries that have other measures of interest already selected by the DEG. They recommend collection of this measure for all three surgeries for the entire twelve-month period being reported. While the ICG felt some of the other NHSN measures such as, central line-associated bloodstream infection and ventilator-associated pneumonia to be important and should be a part of public reporting, the ICG felt it was important to do one of the NHSN measures right for the initial implementation of public reporting and would consider other NHSN measures at a later date. Therefore, for initial reporting, the ICG does not recommend the inclusion of the NHSN measures for central line-associated bloodstream infection, ventilator-associated pneumonia, or post procedure pneumonia because the measure specifications do not allow for easy comparisons across hospitals and because patients will be unlikely to select the hospital at which they might require treatment via a central line or ventilator. The ICG also felt that these two measures would be covered by the reporting of MRSA and MSSA bacteremia (discussed

below). The ICG does not recommend the measure for catheter-associated urinary tract infection because the denominator of catheter days will not accurately reflect the number of infections, as removal of the catheter is the appropriate treatment method. The ICG does not recommend the measure for dialysis incident event because the measure is primarily designed for outpatient dialysis units, not hospitals. The ICG does not recommend the measure for antimicrobial use and resistance option, even though they consider it to be an important area of study, because the measure is difficult to measure without adequate technology and is difficult to explain to consumers.

**PATIENT SAFETY INDICATORS
AGENCY FOR HEALTHCARE RESEARCH & QUALITY (AHRQ)**

Measures Recommended	Measures Not Recommended
	Selected Infections Due to Medical Care
	Postoperative Sepsis

The ICG does not recommend either infection measure created by AHRQ because they feel that measures based on patient records (such as the CMS/Joint Commission measures) or surveillance (such as the CDC NHSN measures) give a more accurate picture of hospital-acquired infections than do measures based on administrative records (AHRQ).

VERMONT OXFORD MEASURES

Measures Recommended	Measures Not Recommended
	Late Sepsis or Meningitis in Neonates
	Late Sepsis or Meningitis in Very Low Birth Weight Neonates

The ICG does not recommend the Vermont Oxford measures for late sepsis or meningitis in either neonates or very low birth weight neonates since only hospitals that have NICUs would be able to participate in these measures. However, the ICG would defer to the Pediatric Measures Group if they wanted to include the Vermont Oxford measures.

INSTITUTE FOR HEALTHCARE IMPROVEMENT (IHI) MEASURES

Measures Recommended	Measures Not Recommended
	Central Line Bundle Compliance
	Ventilator Bundle Compliance

The ICG does not recommend the inclusion of the central line and ventilator bundles because the methodology of collecting this data from patient records is not the most accurate means of

measurement. However, the more accurate method of third-party observation would be overly burdensome on hospitals.

OTHER MEASURES

Measures Recommended (Adult)	Measures Not Recommended
*Influenza Vaccination for Healthcare Workers (*Also recommended by Infection Control Group)	
Hospital-Acquired MethicillinResistant & Methicillin Susceptible <i>Staphylococcus Aureus</i> Bacteremia (MRSA/MSSA Bacteremia)	
Hospital-Acquired <i>Clostridium difficile</i> (C. Diff.)	
Hand-washing Program	
Infection Control Staffing Measure	

The ICG recommends a measure of self-reporting by facility of the number of paid employees by the hospital that received an influenza vaccine. The ICG also recommends a measure to monitor all cases of *Staphylococcus aureus* bacteremia, stratified by whether it was methicillin-resistant or methicillin-susceptible, regardless of source; such a measure would avoid concerns over hospital-acquired infections that may be excluded from the source-related NHSN measures because of their specificity. The measure will collect the first positive blood culture greater than or equal to 48 hours after admission. Cases will come from the microbiology lab reports and will be reported as a rate per 1000 patient days (see attachment A). The ICG recommends a similar measure for *Clostridium difficile* using the definition that was in place during ODH’s 2006 collection because the infection is of particular interest to consumers and Ohio hospitals are still collecting this data. The definition used by ODH’s collection in 2006 was as follows: a positive laboratory diagnostic test, endoscopy or biopsy greater than 48 hours after admission to the healthcare facility in addition to subsequent infections that occurred greater than 6 months after an initial infection. The data was reported as a rate per 10,000 patient days (see attachment A). The ICG wants to include a measure on hand-washing practices in the hospital and determined that a question about the components of a hospital’s program would be more feasible than attempting to mandate a universal surveillance system. The ICG has elected to ask six yes/no questions: whether a hospital has a program to improve hand hygiene practices, whether new healthcare workers are taught hand hygiene and glove practices, whether the facility monitors and provides feedback to employees regarding hand hygiene, whether alcohol-based rubs are available at point of care, whether gloves are available at point of care, and whether your hospital prohibits direct care providers from wearing artificial nails. The ICG also recommends a measure that reflects the number of staff dedicated to infection control; the measure consists of three yes/no questions: whether a hospital has a qualified infection care professional, whether a hospital has a board-certified infection control professional, and whether a hospital has a board-certified infectious disease physician on staff or available for consult.

Status of Infection Control Measures

March 7, 2008

Consensus for Possible Inclusion

SCIP Measures

Appropriateness of care measure for SCIP -Inf-1,2,3

SCIP-Inf-1: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision*

SCIP-Inf-2: Prophylactic Antibiotic Selection for Surgical Patients*

SCIP-Inf-3: Prophylactic Antibiotics Discontinued within 24 Hours after Surgery End Time*

*Overall and stratified rates, if stratified

CDC NHSN Measures

Surgical Site Infection Event

- Coronary artery bypass graft with both chest and donor site incisions
- Cesarean section
- Knee prosthesis

Other Measures

Influenza vaccination for healthcare workers

Hospital-acquired C. diff.

Hospital-acquired MRSA & MSSA bacteremia

Hand washing program

Staffing levels of ICPs and infectious disease physicians

Consensus for Not Including

SCIP Measures

SCIP-Inf-4: Cardiac Surgery Patients with Controlled 6 A.M. Postoperative Blood Glucose

SCIP-Inf-6: Surgery Patients with Appropriate Hair Removal

SCIP-Inf-7: Colorectal Surgery Patients with Immediate Postoperative Normothermia

AHRQ Measures

Selected Infections Due to Medical Care Postoperative Sepsis

IHI Measures

Central Line Bundle Compliance

Ventilator Bundle Compliance

CDC NHSN Measures

Central Line-Associated Bloodstream Infection Event

Ventilator Associated Pneumonia Event

Catheter-Associated Urinary Tract Infection Event

Dialysis Incident Event

Post-Procedure Pneumonia Event

Antimicrobial Use and Resistance Option

Vermont Oxford Measures

Late sepsis or meningitis in neonates

Late sepsis or meningitis in very low birth weight neonates

Attachment A: Specifications for Organism-Specific Infection Control Measures

	Numerator	Denominator	Measure Collection	Risk Adjustment
<i>Clostridium difficile</i>	First positive laboratory diagnosis test for <i>Clostridium difficile</i> OR pseudomembranes seen on endoscopy OR positive histology from surgery or autopsy specimen collected \geq 48 hours after admission to the hospital	<p>Report as rate per 10,000 patient days</p> <p>The rates for each month are calculated by dividing the number of <i>Clostridium difficile</i> cases reported (N) by the number of calculated patient days multiplied by 10,000.</p> <p>Monthly patient days were defined as the sum of the daily facility census for that month.</p> <p>Rate = (N/Calc PD) x 10,000</p>	The first blood culture positive for <i>Clostridium difficile</i> during a specified admission will be reported as a new episode. Duplicate reports within 6 months should be considered part of the original episode of SAB and should not be reported.	Exclude patients < 18 years
<i>Staphylococcus aureus</i> bacteremia	First positive laboratory diagnosis test for <i>Staphylococcus aureus</i> from any blood culture collected \geq 48 hours after admission to the hospital	<p>Report as rate per 1,000 patient days</p> <p>The rates for each month are calculated by dividing the number of <i>Staphylococcus aureus</i> bacteremia cases reported (N) by the number of calculated patient days multiplied by 1,000.</p> <p>Monthly patient days were defined as the sum of the daily facility census for that month.</p> <p>Rate = (N/Calc PD) x 1,000</p>	Cases will be identified from microbiology laboratory reports. The first blood culture positive for <i>Staphylococcus aureus</i> bacteremia during a specified admission will be reported as a new episode. Duplicate reports within 14 (30?) days should be considered part of the original episode of SAB and should not be reported.	Exclude patients < 18 years. Stratify by methicillin-resistant vs. methicillin-susceptible

Infection Control Group Roster

“Convene a group of health care consumers, nurses, and experts in infection control, the members of which shall be appointed by the council according to a method selected by the council, to provide information about infection issues to the council as needed for the council to perform its duties.”

Virginia Abell APIC Summa Health System	Andrea Arendt Association of Ohio Health Commissioners
Beth Bickford Association of Ohio Health Commissioners	Barbara Bradley, MS, RN, CIC Ohio Department of Health Chief, Bureau of Infectious Disease Control
Robert Campbell, PhD Ohio Department of Health Chief, Bureau of Health Surveillance	Jane Carmean, BSN, RN, CIC Ohio Department of Health Infectious Disease Control Consultant
Elizabeth Cross, MPH Ohio Department of Health Infectious Disease Surveillance Manager	Mary DiOrio, MD, MPH Ohio Department of Health Medical Epidemiologist
Rosemary Duffy, DDS, MPH Centers for Disease Control and Prevention (CDC) assignee to the Ohio Department of Health	Brenda L. Dubilzig, RN, CIC APIC The Toledo Hospital Infection Control Department
Gingy Harshey-Meade, RNC, LNHA Ohio Nurses Association	Lynn Giljahn, MPH Ohio Department of Health Infectious Disease Surveillance Manager
H. Bradford Hawley, MD Infectious Diseases Society of Ohio. President	Nancy Hutchinson, RN, MSN (APIC) Children’s Hospital Medical Center
Carol Jacobson Ohio Hospital Association	Mysheika LeMaile-Williams, MD, MPH Association of Ohio Health Commissioners Columbus Public Health
Patricia Patterson, RN, BSN, CIC APIC Humility of Mary Health Partners	Cheryl Paul, RN, CIC
Fran Savard AOPHA – The Advocate for Not-for-Profit Services for Older Ohioans	Steve Schmitt, MD Infectious Diseases Society of Ohio Cleveland Clinic
Ginger Schuerger-Davison Ohio Health Care Association	Kaliyah Shaheen, MPH Ohio Department of Health
Forrest Smith, MD Ohio Department of Health Medical Director, Division of Prevention/State	Kurt B. Stevenson, MD, MPH Infectious Diseases Society of Ohio Ohio State University
Carolyn Wieging, RN, BSN, CIC APIC Infection Control Manager	

Consumer Representatives:

Nancy Oliver Consumer	Jennifer Wheeler Consumer
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Pediatric Measures

BACKGROUND

During the December 14, 2007 Data Expert Group (DEG) meeting, Jim Papp, the Data Expert Group appointee representing children's hospitals, expressed an interest in collaborating with the Ohio Children's Hospital Association (OCHA) to develop recommendations for pediatric measures. The DEG agreed that Jim Papp and colleagues could review and recommend pediatric measures for public reporting as long as the workgroup reported to the DEG the recommended measures as well as the entire universe of measures considered but not recommended.

Under the leadership of Nick Lashutka, President of OCHA, a workgroup was formed consisting of members from six Ohio children's hospitals. A roster of workgroup members is attached. This workgroup participated in a total of twelve conference calls during January, February and March of 2008. Initial calls focused on clarifying scope and defining objectives related to the selection process. Given the broad task presented, the workgroup sought clarification from Ohio Department of Health (ODH) representatives on the group's specific charge. Out of this discussion the pediatric work group decided to select measures for public reporting that would focus on a children's hospital to children's hospital comparison. This approach along with the status of the measures selection process from January through February was presented by Mr. Papp to the DEG on February 8, 2008. During this meeting the DEG clarified that the measures would be reportable by all hospitals, but the presentation of the data collected could be presented in a manner that would compare children's hospital to children's hospital.

At the March 14, 2008 DEG meeting, Mr. Papp as the pediatric Workgroup representative to the DEG, presented the list of 7 recommended pediatric measures (For additional information on the measures selected see attachment B). Also present at this meeting was Nick Lashutka, President of OCHA and Dr. Keith Mandel, the pediatric workgroup representative to the Hospital Measures Advisory Council. These three workgroup members answered questions from ODH representatives and the DEG and described the process used by the pediatric workgroup to arrive at the specific pediatric measure recommendations. Central to this process was the inclusion of senior leadership from each children's hospital. Throughout the multi-voting process, workgroup members reviewed candidate measures with senior leaders, thus enabling them to report to the pediatric workgroup an opinion on recommended measures that was on behalf of their hospital's leadership. This aspect of the workgroup process was designed intentionally with the outcome of developing a set of consensus recommendations to report to the DEG.

The pediatric workgroup used a rigorous multi-voting process for selecting measures for the first phase of public reporting. The workgroup started with a universe of 136 measures for initial consideration. Round 1 voting consisted of each workgroup member selecting up to 10 measures deemed appropriate for the first phase of public reporting. Measures not receiving at least one vote in this round were removed from further consideration, resulting in 36 eligible measures.

During round 2 voting, each of the 36 measures was ranked against a set of selection criteria. These criteria were selected following a literature review combined with workgroup feedback and include

elements of the guiding principles established in the first combined Hospital Measures Advisory Council and Data Experts Group meeting in September, 2007. Measures selection criteria are as follows:

- Evidence-based
- Degree to which hospitals are in alignment with national measure definition
- Degree to which hospitals measure the numerator and the denominator differently
- Suitable for cross-hospital comparison
- Risk-adjustment concerns
- Understandable to the public
- Meaningful to the public
- Burden to collect
- Degree of variation in performance data across hospitals

In addition, the workgroup asked:

- Does your hospital believe this measure is appropriate for the first phase of public reporting/cross-hospital comparison?

The result of this process yielded 7 measures recommended for the first phase of public reporting. Although 7 total measures were selected for first phase reporting, the process used has also identified measures that lend themselves to later phases of public reporting. Reporting parameters for the measures recommended by the pediatric workgroup were discussed at the March 14, 2008 DEG meeting, but have not yet been defined and finalized. As pediatric-specific measures do not share the same public reporting history and are not nearly as established as adult measures, a recommendation was made by the pediatric Workgroup to use national definitions where appropriate. At the same time, it was discussed that pediatric-specific measure definitions have been developed through the work of national quality collaborative including ones by National Association of Children’s Hospitals and Related Institutions (NACHRI) for catheter-associated bloodstream infections and by Child Health Corporation of Ohio (CHCA) for surgical site infections, and that these definitions should be considered for the applicable measures.

The DEG had consensus on including all of the recommended pediatric measures.

PEDIATRIC MEASURES

Measures Recommended (Pediatric)	Measures Not Recommended (for initial reporting)
Systemtic corticosteroids for inpatient asthma (age 2-17) (Overall Rate)	*See attachment C
Relievers for inpatient asthma (age 2-17) (Overall Rate)	
Prophylactic Antibiotic Received One Hour Prior to Surgical Incision (Overall Rate)	
Central Line-associated bloodstream infection for ICU patients	
Urinary catheter-associated urinary tract infection rate for ICU patients	
Surgical site infection rate (all surgeries) Class I and II	
*Influenza Vaccination for Health Care Workers (*Also recommended by Infection Control group)	

Attachment B

Pediatric Measures - OCHA Workgroup Consensus for Possible Inclusion in First Phase of Public Reporting*				
Measure	**CHCA Whole System Measure	Overlap with HMAc Infection Control Group measures for possible inclusion	Sponsoring Organization	NQF Endorsed
Central line-associated bloodstream infection for ICU patients	Yes	No	Joint Commission/CDC	Yes
Systemic corticosteroids for inpatient asthma (age 2 - 17 years) - Overall rate	No	N/A	Joint Commission	Yes
Relievers for inpatient asthma (age 2 through 17 years) - Overall rate	No	N/A	Joint Commission	Yes
Urinary catheter-associated urinary tract infection rate for ICU patients	No	No	Joint Commission/CDC	Yes
Surgical site infection rate (Class I and II)	Yes	Yes	CDC	Yes
Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision- Overall Rate	No	Yes	CMS	Yes
Influenza Vaccination of Health Care Workers	No	Yes	Joint Commission/CDC	No, pending

* First phase of public reporting is solely focused on "children's hospital-children's hospital" comparison. OCHA workgroup discussed this approach with ODH staff and the appropriateness of deferring a "children's hospital-pediatric care within adult hospital" comparison to a later phase of public reporting.

** Child Health Corporation of America (CHCA) is a consortium of 43 children's hospitals. This group has selected a set of whole system measures for benchmarking purposes.

Attachment C

Status of Pediatric Measures March 14, 2008

Recommended for Including

Central Line-Associated Bloodstream Infection Rate for ICU patients	Systemic Corticosteroids for inpatient Asthma (age 2-17 years) - Overall Rate
Urinary Catheter-Associated Urinary Tract Infection Rate for ICU Patients	Relievers for Inpatient Asthma (age 2-17 years) - Overall Rate
Surgical Site Infection Rate (Class I & II)	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision—Overall Rate
Influenza Vaccination of Healthcare workers	

Recommended for Not Including

<u>CDC NHSN Measures</u>	<u>Joint Commission Measures</u>
Central Line-Associated Bloodstream Infection Rate for NICU Patients	Home Management Plan of Care (HMPOC) Document Given to Parent/Caregiver
Hospital-Wide Central Line-Associated Bloodstream Infection Rate	Asthma Readmission Within 7 Days of Discharge
Ventilator-Associated Pneumonia Rate for ICU patients	Asthma Readmission Within 30 Days of Discharge
Ventilator-Associated Pneumonia Rate for NICU patients	
<u>AHRQ Measures</u>	<u>SCIP Measures</u>
Accidental Puncture or Laceration	Prophylactic Antibiotic Selection for Surgical Patients—Overall Rate
Decubitus Ulcer	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time—Overall Rate
Foreign Body Left During Procedure	Cardiac Surgery Patients with Controlled 6 A.M. Postoperative Blood Glucose
Iatrogenic Pneumothorax in Neonates at Risk	Postoperative Wound Infection Diagnosed During Index Hospitalization
Iatrogenic Pneumothorax in Non-Neonates	Surgery Patients with Appropriate Hair Removal
Pediatric Heart Surgery Mortality	Colorectal Surgery Patients with Immediate Postoperative Normothermia
Pediatric Heart Surgery Volume	Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered
Postoperative Hemorrhage or Hematoma	Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery
Postoperative Respiratory Failure	
Postoperative Sepsis	<u>National Association for Children's Hospitals and Related Institutions Measures</u>
Postoperative Wound Dehiscence	Neonatal Readmission Rate (High Acuity)
Selected Infections Due to Medical Care	Neonatal Readmission Rate (Low Acuity)
Transfusion Reaction	
Complications of Anesthesia	<u>Leapfrog Measures</u>
Death in Low Mortality DRGs	Computerized Physician Order Entry
	ICU Intensivist Staffing 24/7
<u>IHI Measures</u>	Minimum Daily Volume in NICU
Hospital Standardized Mortality Ratio	NQF Safe Practices Scores
Hospital Readmission Percentage	Ventilator-Associated Pneumonia Prevention
Patient Satisfaction with Care Score—Hospital	Central Venous Catheter Related Bloodstream Infection Prevention
Patient Satisfaction with Care Score—Physician	Surgical Site Infection Prevention
	Hand Hygiene Protocols
<u>Child Health Corporation of America Measures</u>	<u>National Committee for Quality Assurance/HEDIS Measures</u>
Standardized PICU Mortality Ratio	Births and Average Length of Stay in Newborns
PICU Severity Adjusted Length of Stay	Discharge and Average Length of Stay Maternity
Review of Unplanned PICU Readmissions	
PICU Pain Assessment on Admission	<u>Other Measures</u>
PICU Periodic Pain Assessment	Patient Experience with Inpatient Care
<u>Vermont Oxford Measures</u>	Falls per 1000 Patient Days
Respiratory: RDS, Pneumothorax, Oxygen, NCPAP, Surfactant at Any Time	Reliability of Evidence Based Care Provided for Common Pediatric Conditions
Chronic Lung Disease: at 36 Weeks, Steroids, Discharge Home on Oxygen	Adverse Drug Events—Opiates
Patient Ductus Arteriosus: Symptomatic, Indomethacin, Surgery	Adverse Drug Events—Insulin
Necrotizing Enterocolitis	Percent Delayed
GI Perforation	Codes Outside the ICU
Infection: Early Bacterial, Late Bacterial, Coag Negative Staph, Nosocomial, Fungal	Days to Third Next Available Appointment
Intraventricular Hemorrhage: Ultrasound Exam, IVH Any Stage, Grade III, Grade IV	Touch Time: Percent Time Nurse in Patient or Procedure Rooms
Cystic Periventricular Leukomalacia	Number of NQF Never Events
Retinopathy of Prematurity: Stage 2, Stage 3, Stage 4	RN Turnover Percentage
Enteral Feeds at Discharge: None, Human Milk Only, Formula Only, Combination	Average Length of Stay of Discharged Patients
Survival Status: Death, Alive at Discharge, No Key Morbidities, With No Known Morbidity	
Mean Length of Stay	
Late Sepsis or Meningitis in Neonates	
Late Sepsis or Meningitis in Very Low Birth Weight Neonates	

Pediatric Workgroup Roster

<p>Michael Bird, M.D. Vice President, Medical Services Akron Children's Hospital</p>	<p>Uma Kotagal, MBBS, MSc Senior Vice President, Quality and Transformation Cincinnati Children's Hospital Medical Center</p>
<p>Lia Lowrie, M.D. Chief, Division of Pediatric Critical Care Medicine, Medical Director, PICU Rainbow Babies & Children's Hospital, Cleveland</p>	<p>Terry Davis, M.D. Interim Medical Director Nationwide Children's Hospital, Columbus</p>
<p>Thomas Murphy, M.D., MPH Vice President, Medical Affairs The Children's Medical Center of Dayton</p>	<p>Michael Ruhlen, M.D. Vice President, Medical Affairs Toledo Children's Hospital</p>
<p>Keith Mandel, M.D. Vice President of Medical Affairs, Physician-Hospital Organization Cincinnati Children's Hospital Medical Center OCHA Representative to Hospital Measures Advisory Council</p>	<p>Jim Papp, MSW Outcomes Manager, Division of Health Policy and Clinical Effectiveness Cincinnati Children's Hospital Medical Center OCHA Representative to Data Experts Group</p>
<p>Nick Lashutka President, Ohio Children's Hospital Association</p>	<p>Mary Drake Manager, Data Initiatives, Ohio Hospital Association</p>
<p>David Engler, Ph.D. Vice President of Data Services & Research & Educational Foundation, Ohio Hospital Association</p>	