



دائرة الصحة
DEPARTMENT OF HEALTH

Pediatric and Congenital Cardiac Surgery Service Jawda Guidance

Version 2

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Executive Summary

The Department of Health– Abu Dhabi (DOH) is the regulatory body of the healthcare sector in the Emirate of Abu Dhabi and ensures excellence in healthcare for the community by monitoring the health status of its population.

The Emirate of Abu Dhabi is experiencing a substantial growth in the number of hospitals, centers and clinics. This is ranging from school clinics and mobile units to internationally renowned specialist and tertiary academic centers. Although, access and quality of care has improved dramatically over the last couple of decades, mirroring the economic upturn and population boom of Emirate of Abu Dhabi, however challenges remain in addressing further improvements.

The main challenges that are presented with increasingly dynamic population include an aging population with increased expectation for treatment, utilization of technology and diverse workforce leading to increased complexity of healthcare provision in Abu Dhabi. All of this results in an increased and inherent risk to quality and patient safety.

DOH has developed dynamic and comprehensive quality framework in order to bring about improvements across the health sector. This guidance relates to the quality indicators that DOH is mandating the quarterly reporting against by the operating general and specialist hospitals in Abu Dhabi.

The guidance sets out the full definition and method of calculation for patient safety and clinical effectiveness indicators. For enquiries about this guidance, please contact jawda@DoH.gov.ae

This document is subject for review and therefore it is advisable to utilize online versions available on the DOH at all times.

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About this Guidance

The guidance sets out the definitions and reporting frequency of JAWDA Cardiac Surgery (CS) performance indicators. The Department of Health (DoH), with consultation from local and international expertise of cardiac surgeons, has developed Cardiac Surgery Performance Indicators that are aimed for assessing the degree to which a provider competently and safely delivers the appropriate clinical services to the patient within the optimal period of time.

The Jawda KPI for cardiac surgery patients in this guidance include measures to monitor morbidity and mortality in patients undergoing cardiac surgery procedures. . Healthcare providers are the most qualified professionals to develop and evaluate quality of care for cardiac surgery patients; therefore, it is crucial that clinicians retain a leadership position in defining performance among cardiac surgery healthcare providers.

Who is this guidance for?

All DoH licensed healthcare facilities providing Cardiac Surgery in the Emirate of Abu Dhabi.

How do I follow this guidance?

Each provider will nominate one member of staff to coordinate, collect, monitor and report Cardiac Surgery quality indicators data as per communicated dates. The nominated healthcare facility lead must in the first instance e-mail their contact details (if different from previous submission) to JAWDA@doh.gov.ae and submit the required quarterly quality performance indicators through Jawda online portal.

What are the Regulation related to this guidance?

Legislation establishing the Health Sector

As per DoH Policy for Quality and Patient Safety issued January 15th 2017, this guidance applies to all DOH Licensed Hospital Healthcare Facilities in the Emirate of Abu Dhabi in accordance with the requirements set out in this Standard

DOH Standard for Centers of Excellence in the Emirate of Abu Dhabi issued March 2019

Pediatric and Congenital Cardiac Surgery Jawda Performance Indicators

Type: PCS Quality Indicator

Indicator Number: PCS 01

KPI Description (title):	Post-Operative Complications for Patient Who Undergoing Pediatric And Congenital Cardiac Surgery
Domain	Safety
Indicator Type	Outcome
Definition:	Percent of patients (less than 16 years) undergoing pediatric and congenital cardiac surgery that develop postoperative complications within the first 30 days after surgery; or before hospital discharge
Calculation:	<p><u>Numerator:</u> Number of patients (less than 16 years old) undergoing pediatric and congenital cardiac surgery who develop postoperative complication within the first 30 days after surgery; or before hospital discharge</p> <p><u>Numerator Inclusions:</u> Complications list include but not limited to</p> <ul style="list-style-type: none"> • Bleeding requiring reoperation within the first 2 hours of ICU admission (for open chest only) • Bleeding requiring reoperation for close chest ICD-10 CM: I97.618 , I97.648 , I97.638 • Hemothorax requiring intervention with blood loss greater than 20ml/kilo body weight (ICD-10 CM: J95.831) • Complete heart block requiring insertion of permanent pacemaker (ICD-10 CM: I44.2) • Post-operative Intracranial hemorrhage during the encounter where the pediatric cardiac surgery was conducted • Post-operative Intracranial hemorrhage non-stroke (ICD-10 CM: G9752 , G9762 , G9764 , I97820) • Chylothorax requiring intervention (excluding medical intervention or chest drain insertion) (ICD-10 CM: J94.0) • Hepatic injury or Hepatic failure (ICD-10 CM: K91.82) • Endocarditis (ICD-10 CM: I97.190) • CLABSI (ICD-10 CM: T80.211A, T80.211D, T80.211S) • VAP (ICD-10 CM: J95.851) • CAUTI (ICD-10 CM: T83.511A, T83.511D, T83.511S) • CRRT for acute renal failure (ICD-10 CM: N99.0) • Other possible complications following cardiac surgery: ICD-10 CM I97.110 , I97.120 , I97.130 , I97.820 , I97.89 <p><u>Numerator exclusions:</u> Pediatric patients who have the above listed conditions or complications which are present on admission</p> <p>Age category (at date of surgery):</p> <ul style="list-style-type: none"> • 1-3 months • 4-6 months • 1 year • 2 year

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	<ul style="list-style-type: none"> • 2-16 years <p><u>Denominator</u> All pediatric patients (less than 16 years old) discharged during the reporting period that have undergone a pediatric and congenital cardiac surgery</p> <p><u>Denominator exclusion:</u> Pediatric patients discharged against medical advice</p>
Reporting Frequency:	Quarterly
Unit of Measure:	Percentage
International comparison if available	https://www.sts.org/registries/sts-national-database/congenital-heart-surgery-database
Desired direction:	Lower is better
Notes for all providers	
Data sources and guidance:	<ul style="list-style-type: none"> • Hospital patient data source • Patient's records

Type: PCS Quality Indicator

Indicator Number: PCS 02

KPI Description (title):	Percent of Operative Mortality Occurring During Pediatric and Congenital Cardiac Surgery
Domain	Effectiveness
Indicator Type	Outcome
Definition:	Percent of operative mortality in pediatric patients who have undergone pediatric and congenital cardiac Surgery
Calculation:	<p><u>Numerator:</u> Number of patients (less than 16 years) undergoing pediatric and congenital cardiac surgery who died, including:</p> <ul style="list-style-type: none"> • All deaths occurring during the hospitalization in which the procedure was performed • Those deaths occurring after discharge from the hospital within 30 days of the procedure. <p><u>Numerator Inclusion:</u> The first operation of hospitalization that has an operation type of cardiopulmonary bypass, Ventricular assist devices (VAD) with cardiopulmonary bypass, VAD without cardiopulmonary bypass</p> <p>Age category (at date of surgery):</p> <ul style="list-style-type: none"> • 1-3 months • 4- 6 months • 1 year • 2 year • 2-16 years <p><u>Denominator</u></p>

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	All patients (less than 16 years) discharged during the reporting period that have undergone a pediatric and congenital cardiac Surgery
Reporting Frequency:	Quarterly
Unit of Measure:	Percentage
International comparison if available	https://www.sts.org/registries/sts-national-database/congenital-heart-surgerydatabase
Desired direction:	Lower is better
Notes for all providers	
Data sources and guidance:	Hospital patient data source Patient's records (Malaffi data extraction within DOH)

Type: Quality Indicator

Indicator Number: PCS 03

KPI Description (title):	Surgical Site Infection for Pediatric and Congenital Cardiac Surgery
Domain	Safety
Indicator Type	Outcome
Definition:	Percent of patients (less than 16 years) undergoing major cardiac surgery who, within 90 days postoperatively, develop surgical site wound infection involving muscle, bone, and/or mediastinum requiring operative intervention.
Calculation:	<p><u>Numerator:</u> Number of patients (less than 16 years) who within 90 days postoperatively, develop surgical site infection involving muscle, bone and/or mediastinum requiring operative intervention.</p> <p><u>Numerator Guidance:</u></p> <ul style="list-style-type: none"> • Confirmation of surgical site infection is captured via the medical record <p>Superficial Incisional SSI: Must meet the following criteria:</p> <ul style="list-style-type: none"> • Infection occurs \leq 90 days, and involves only skin/subcutaneous tissue of the incision, and patient has \geq one of the following: <ul style="list-style-type: none"> ○ Purulent drainage from the superficial incision. ○ Organisms isolated from an aseptically-obtained culture of fluid or tissue from the superficial incision. ○ Superficial incision that is deliberately opened by a surgeon, attending physician or other designee and is culture positive or not cultured and patient has \geq one of the following: <ul style="list-style-type: none"> ▪ pain or tenderness ▪ localized swelling ▪ redness ▪ heat ○ A culture with negative findings does not meet this criterion. • Diagnosis of a superficial incisional SSI by the surgeon or attending Physician or other designee.

	<p>There are two specific types of superficial incisional SSIs: o Superficial Incisional Primary (SIP) – a superficial incisional SSI that is identified in the primary incision in a patient that has had an operation with one or more incisions</p> <p>Superficial Incisional Secondary (SIS) – a superficial incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision</p> <p>Do not include:</p> <ul style="list-style-type: none">• A stitch abscess alone (minimal inflammation and discharge confined to the points of suture penetration)• A localized stab wound or pin site infection.• Diagnosis of “cellulitis” by itself• Patients with chest open more than 48 hours after surgery (48 hours calculation starts from handover of OR nurse to ICU nurse) <p>Deep incisional SSI: Must meet the following criteria</p> <ul style="list-style-type: none">• Infection occurs within 90 days after the operative procedure, AND involves deep soft tissues of the incision (e.g., fascial and muscle layers) AND patient has at least one of the following:<ul style="list-style-type: none">o Purulent drainage from the deep incision.o organism(s) identified from the deep soft tissues of the incision by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (for example, not Active Surveillance Culture/Testing (ASC/AST)) or culture or nonculture based microbiologic testing method is not performed, AND patient has at least one of the following signs or symptoms:<ul style="list-style-type: none">▪ Fever (>38°C)▪ Localized pain or tenderness▪ An abscess or other evidence of infection involving the deep incision that is detected on direct examination, during invasive procedure, or by histopathologic examination or imaging test.o A culture with negative findings does not meet this criterion. <p>There are two specific types of deep incisional SSIs:</p> <ul style="list-style-type: none">• Deep Incisional Primary (DIP) – a deep incisional SSI that is identified in a primary incision in a patient that has had an operation with one or more incisions• Deep Incisional Secondary (DIS) – a deep incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision <p>Organ/Space SSI: Must meet the following criteria</p> <ul style="list-style-type: none">• Infection occurs within 30 days after the operative procedure, and infection involves any part of the body, deeper than the fascial/muscle layers, that is opened or manipulated during the operative procedure, and patient has at least one of the following:<ul style="list-style-type: none">o Purulent drainage from a drain that is placed into the organ/space
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	<ul style="list-style-type: none"> ○ Organisms isolated from an aseptically-obtained culture of fluid or tissue in the organ/space ○ An abscess or other evidence of infection involving the organ/space that is detected on direct examination, during invasive procedure, or by histopathologic examination or imaging test, and meets at least one criterion for a specific organ/space infection of mediastinitis below: <p>Mediastinitis: Must meet at least 1 of the following criteria:</p> <ul style="list-style-type: none"> • Patient has organisms cultured from mediastinal tissue or fluid obtained during an invasive procedure. • Patient has evidence of mediastinitis seen during an invasive procedure or histopathologic examination. • Patient has at least 1 of the following signs or symptoms: <ul style="list-style-type: none"> ○ Fever (>38°C) ○ Chest pain* ○ Sternal instability* and at least 1 of the following: <ul style="list-style-type: none"> ▪ Purulent discharge from mediastinal area • Patient ≤1 year of age has at least one of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea, bradycardia, or sternal instability And at least one of the following: <ol style="list-style-type: none"> a) purulent drainage from mediastinal area. b) mediastinal widening on imaging test <p>SSI Data will be reported to allow infections occurring within 90 days of surgery date to be associated with the surgical procedures as follows:</p> <p>For SSI procedures performed in Q1 and required 90 days surveillance, this infection will be reported in Q3 as Q1 data (two quarters behind)</p> <p>Denominator: All patients (less than 16 years) undergoing major cardiac surgery procedure during the reporting period</p>
Reporting Frequency:	Quarterly
Unit of Measure:	Percentage
International comparison if available	https://www.sts.org/registries/sts-national-database/congenital-heart-surgerydatabase
Desired direction:	Lower is better
Notes for all providers	
Data sources and guidance:	<ul style="list-style-type: none"> • Patient medical record • Hospital administrative data

Pediatric and Congenital Cardiac Surgery Jawda Performance Indicators

Appendix A: Pediatric and Congenital Cardiac Surgery CPT Codes

Category	CPT Codes						
Aortic Anomalies	33800	33802	33803	33813	33814	33820	33822
	33824	33840	33845	33851	33852	33853	
Arterial Grafting for Coronary Artery Bypass	33533	33534	33535	33536	33542	33545	33548
Cardiac Assist	33970	33971	33973	33974	33975	33976	33977
	33978	33979	33980	33981	33982	33983	33990
	33991	33992	33993				
Cardiac Tumor	33120	33130					
Cardiac Valves	33361	33362	33363	33364	33365	33366	33367
	33368	33369	33390	33391	33404	33405	33406
	33410	33411	33412	33413	33414	33415	33416
	33417	33418	33419	33420	33422	33425	33426
	33427	33430	33460	33463	33464	33465	33468
	33470	33471	33474	33475	33476	33477	33478
	33496						
Combined Arterial-Venous Grafting for Coronary Bypas	33517	33518	33519	33521	33522	33523	33530
Coronary Artery Anomalies	33500	33501	33502	33503	33504	33505	33506
	33507						
Coronary Endarterectomy	33572						
Electrophysiologic Operative Procedures	33250	33251	33254	33255	33256	33257	33258
	33259	33261	33265	33266			
Endoscopy	33508						
Endovascular Repair of Descending Thoracic Aorta	33880	33881	33883	33884	33886	33889	33891
Extracorporeal Membrane Oxygenation or Extracorporeal Life Support Services	33947	33948	33949	33951	33952	33953	33954
	33955	33956	33957	33958	33959	33962	33963
	33964	33965	33966	33969	33984	33985	33986
	33987	33988	33989	33946			
Heart (Including Valves) and Great	33300	33305	33310	33315	33320	33321	33322
	33330	33335	33340				
Heart/Lung Transplantation	33927	33928	33929	33930	33933	33935	33940
	33944	33945					
Other Cardiac Surgery	33967	33999	33968				
Pacemaker or IACD	33202	33203	33206	33207	33208	33210	33211
	33212	33213	33214	33215	33216	33217	33218
	33220	33221	33222	33223	33224	33225	33226
	33227	33228	33229	33230	33231	33233	33234
	33235	33236	33237	33238	33240	33241	33243
	33244	33249	33262	33263	33264	33270	33271
	33272	33273					
Patient-Activated Event Recorder	33282	33284					
Pericardium	33010	33011	33015	33020	33025	33030	33031
	33050						
Pulmonary Artery	33910	33915	33916	33917	33920	33922	33924
	33925	33926					
Repair of Structural Heart Defect	93580	93581	93582	93583	93590	93591	93592

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Septal Defect	33641 33645 33647 33660 33665 33670 33675 33676 33677 33681 33684 33688 33690 33692 33694 33697
Shunting Procedures	33735 33736 33737 33750 33755 33762 33764 33766 33767 33768 92992 92993
Single Ventricle and Other Complex Cardiac Anomalies	33600 33602 33606 33608 33610 33611 33612 33615 33617 33619 33620 33621 33622
Sinus of Valsalva	33702 33710 33720 33722
Thoracic Aortic Aneurysm	33860 33863 33864 33870 33875 33877
Transmyocardial revascularization	33140 33141
Transposition of the Great Vessels	33770 33771 33774 33775 33776 33777 33778 33779 33780 33781 33782 33783
Truncus Arteriosus	33786 33788
Venous Anomalies	33724 33726 33730 33732
Venous Grafting Only for Coronary Artery Bypass	33510 33511 33512 33513 33514 33516
Exclusion:	<ul style="list-style-type: none"> • Percutaneous coronary intervention • Cardioversion • Brachytherapy • Thrombolysis • Cardiac Catheterization • Echocardiography for congenital cardiac anomalies (Transesophageal/Transthoracic) • Coronary Angiography • Intracardiac catheter ablation

Summary of Changes 2025

KPI #	Changes
PCS01	<ul style="list-style-type: none"> • Revised List of complications in Numerator and ICD-10 CM codes
PCS02	<ul style="list-style-type: none"> • Reworded Numerator
Appendices	<ul style="list-style-type: none"> • Revised Appendix 1 to A and updated format for CPT Surgery codes • Removed Appendix 2