The **ACS** analytics accelerator provides insight into the delivery of care for patients presenting with ACS—supporting organizations in their efforts to reduce mortality, length of stay (LOS), readmissions, and cost of care.

**Note:** Like all analytics accelerators, this application is implemented in a custom way. Organizations identify their own areas of focus—and the appearance and functionality of the accelerator may differ from what is presented here.

**The problem**

Acute coronary syndrome (ACS) includes ST-segment-elevation myocardial infarction (STEMI) and non-ST-segment elevation MI (NSTEMI), as well as unstable angina (UA). Because a continuum of symptoms exists between UA and NSTEMI, and the two conditions are often indistinguishable at presentation, the term non-ST-elevation-acute coronary syndrome (NSTE-ACS) is now commonly used and includes NSTEMI and UA. Organizations typically choose to focus on ACS for these reasons:

- Prevalence and mortality are high, especially for NSTE-ACS.
- Adherence to evidence-based guidelines varies substantially.
- Improvement opportunities extend across the care continuum.

This accelerator supports efforts to speed diagnosis, ensure best care, and improve outcomes.
Our approach
The ACS analytic accelerator supports a coordinated and evidence-based approach to assessment, care, and follow-up, helping to drive and sustain improvement in clinical and financial outcomes. Typical implementations focus on systems of care and prehospital management, initial ED assessment and intervention, interventional cardiology options, optimized hospital care, and care transitions.

Benefits and features
- **Access an at-a-glance, near real-time view of quality of care and its impact.** The application dashboard visualizes outcome and process metrics in easy-to-consume summaries.
- **Focus your team on what matters most.** Outcome metrics typically include in-hospital mortality, LOS, readmission rate, and cost-per-case. Typical process metrics include those related to reperfusion (e.g., clinically indicated PCI approach, door-to-device time, door-in-door-out time for patients at non-PCI capable facilities, door to fibrinolytic agent), risk stratification and management (e.g., percentage of patients with cardiac-specific troponin with specified time after arrival, or percentage of patients with risk score calculated at initial assessment), and prevention of bleeding complications (e.g., percentage of PCI-eligible patients with bleeding-risk score calculated before PCI and antithrombotic medication administration).
- **Do more than monitor: understand.** Detailed analytics of important processes provide dynamic data exploration, real-time filtering, and drill-down to patient-level detail. The application also provides export or print capability for patient list, metric performance, etc. so you can share and follow up.
- **Compare care within a cohort.** A Compare tab lets you review patient and care variables—demographics, variation in care, performance in different units, etc.—to determine what's working and not working to improve outcomes. This feature also allows you to gauge the ROI of improvement work in particular areas: what could you achieve if every unit and provider standardized to match your best performance?

Use cases
- **The physician champion** for cardiovascular improvement work is determined to decrease in-hospital mortality. She uses the application to identify variation in guideline-directed care, noting the low percentage of eligible patients receiving cardiac catheterization and revascularization, and identifies the failure to risk stratify patients as a likely upstream factor. Armed with this insight, she works with the Health Catalyst data science team to develop a population-specific risk-stratification tool and works with the clinical educator to develop training that reinforces to clinicians the importance of risk stratification. As clinicians adopt the new practice, the physician champion uses the application to track adherence to the risk-stratification practice and gauge its impact both on other aspects of care and the in-hospital mortality rate.
- **A nurse manager** in a large hospital system observes that bleeding complications after PCI have increased over the previous three quarters. What are the drivers of this trend? Which aspect of the care protocol is proving most problematic for front-line staff? He uses the ACS Analytic Accelerator to explore performance and guide a plan to intervene.
- **A cardiovascular director** notices that numerous clinicians are using femoral access for PCI. How do their outcomes compare to providers who favor radial access for PCI? The director uses the application to investigate, then uses the application to show that radial is safer, reduces LOS, and lowers cost. Presented with this data, physicians begin to change practice—and clinical and financial outcomes improve.

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