

CBE 2459 Risk Standardized Bleeding for Patients Undergoing Percutaneous Coronary Intervention (PCI)

Risk standardized rate of intra and post procedure bleeding for all patients age 18 and over undergoing PCI.

Summary: Intra- and/or post-procedure bleeding following PCI is a significant adverse outcome. Lower bleeding rates can be achieved if clinicians and facilities use evidence-based criteria to assess a patient's bleeding risk and implement effective strategies to reduce its occurrence. Implementation of bleeding avoidance strategies decrease the likelihood of death, longer hospital stays and increase costs (Amin, 2022; Carson, 2023; Heidary Moghadam, 2024; Ndrepepa, 2013; Rao, 2025; Vora, 2016). The use of this risk-standardized measure when paired with quality improvement activities can improve clinical outcomes for patients.

Inputs	Activities	Outputs	Outcomes & Impact
<p>Quality improvement activities such as multidisciplinary teams, clinician and staff education based on clinical recommendations, and tracking of performance against a dashboard</p> <p>Tools and technology integration such as hospital protocols and automated order sets in the electronic health record system (EHRs)</p> <p>Patient education materials</p>	<p>Implementation of quality improvement activities and tools and technology integration</p> <p>Delivery of patient education materials</p>	<p>Number of patients determined to be at higher risk of bleeding</p> <p>Number of clinical interventions associated with reduced bleeding risk (e.g., use of radial arterial access, use of mechanical closure devices when femoral access is used, bivalirudin for anticoagulation, transfusion for ACS patients with hemoglobin <10 g/dL)</p> <p>Use of technology/tools, depending on individual hospital implementation needs (e.g., rates of automated order sets)</p> <p>Number of patient education materials distributed</p>	<p><u>Short-term</u></p> <p>Increased rates of clinical interventions associated with reduced bleeding risk following PCI</p> <p>Increased clinician and patient awareness and attention to use of these interventions</p> <p>Ability of the facility to track interventions and progress on intervention rates</p> <p><u>Intermediate-term</u></p> <p>Reduced intra- and post-operative bleeding rates following PCI</p> <p>Improved clinician documentation and use of tools and technology (e.g., automated order sets)</p> <p>Increased adherence to clinical interventions associated with reduced bleeding risk following PCI</p> <p>Improved tracking on progress to addressing this important gap in care by the facility and NCDR registries</p> <p><u>Long-term</u></p> <p>Reductions in complications (e.g., myocardial infarction) and mortality</p> <p>Decrease in unnecessary costs</p>

Feedback Mechanisms
Data analysis and performance reports produced by the facility and/or NCDR registries Quality improvement activities and reporting of progress on outputs to clinicians and staff Patient satisfaction surveys
Assumptions
Systems have access to high-quality EHRs data and computational resources to support the capture and analysis to determine which patients are at higher risk of bleeding following PCI. Feedback on performance of this measure will increase intra- and post-operative bleeding rates and ultimately improve patient outcomes and quality of life.
External Factors
Policies and clinician attitudes regarding measures could affect the outcomes identified above.

References:

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