Baseline Data Collection Tool Instruction Set (BDCT)

This is a guide to help you accurately complete the Baseline Data Collection Tool (BDCT). Quality data collection is paramount to performing strong research and accurate Comparative Reporting. In prior years site primary investigators (site-PIs) reported: an average of 8 (+/-6) hour, spent over the course of 14 days (+/-21), with most of this time spent on email requests for data from others within their department and hospital, involving a range of 1-15 people. Given the high variability in data definition across EDs, the details below provide instruction that standardizes data collection and units of measure. We are happy to help you with your data collection strategy or questions. Please contact us via email at: EDOpsStudyGroup@gmail.com and we will reply within 48 hours.

ANNUAL ESTIMATES: Use the calendar year from 12:00 am January 1st - 23:59 on December 31st. If you need to estimate numbers from a sample period of time, we ask that you use the month of May. We encourage you to engage department and hospital leadership, billing office, ancillary service, departmental data managers, direct data pulls from your electronic health record and billing systems, as well as documented departmental policies and group practice patterns. **Guestimates are not acceptable**. If you are unable to provide a response because the data is not available, please leave the response blank."

DEMOGRAPHICS

Please provide: your name as the Site PI, ED facility name, contact information for you and your assistant or secondary contact. If you have a site PI, please note the co-PI as your secondary contact and include "Co-Site-PI" after their title.

Region: Select your US region per the imbedded map.
Academic Medical Center Connection: An academic medical center is defined as teaching hospital system affiliated with a medical school. A "Primary AMC ED" is the ED for an AMC tertiary care teaching hospitals. An "Affiliated AMC ED" is one which may have trainees rotate through it as a "community hospital" site. Select "None" for non-academically affiliated EDs.
Urbanicity: Per the American Hospital Association classification. Please leave this blank if you are unsure.
Trauma Center Designation (Level): Per the American College of Surgeons criteria and as recognized by your state.
Primary PCI (Percutaneous Coronary Intervention) Center: A Primary PCI center (percutaneous coronary intervention) is one that has a cath lab available 24 hours a day 7 day a week, at an institution capable of supporting STEMI patients and complications of their care as certified by the STEMI (Heart Attack) Receiving Centers by the American Heart Association and Society of Cardiovascular Patient Care's Mission Lifeline STEMI Accreditation.

Comprehensive Stroke Center: from the Joint Commission for this status: Comprehensive, Primary Stroke Center, Acute Stroke Ready Hospital, None
Ownership/Funding status: Private – non-profit, Private - for profit, Primarily-federally funded, Primarily state or county funded, and Other. If "other" please described.

ED Size (square footage): Include all space used for patient unit care. DO NOT include staff offices, closets, extra-departmental equipment storage or dedicated ED observation spaces.

Number of ED beds: Include counts for dedicated rooms, curtained spaces, hallway beds and horizontal (sitting) patient care space. Do not include dedicated ED observation unit care spaces.

PATIENT POPULATION CHARACTERISTICS

Age: Report both the mean (or average) age of your ED patient population with the standard of deviation, and the median with the 25th and 75th percentile for your interquartile range (IQR).
Sex: Only report the percentage of male patients.
Race: We have combined the race and ethnicity categories to include those used by the NIH which include White, Black or African American, Non-White Hispanic, Asian, Native Hawaiian/Other Pacific Islander, and More than one race (mixed) or Other, and Unknown. All must total to 100%.
ED Payer Mix: This is the relative percentages of revenue coming from various sources of reimbursement, namely: Private insurance, Medicaid, Medicare, Self-paying (including non-paying) individuals, and other (military or auto insurance) payers.

STAFFING

Provider Coverage: These are estimates of your ED's average hours of medical provider time scheduled per day (24 hour period). Attending = staff or faculty physician, Resident includes both residents and interns, Mid-level providers are considered together as PA/NP. Nursing hours should include RNs. LPNs may be included if they provide independent

nursing coverage of ED patients (without supervision) and do not function as ED techs. All hours should include actual coverage, not schedule coverage.

Provide your **total number of staff/faculty physicians,** and the total number of **staff/faculty physician full-time equivalents (FTEs)**. Also include the total **hours per year for a physician full-time clinical faculty**. This is the total number of clinical hours that would be required for a purely clinical role, a figure that generally ranges from 1100 hours per year to 1800 hours per year.

Provider Incentives: Consider all clinical productivity incentives within your department to encourage increased patient throughput, and whether they target: individual providers, group productivity, or you have no incentive structure (none). Circle all that apply.

PROCESS, THROUGHPUT, and DISPOSITION

Annual ED Volume: Patient volume for the calendar year.

Door-to-Doctor Time is the time from patient arrival to their evaluation by a physician or physician extender (resident, PA or NP). The end point cannot be the time a physician signs up for a patient, or the time the patient is roomed. It should represent the time a physician walks into the room to evaluate the patient and initiate their care. Provide the mean, standard deviation, median, 25th percentile, and 75th percentile.

First Point of Contact: This is the first individual to physically speak to the patient when they arrive to the Emergency Department.

Triage Model: Select all that apply. If you select "other" please describe your model.
Nursing Triage: an assessment done shortly after arrival in the ED to determine patient acuity and predict resources needed for the provider evaluation. This information is used to prioritize the order and care space in which patients are seen.
Direct-to-Room Triage: an assignment of patients directly to patient care spaces according to the order of arrival.
Physician Triage: Physician involvement as a supplement to, adjunct to or replacement of the traditional nursing triage model. The physician role may potentially include the addition of early patient care orders, and in some cases provide a disposition for patients shortly after arrival.

Emergency Severity Index (ESI) Distribution: Please provide a count for the number of patients in each ESI category 1-5 in addition to those with an unknown or undocumented index.

Emergency Department Length of Stay (EDLOS) should include all time in the ED from registration to the end of medical care and physical departure from their care space. Include All ED patients. Then differentiate amongst patients admitted under In-patients status, admitted under Observational status to a hospital floor or to an observation unit, or, Discharged home. Behavioral health patients should include those seen in the ED for psychiatric disorders including depression, suicidal ideation, request for detox, etc.

Average number of ED boarder hours per 24 hour period. Boarding time interval is the time between the decision to admit a patient (admission order) and the ED departure time. This response should include the total boarding hours for all admitted ED patients in the prior year.

Number of staffed hospital beds: This is the average number of beds available in your hospital available for patient care due to assigned nursing and ancillary staffing. This is a figure that your hospital's chief nursing administrator should have readily available. Please note that figures reported on institutional websites are not always accurate, and the number of licensed beds ≠ constructed beds ≠ staffed beds.

ED Discharge Rate: This is the percentage of patients sent home from the emergency department (aka – treated and released). Do not include ED observation unit discharges.

Left without completing treatment rate: Different departments use different and non-equivalent terminology for patients who leave before their care plan is established or completed. Include all patients that fall into the following categories: left before triage completed (LBTC), left without being seen (LWBS), left without completing treatment (LWCT), eloped and AMA.

Do you have an observation unit? Report "yes" if you have a *dedicated* unit or ward to which you are able to admit patients for "observation status" in-hospital stays. (e.g.- observation, clinical decision making, chest pain units) If you do, is it:
1) Managed by emergency medicine?

2) Staffed by emergency medicine? Here we are looking to differentiate EDs are that are hiring hospitalists to manage EM managed observations units
3) Staffed by physicians, physician extenders, or both?

Admission rates: Provide the proportion of all ED patients who are dispositioned to stay in-hospital (observation + inpatients). Then provide the percentage of those admitted to observation and inpatient separately.

Transfers out: The proportion of all ED patients who were transferred into your ED from an outside hospital (ED, hospital floor, or direct to rehab as a new patient). Do not include patients transferred to a hospital floor that may briefly "land" in the ED for a brief assessment of hemodynamic stability.

Transfers in: The proportion of all ED patients transferred to another facility to continue their medical care.

Percentage admitted from the ED: This number is the percentage of all hospital patients (inpatients and observation status), who were admitted from the ED.

Hospital operating capacity: This is the average bed occupancy rate for your hospital.

Case Mix Index (CMI) is a measure of a hospital's clinical diversity, clinical case complexity and the resource needs of the population served. More specifically it is a weighted average of diagnosis-related group (DRG) for your hospital's Medicare population.

ANCILLARY TESTING, CONSULTANTS AND SUPPORT SERVICES

Turn-Around-Times (TATs) (CBC, BMP, Troponin, UA) and imaging TATs are the time from when the order placed for a test, to the time the result is available to the ordering provider. *This is not the time it takes to run the sample in the lab or complete the imaging study*. For abdomen/pelvis CT scans, the end point is the time that the preliminary or final read is made available to the provider caring for the patient. If your providers read their own CXRs and act clinically upon their own interpretation, this is the time the image is available to view. Our goal is to capture real-time TAT for general labs and imaging in the ED. Report these as you find most accurate for your institution. If you have to start with a monthly estimation, please use the month of May.

Utilization: These percentages should reflect the proportion of all ED patients who receive each of the listed studies or tests as part of their ED evaluation. Labs include body fluid swabs, cultures, urine and blood testing.

Social Workers or Case Managers: The role of social workers and case managers has expanded in the ED. We are not yet looking to describe the diversity of their roles. Rather we are focused on quantifying the extent of their availability to engage in real-time ED patient care. Select the range of coverage that best quantifies your EDs access to a social worker and case managers. If you have social workers and case managers, indicate whether they are dedicated to the ED or shared with other services. By dedicated we mean that they are assigned to staff the ED on a regular basis *and* work primarily with ED patient resources. Do not count in-patient social workers who are not members of the ED care team and who are only available to assist the ED on an *as needed* basis.

Consultants: Also Provide the percentage of ED visits involving a consultation from each service, and the mean consultation turn-around-time (from consult order or communication with the service to consult completion with final recommendations).. Leave blank if this information is unavailable.

DOCUMENTATION, BILLING, AND MEDICAL RECORDS ACCESS

Ambulatory Payment Classification (APC) is the "coding level" for individual patient encounters that are a proxy for the intensity of work for a patient visit. The APC level drives reimbursement levels. Generally speaking, the higher the APC, the higher the billing charges and anticipated reimbursement for the visit. Visits are coded from Level 1-5, with 5 being the most complex visits. Report the % of patients that fall into each **APC level (1 – 5)** for your department. Also, note the proportion of all patient visits billed with **critical care time** (level 1 = the first hour of critical care, level 2 = time beyond the first hour of critical care provided). Lastly, provide the % of unbilled charts. All should total 100%. Your billing office should be able to assists you with this. If they do not have annual summary data readily available, you can use the month of May to create an estimate for the year.

Physician Documentation: Please circle all electronic medical record (EMR) or documentation systems that apply. Write in any that are not listed.

Identifying Frequent Flyers: Does your medical record system enable a provider on shift to identify whether has been seen in your ED more than 3 time in the past 6 months? a) a patient has been to your (or another) ED within the past 12 months or, b) the number of visits the patient has had in the ED within the prior 12 months? Is your ED leadership able to generate a report to identify patients with a high number of ED visits? Does your ED participate in a health information exchange (HIE) where you can view patient visit data from ED or hospital visits at another institution (outside of your health system)?

PROCESS IMPROVEMENT

Select all process improvement initiatives attempted in the past 5 years.

MYOCARDIAL ISCHEMIA AND HEART FAILURE DIAGNOSIS & MANAGEMENT

STEMI

STEMI Screening Criteria: This refers to your triage or front end criteria that would prompt intake/triage staff to initiate an early ECG to identify STEMI. If you do not have a formal screening criterion, but have providers who make this decision (a registration clerk, triage nurse, etc), select "Discretion of the triage provider." DO NOT select "Discretion of a triage provider" if you have an established criteria used by staff. We will assume that all providers will apply their clinical judgement in addition to the pre-specified criteria.

If you use a formal protocol, identify the components of your screening criteria. **Atypical symptoms** include angina equivalents such as abdominal pain, shortness of breath, or vomiting. **Associated symptoms** include arm pain, jaw pain, back pain, or dizziness. If your ED includes a consideration of **Age** or **Sex**, note this as well. If you have other criterion that are included for the purposes of identifying STEMI, select **Other** and describe in the free text box.

Does your triage staff receive formal training on STEMI screening?

Number of STEMIs seen by your <u>hospital</u> (include all patients with a final hospital diagnosis of STEMI using the ICD9/10 codes listed above. Include patients transferred out of your ED and those transferred in for PCI or other forms of higher level of care.

Number of STEMIs seen by <u>your ED</u>: Only include STEMIs that were registered patients in your ED. These should include all patients who had a final hospital diagnosis of STEMI. Define STEMI using the ICD9/10 codes included in the table below even if the final ED diagnosis was not STEMI. We realize that this includes patients who may have had a STEMI later in the ED stay, but it prevents us from underestimating patients primarily evaluated by the ED first. Do not include patients transferred into your hospital for care that bypassed the ED.Include patients transferred out of your ED per ED final diagnosis.

AMI Diagnosis Codes (focus on STEMI)					
ICD 9	Diagnosis	LOCATION	ICD 10	Diagnosis	LOCATION
410	AMI		I21	STEMI and NSTEMI	
410.21	AMI inferio-lateral wall	Inferior	I12.11	STEMI RCA	Inferior
410.31	AMI inferio-posterior wall	Inferior	I21.19	STEMI other coronary artery inferior	Inferior
410.41	AMI of other inferior wall	Inferior	I12.21	STEMI LCX	Inferior
410.01	AMI anterio-lateral wall	Anterior	I21.01	STEMI Left Main	Anterior
410.11	AMI other anterior wall	Anterior	I21.02	STEMI LAD	Anterior
			I21.09	STEMI other coronary artery anterior	Anterior
410.51	AMI other lateral wall	Lateral	I21.29	STEMI other site	Other specified
410.61	AMI true posterior wall infarction	Posterior			
410.81	AMI other specified site (inc: pap musc rupt)	Other Spec			
410.91	AMI unspecified site	Nonspecified	**I21.3**	STEMI Unspecified	Nonspecified

Door-to-ECG (D2E) Time for all patients with a final diagnosis of STEMI? Use the hospital final diagnosis to define STEMI using the ICD9/10 codes listed above. Many hospitals will have a STEMI review committee that can assist in providing these measures: mean, standard deviation, median, 25th percentile, 75th percentile.

Door-to-Needle Time (D2N) for all patients with a final diagnosis of STEMI.

Door-to-Balloon Time (D2B) for all patients with a final diagnosis of STEMI.

NSTEMI

Dedicated Space for Early ECGs: A "yes" response should be provided if your ED has at least one non-flex space (stretcher,bed, or chair +/- an assigned ECG machine) that is dedicated to achieve early ECGs for patients - upon arrival or triage - with symptoms concerning for STEMI.

Dedicated Early ECG Physician: Do you have a dedicated physician to interpret ECGs performed for patients upon arrival or in triage? We recognize that this physician will likely be performing other roles, and support staff may need to seek another provider if they are unavailable. Select "yes" if your support staff have a physician/provider designated as the first "go to" doctor to STAT interpret and ECG to rule out/in STEMI. Stratification tools that include the result of a troponin (i.e. HEART or TIMI score) should not be counted.

Routine NSTE-ACS risk stratification: This refers to determining the likelihood that a patient will have an end diagnosis of ACS *before*, troponin testing. This may be done with a formal algorithm or decision making tool, or as a departmental expectation followed by your faculty/staff who may use diversity of risk stratification methods. If neither of these scenarios applies to your department's general practice, answer "No."

Patients receiving ECG at any time during their ED visit? This should include those with a final diagnosis of STEMI and those who are "false negatives" who do not have evidence of STEMI, but may have other forms of ACS or an alternative diagnoses.

How many patients receive an ECG AND troponin during their ED visit: This is a proxy for the number of patients undergoing testing for potential ACS.

Troponin Assay Type. Note the *type* of troponin (I, ultrasensitive I, or T). Also indicate the *manufacturer*. If you do not use troponin as a biomarker for myocardial injury, please note the biomarker(s) used at your site. We have included all options included in prior years in the drop down. If you do not find your lab or ED's assay, select "other" and describe the type and manufacturer in the free text box.

Troponin Time Interval: In prior years we've permitted site PIs to report their group policy or general practice. To improve the quality of this data, limit responses to a) actual interval as extracted from your ED's EMR (mean, SD, median, 25^{th} percentile, 75^{th} percentile) that represent the time from the 1^{st} physician order to the 2^{nd}, b)or the time from the first troponin result available to the ordering provider to that the second troponin result (if ordered). Do not report general policy or practice. NOTE: order to order or result to result).

Time between serum troponin samples:

Does your ED ever use coronary CT angiography (CCTA) to evaluate ED patients for possible ACS? Please document "yes" if this is a test that is available in the ED as radiologic study for general patient care. If you have it available on an experimental basis, please document "no," but then make a note of this conditional availability.

If you document "yes," include the number of patients who received a CCTA during their ED stay.

High risk NSTEMI guideline/policy: Do you have a formal criteria, policy or guideline for when to emergently send high risk NSTEMI patients for percutaneous coronary intervention (PCI or cath) emergently from the ED?

UNSTABLE ANGINA

What is the first line provocative testing and/or coronary imaging modality available to your ED providers for a patient being evaluated for ACS who are determined to to be "lower risk?"

Of the provocative testing and/or coronary imaging modalities available to your ED provider, which is generally used as your <u>first line</u> test (in the absence of contra-indications)? <u>Second line</u>? <u>Third line</u>?

Of patients referred for provocative testing, what percentage receive the test during each of the 3 listed care periods during their ED stay, In-hospital stay (inpatient or observation status), Out-patient referral, or an Other location?

Do you have criteria/policies/guidelines to guide the use of the provocative ischemia and coronary imaging modalities available to your ED for the evaluation of myocardial ischemia? If provocative testing is initiated by providers outside of your ED, this may exist amongst the general medicine and cardiology providers at your institution. Identifying whether or not such a criteria exists is important to understanding the continuity of ACS evaluations (initiated in the ED).