



ALLIANCE FOR INNOVATION
ON MATERNAL HEALTH



Cardiac Conditions in Obstetrical Care Patient Safety Bundle

Core Data Collection Plan



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Measurement Statement: For the purpose of this bundle, cardiac conditions refer to disorders of the cardiovascular system which may impact maternal health. Such disorders may include congenital heart disease, cardiac valve disorders, cardiomyopathies, arrhythmias, coronary artery disease, pulmonary hypertension and aortic dissection. An ICD-10 codes list of cardiac conditions to be used when calculating outcome and state surveillance data can be found at the end of this document.

State Surveillance

Metric	Name	Description	Notes
SS1	Severe Maternal Morbidity Among People with Cardiac Conditions	Report N/D Denominator: All people with cardiac conditions during their birth admission, excluding ectopic pregnancies and miscarriages Numerator: Among the denominator, all cases with any SMM numerator code	Disaggregate by race/ethnicity Use the standardized SMM definition, subset by AIM's CCOC codes list
SS2	Severe Maternal Morbidity Excluding Blood Transfusions Among People with Cardiac Conditions	Report N/D Denominator: All people with cardiac conditions during their birth admission, excluding ectopic pregnancies and miscarriages Numerator: Among the denominator, all cases with any non-blood transfusion SMM numerator code	Disaggregate by race/ethnicity Use the standardized SMM definition, subset by AIM's CCOC codes list
SS3	Pregnancy-Related Deaths Due to Cardiac Conditions	Report N/D Denominator: Live births among state residents Numerator: Pregnancy-related deaths due to cardiac conditions	Disaggregate by race/ethnicity Data can be obtained from MMRIA or state MMRC, with understood delays

Outcome Measures

Metric	Name	Description	Notes
O1	NTSV Cesarean Birth Rate Among People with Cardiac Conditions	<p>Report N/D</p> <p>Denominator: Among people with cardiac conditions, those with live births who have their first birth ≥ 37 completed weeks gestation and have a singleton in vertex (Cephalic) position</p> <p>Numerator: Among the denominator, those with a cesarean birth</p>	<p>This metric is not necessarily a reflection of quality of care, but a reflection of provider comfort because of a comprehensive, team-based approach to providing care to birthing people with cardiac conditions.</p> <p>Disaggregate by race/ethnicity</p>
O2	Preterm Birth Rate Among People with Cardiac Conditions	<p>Report N/D</p> <p>Denominator: Singleton live births among people with cardiac conditions</p> <p>Numerator: Among the denominator, preterm live births (<37 completed weeks gestation)</p>	<p>This metric is not necessarily a reflection of quality of care, but a reflection of provider comfort because of a comprehensive, team-based approach to providing care to birthing people with cardiac conditions.</p> <p>Disaggregate by race/ethnicity</p>

Process Measures

Metric	Name	Description	Notes
P1	Standardized Pregnancy Risk Assessments for People with Cardiac Conditions	<p>Report N/D</p> <p>Denominator: Patients with cardiac conditions diagnosed prior to birth admission</p> <p>Numerator: Among the denominator, those who received a pregnancy risk classification using a standardized cardiac risk assessment tool by time of birth admission</p>	<p>Examples of standardized pregnancy risk assessment tools include mWHO, CARPREG I & II, ZAHARA.</p> <p>Disaggregate by race/ethnicity</p>
P2	Multidisciplinary Care Plan for Pregnant People with Cardiac Conditions	<p>Report N/D</p> <p>Denominator: Patients with cardiac conditions diagnosed prior to birth admission</p> <p>Numerator: Among the denominator, those who had a multidisciplinary care plan for birth established by time of birth admission</p>	<p>Disaggregate by race/ethnicity</p>
P3	OB Provider and Nursing Education – Cardiac Conditions	<p>Report estimate in 10% increments (round up)</p> <p>At the end of this reporting period, what cumulative proportion of clinical OB providers and nursing staff has received within the last two years education on signs and symptoms of potential cardiac conditions in pregnant and postpartum people?</p>	

Metric	Name	Description	Notes
P4	OB Provider and Nursing Education – Respectful and Equitable Care	Report estimate in 10% increments (round up) At the end of this reporting period, what cumulative proportion of clinical OB providers and nursing staff has completed within the last 2 years an education program on respectful and equitable care?	
P5	ED Provider and Nursing Education – Cardiac Conditions	Report proportion completed (estimated in 10% increments – round up) At the end of this reporting period, what cumulative proportion of clinical ED providers and nursing staff has received within the last two years education on signs and symptoms of potential cardiac conditions in pregnant and postpartum people?	

Structure Measures

Metric	Name	Description	Notes
S1	Multidisciplinary Pregnancy Heart Team	Report Completion Date Has your facility established a multidisciplinary pregnancy heart team, which may be comprised of a team of consultants appropriate to your hospital's level of maternal care, to respond to known or potential cardio-obstetric emergencies?	
S2	ED Screening for Current or Recent Pregnancy	Report Start Date Has your emergency department established standardized verbal screening for current pregnancy and pregnancy in the past year as part of its triage process?	

Metric	Name	Description	Notes
S3	Patient Education Materials on Urgent Postpartum Warning Signs	Report Completion Date Has your department developed/curated patient education materials on urgent postpartum warning signs that align with culturally and linguistically appropriate standards?	
S4	Multidisciplinary Case Reviews for CCOC Bundle	Report Start Date Has your facility established a process to conduct multidisciplinary systems-level reviews of serious complications experienced by pregnant and postpartum people with cardiac conditions?	Criteria for multidisciplinary case reviews for people with cardiac conditions include: <ul style="list-style-type: none"> • Critical care/ICU admissions for other than observation, • Those at the highest levels of risk, such as mWHO risk levels III and IV.
S5	Patient Event Debriefs	Has your department established a standardized process to conduct debriefs with patients after a severe event?	<ul style="list-style-type: none"> • Include patient support networks during patient event debriefs, as requested. • Severe events may include the TJC sentinel event definition, severe maternal morbidity, or fetal death.

Optional: CCOC metrics that have been developed for optional implementation. These measures reflect emerging clinical research and best practices in obstetrics.

Optional Process

Metric	Name	Description	Notes
OP1	Cardiovascular Disease (CVD) Assessment Among Pregnant and Postpartum Women	<p>Sample patient charts or report for all patients; report N/D</p> <p>Denominator: All birth admissions, whether from sample or entire population</p> <p>Numerator: Among the denominator, those with documentation of a cardiovascular disease assessment using a standardized tool</p>	<ul style="list-style-type: none"> • Disaggregate by race/ethnicity • Refer to CVD Assessment Algorithm for Pregnant and Postpartum Women developed by CMQCC. • Currently, there is one CVD assessment algorithm developed for pregnant and postpartum people – the CMQCC CVD Assessment Algorithm for Pregnant and Postpartum Women. This tool has only been validated using pregnancy-related deaths. As the literature more robustly supports the use of the CVD Assessment Algorithm for Pregnant and Postpartum Women and the tool is validated on patients, AIM plans to include this metric as part of its core set of process metrics.

AIM CCOC Codes List

Variable	Definition
Congenital Heart Disease	Q200, Q201, Q202, Q203, Q204, Q205, Q206, Q208, Q209, Q210, Q211, Q212, Q213, Q214, Q218, Q219, Q220, Q221, Q222, Q223, Q224, Q225, Q226, Q228, Q229, Q230, Q231, Q232, Q233, Q234, Q238, Q239, Q240, Q241, Q242, Q243, Q244, Q245, Q246, Q248, Q249, Q250, Q251, Q2521, Q2529, Q253, Q254, Q2540, Q2541, Q2542, Q2543, Q2544, Q2545, Q2546, Q2547, Q2548, Q2549, Q255, Q256, Q257, Q2571, Q2572, Q2579, Q258, Q259, Q7960, Q7961, Q7962, Q7963, Q7969, Q8740, Q87410, Q87418, Q8742, Q8743
Cardiac Valve Disorders	I050, I051, I052, I058, I059, I060, I061, I062, I068, I069, I070, I071, I072, I078, I079, I080, I082, I083, I089, I090, I091, I092, I098, I0981, I0989, I099, I340, I341, I342, I348, I349, I350, I352, I358, I359, I360, I361, I362, I368, I369, I370, I371, I372, I378, I379, I38, I39
Cardiomyopathies	I420, I421, I422, I423, I424, I425, I426, I427, I428, I429, I43, I502, I5022, I503, I5032, I504, I5042, I508, I5081, I50812, O903
Arrhythmias	I440, I441, I442, I443, I4430, I4439, I444, I445, I446, I4460, I4469, I447, I450, I451, I4510, I4519, I452, I453, I454, I455, I456, I458, I4581, I4589, I459, I470, I471, I472, I479, I480, I4811, I4819, I482, I4820, I4821, I483, I484, I489, I4891, I4892, I490, I491, I492, I493, I494, I4940, I4949, I495, I498, I499
Coronary Artery Disease	I200, I201, I208, I209, I251, I2510, I2511, I25110, I25111, I25118, I25119, I252, I253, I254, I2541, I2542, I255, I256, I257, I2570, I25700, I25701, I25708, I2571, I25710, I25711, I25718, I25719, I2572, I25720, I25721, I25728, I25729, I2575, I25750, I25751, I25758, I25759, I2576, I25760, I25761, I25768, I25769, I2579, I25790, I25791, I25798, I25799, I2581, I25810, I25811, I25812, I2582, I2583, I2584, I2589, I259, M300, M301, M302, M303, M308
Pulmonary Hypertension	I2720, I2721, I2722, I2723, I2724, I2729, I278

Variable	Definition
Other/Not Specified	I300, I301, I308, I309, I310, I311, I312, I313, I314, I318, I319, I32, I400, I401, I408, I409, I41, 0994, 09941, 099412, 099413, 099419, 09942, 09943, Z941, Z943, Z950, Z951, Z952, Z953, Z954, Z955, Z958, Z9581, Z95810, Z95811, Z95812, Z95818, Z9582, Z95820, Z95828, Z959

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