



ADDENDUM

Addendum to the Accelerating and Aligning Clinical Episode Payments: Coronary Artery Disease Draft White Paper

The Clinical Episode Payment (CEP) Work Group

For Public Release

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This Addendum presents the Summary Review of Selected CABG and PCI Initiatives. Results reported are based on studies of varying statistical rigor and extrapolated from publications.

CABG Bundled Payment Models

CABG Bundled Payment Models	Episode Definition/Population	Episode Timing	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
CMS – Bundled Payments for Care Improvement (BPCI): Model 2¹	Elective and Emergent CABG	Inpatient stay through 30, 60, or 90 days post-discharge Awardees select episode length	All related inpatient stay costs in acute care and post-acute care and all related services for 90-days post-discharge All non-hospice Part A and Part B services	Acute care hospital, physician group practice, or Awardee Convenor Voluntary gain-sharing with providers	FFS with retrospective reconciliation	Reconcile actual cost against a bundled payment amount for the episode of care, which is based on historical FFS payments	Upside and downside risk Increasing upside and downside risk over time to stop loss and stop gain limits	No explicit quality tie to payment methodology	NA	Results not yet available
CMS – Bundled Payments for Care Improvement (BPCI): Model 3¹	Elective and Emergent CABG	Admission to post-acute care within 30-days of discharge through 30, 60, or 90 days after the initiation of the episode Awardees select episode length	Provider fees (physician and post-acute care services), related readmissions, and related Part B services (e.g., lab, DME) All non-hospice Part A and Part B services during the post-acute period and readmission	Post-acute care provider, provider group practice, or Awardee Convenor Voluntary gain-sharing with providers	FFS with retrospective reconciliation	Reconcile actual cost against a bundled payment amount for the episode of care, which is based on historical FFS payments	Upside and downside risk Increasing upside and downside risk over time to stop loss and stop gain limits	No explicit quality tie to payment methodology	NA	Results not yet available
CMS – Bundled Payments for Care Improvement (BPCI): Model 4¹	Elective and Emergent CABG	Entire acute care hospital stay and related readmissions for 30 days	All related services provided by the hospital, physician, and other practitioners	Acute care hospital or Awardee Convenor Voluntary gain-sharing with providers	Prospective payment	Single bundled payment for all related services	Upside and downside risk	No explicit quality tie to payment methodology	NA	Results not yet available

¹ Model 1 not included as it is a discount off of IPPS, not accountability across providers or settings

CABG Bundled Payment Models	Episode Definition/Population	Episode Timing	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
Geisinger Health System (GHS) CABG ProvenCare Initiative	Elective CABG	Procedure through 90-days post-discharge	Pre-operative evaluation, all hospital and professional fees, routine post-discharge care, and management of related complications occurring within 90 days of procedure	GHS facility or GHS provider	Prospective Payment	Set price for episode of care. Single payment to the hospital system and single payment to the provider system (payment to the provider/surgeon is allocated to multiple service lines/providers encounters) i.e., CABG – surgery, anesthesiology, cardiology	Upside risk	40+ best practice process measures	Engage patients with post-discharge services such as home health services and cardiac rehab Developed a Patient Compact	Clinical outcome improvements show a decrease in in-hospital mortality, patients with any complications (STS), atrial fibrillation, permanent stroke, prolonged ventilation, re-intubation, intra-op blood products used, re-operation for bleeding, deep sternal wound infection, and post-op mean LOS Hospital: Contribution margin increased 17.6%, and total inpatient profit per case improved \$1,946 Health Plan: Paid 4.8% less per case for CABG with ProvenCare than it would have without; paid out 28 to 36% less for CABG with GHS than with other providers
PROMETHEUS/ Health Care Improvement Initiative Institute (HCI3)	Elective and Emergent CABG	30-days pre-admission through 180-days post-discharge	Detailed lists of procedure codes for inclusion of services	Varies based on the initiative; can be either the facility, the practice, or both	Can use either prospective or FFS with retrospective reconciliation	Prospective: Patient-specific predicted budgets, which are negotiated upfront during contracting Retrospective: FFS payment allows for severity-adjustment based on risk factors to budget for per-patient costs	Contracts can be based on upside risk only, upside and downside risk, with or without stop loss, and with upside risk tied to quality scorecards	Set of measures evaluating potentially avoidable complications	NA	NA
Arkansas Health Care Payment Improvement Initiative	Acute and Non-acute CABG Procedure Emergency CABG excluded	Date of surgery through 30-days post-discharge from facility where surgery occurred	All related inpatient, outpatient, professional, and pharmacy services happening within the episode timeframe Exclusion: PCI converting to CABG within 1 day	Physician performing the CABG	FFS with retrospective reconciliation	Average cost per episode for each accountable provider is compared to commendable and acceptable levels	Upside and downside risk	Average length of pre-operative inpatient stay Percent of patients admitted on day of surgery Percent of patients for whom an internal mammary artery is used	NA	Results not yet available

PCI Bundled Payment Models

PCI Bundled Payment Models	Episode Definition	Episode Timing	Population	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
CMS – Bundled Payments for Care Improvement (BPCI): Model 2²	Elective and Emergent PCI	Inpatient stay through 30, 60, 90 days post-discharge Awardees select episode length	Limited list of population exclusions for unrelated Part B services and Part A inpatient readmissions	All related inpatient stay costs in acute care and post-acute care and all related services for 90-days post-discharge All non-hospice Part A and Part B services	Acute care hospital, physician group practice, or Awardee Convenor Voluntary gain-sharing with providers	FFS with retrospective reconciliation	Reconcile actual cost against a bundled payment amount for the episode of care, which is based on historical FFS payments	Upside and downside risk Increasing upside and downside risk over time to stop loss and stop gain limits	No explicit quality tie to payment methodology	NA	Results not yet available
CMS – Bundled Payments for Care Improvement (BPCI): Model 3²	Elective and Emergent PCI	Admission to post-acute care within 30 days of discharge through 30, 60, or 90 days after the initiation of the episode Awardees select episode length	Limited list of population exclusions for unrelated Part B services and Part A inpatient readmissions	Provider fees (physician and post-acute care services), related readmissions, and related Part B services (e.g., lab, DME) All non-hospice Part A and Part B services during the post-acute period and readmission	Post-acute care provider, provider group practice, or Awardee Convenor Voluntary gain-sharing with providers	FFS with retrospective reconciliation	Reconcile actual cost against a bundled payment amount for the episode of care, which is based on historical FFS payments	Upside and downside risk Increasing upside and downside risk over time to stop loss and stop gain limits	No explicit quality tie to payment methodology	NA	Results not yet available
CMS – Bundled Payments for Care Improvement (BPCI): Model 4²	Elective and Emergent PCI	Entire acute care hospital stay and related readmissions for 30 days	Limited list of population exclusions for unrelated Part B services and Part A inpatient readmissions	All related services provided by the hospital, physician, and other practitioners	Acute care hospital or Awardee Convenor Voluntary gain-sharing with providers	Prospective payment	Single bundled payment for all related services	Upside and downside risk	No explicit quality tie to payment methodology	NA	Results not yet available

² Model 1 not included as it is a discount off of IPPS, not accountability across providers or settings

PCI Bundled Payment Models	Episode Definition	Episode Timing	Population	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
Geisinger Health System (GHS) PCI ProvenCare Initiative	Elective PCI	Procedure through 90-days post-discharge	Limited exclusions based on prospective provider consensus	Pre-operative evaluation, all hospital and professional fees, routine post-discharge care, and management of related complications occurring within 90-days of procedure	GHS facility or GHS provider	Prospective payment	Set price for episode of care (global package rate based on historical data from top professional departments related to episode)	Upside risk	33 elective/urgent and 28 Emergent best practice elements	Engage patients with post-discharge services such as home health services and cardiac rehab Developed a Patient Compact	Length of stay (LOS) decreased from 2.86 pre ProvenCare to 2.50 Post procedure LOS, 2.27 to 1.69 Defect free care (NCDR database) 99.5% Mean time to PCI 42 min (door to balloon), 90th%ile is 49 min. More use of LMWH/unfractionated heparin vs. thrombin inhibitors and GPIIb/IIIa inhibitors than peers (evidence-based and less expensive) Use of radial (preferred site) went from 34% to approaching 80%
PROMETHEUS/ Health Care Improvement Initiative Institute (HCI3)	Elective and Emergent PCI	60 days prior to admission through 180-days post-discharge	Detailed list of relevant, qualifying diagnosis codes for patient inclusion	Detailed lists of procedure codes for inclusion of services	Varies based on the initiative; can be either the facility, the practice, or both	Can use either prospective payment or FFS with retrospective reconciliation	Prospective: Patient-specific predicted budgets, which are negotiated upfront during contracting Retrospective: FFS payment allows for severity-adjustment based on risk factors to budget for per-patient costs	Contracts can be based on upside only, upside and downside, with or without stop loss, and with upside tied to quality scorecards	Set of measures evaluating potentially avoidable complications	NA	NA

PCI Bundled Payment Models	Episode Definition	Episode Timing	Population	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
Tennessee Health Care Improvement Innovation Initiative	Elective PCI Procedure	Begins on the lesser of the two: <ul style="list-style-type: none"> • 90 days prior to the PCI or • First visit with the accountable provider within those 90 days <p>Ends 30 days post-procedure/discharge</p>	Patients without a diagnosis of acute coronary syndrome and who do not present in the emergency department	All related hospitalization, outpatient, and professional claims (e.g., anesthesia, imaging and testing, evaluation and management, and medications) Exclusions: Multiple business, clinical, and patient exclusions	Physician group of cardiologists who performs the procedures	FFS with retrospective reconciliation	Reimbursement for episode is risk adjusted using historical claims data Payers adjust over time based on new data Acceptable, commendable, and gain-sharing limit thresholds are set	Upside and downside risk	Gainsharing: Hospital admission in post-trigger window (excludes hospitalizations for repeat PCI) Reporting: % of episodes where the trigger involves multiple vessels or branches; % of episodes with a repeat PCI	NA	Results not yet available
	Emergent PCI	Procedure through 30-days post-discharge	Patients with a diagnosis of acute coronary syndrome or who present in the emergency department		Facility where the PCI was performed						
Ohio Health Transformation Episode Based Payment Model <i>Case study still under review by the Ohio Transformation Episode Based Payment Model</i>	Elective PCI	Date of most recent angiogram within 30 days prior to PCI procedure through 30 days post-discharge	Patient experiences non-acute symptoms	All inpatient, outpatient; long-term care; professional; pharmacy; relevant diagnoses and complications; relevant imaging and testing procedures; and inpatient admissions less BPCI exclusions Exclusions: Multiple business, clinical, and cost exclusions	Physician or physician group that performs the PCI	FFS with retrospective reconciliation	Historical claims data is used to pay providers upfront, with gain-sharing for providers who have lower costs and meet quality thresholds and risk-sharing for providers with high average episode costs	Upside and downside risk	Gainsharing: AV fistula; dissection of coronary artery; post-op hemorrhage and infection; myocardial infarction; pulmonary embolism or vein thrombosis; stent complication; or stroke Reporting: % of episodes where the trigger involves multiple vessels or branches; % of episodes with a repeat PCI	NA	Results not yet available
	Emergent PCI	Day of admission through 30 days post-discharge	Patient experiences myocardial infarction or acute symptoms		Facility where the PCI is performed						

PCI Bundled Payment Models	Episode Definition	Episode Timing	Population	Service Inclusion/Exclusion	Accountable Entity	Payment Flow	Episode Price	Level and Type of Risk	Quality Metrics	Patient Engagement	Results
Arkansas Health Care Payment Improvement Initiative	Elective PCI and Emergent PCI	Diagnostic angiogram and procedure through 30 days post-procedure admission	Patients with acute coronary syndrome, myocardial infarction, unstable angina, stable angina, or another diagnostic event	<p>All facility services; inpatient professional services; emergency department visits; observation; post-acute care; any related outpatient labs and diagnostics; medications; and relevant post-acute care</p> <p>Exclusion: PCI converting to CABG within 1 day</p>	Primary interventionalist performing the PCI	FFS with retrospective reconciliation	Average cost per episode for each accountable provider is compared to commendable and acceptable levels	Upside and downside risk	<p>Adverse Outcomes are determined by trigger claims that have one of the following diagnosis codes in diagnostic, facility, and professional services within 30 days of trigger claim; an Adverse Outcome is not included if there is a present on admission flag on the trigger claim when it is filed</p> <p>Percent of patients receiving simultaneous interventions on multiple vessels—calculated based on claims with procedure codes on the same date as the trigger</p> <p>Percent of patients receiving staged interventions on multiple vessels—calculated based on claims with procedure codes within 30 days of trigger</p> <p>Percent of stents placed that are drug-eluting—calculated based on claims with this procedure code reported</p>	NA	Results not yet available